Extending the Nidderdale Greenway:

A feasibility study

From Ripley to Pateley Bridge and Wath

WORKING DRAFT_RevJ

Sustrans in conjunction with Greenways and Cycleroutes Ltd

July 2021

Harrogate BOROUGH COUNCIL

North Yorkshire County Council

NidderdalePlus Community Hub

sustrans JOIN THE MOVEMENT

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Our thanks also go to the many landowners and others who engaged with David and Malcolm for the purpose of producing this feasibility study.

Thanks too to those who helped to make this study possible through numerous donations and grants.

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Figure 1. View along River Nidd

Foreword

The Nidderdale Greenway, opened in 2013, is a marvellous active travel and green tourism asset to Harrogate and Nidderdale. We welcome this report which shows how it could be extended into the heart of the AONB. Much of the work described in it was completed before the Coronavirus pandemic struck and the Government lockdown on March 23rd 2020. We have all been shocked by the loss of life and livelihoods caused by the virus, globally and locally. The impact on society has been profound and reflecting on the way we live and travel has never been more critical.

Extending the Greenway will contribute significantly to local authority targets on health, mobility, tourism, the green economy and the local ecology. Many people, including landowners, businesses and community representatives were consulted during the preparation of this report helping to define the recommended route. We commend this report to all those committed to protecting the character of the Dale whilst extending a resource important to the future wellbeing of its communities. The report will be used to draw together a project steering group of able volunteers and community leaders to consult more widely on the proposals and to oversee the key stages of development.

Councillor Philip Ireland, Harrogate Borough Council

Councillor Stanley Lumley, North Yorkshire County Council

1. Introduction

Following the success of the four mile long multi-user Nidderdale Greenway between Harrogate and Ripley in North Yorkshire which opened in 2013 (and a later extension through Hollybank Wood to Clint), the community development agency Nidderdale Plus proposed that Sustrans undertook scoping work to assess the potential for continuing the Greenway to Pateley Bridge. The report for this work recommended a route that followed the River Nidd and used more sections of the disused railway where practicable.

The old railway's seven-arched viaduct is a spectacular way to cross the Nidd Gorge north of Harrogate town centre on the existing route, while Ripley Castle and village lie at the eastern edge of the Nidderdale Area of Outstanding Natural Beauty (AONB).

Since the scoping work, Sustrans has been commissioned to carry out the following tasks for the Ripley - Hampsthwaite - Birstwith - Darley - Dacre Banks - Pateley Bridge - Scar House section:

- Route options appraisal
- Contact and understanding with landowners
- Outline design and cost estimate
- Identification of next steps and future funding opportunities
- Stakeholder and wider community engagement
- A report summarising all of the above

Whilst there has been positive discussion with Yorkshire Water about the use of the access road from Lofthouse to Scar House Reservoir, and some consideration of options by Gouthwaite Reservoir, this report does not cover extending the Greenway beyond Wath.

A number of the above tasks include joint working with Nidderdale Plus, and Sustrans have been asked to work under the auspices of the Nidderdale Strategic Partnership. Since beginning this work, Sustrans has completed its review of the National Cycle Network and published its Paths for everyone Sustrans review of National Cycle Network Review 2018 report.

https://www.sustrans.org.uk/pathsforeveryone

Background to the Project

The existing Greenway between Harrogate and Ripley was completed in 2013 following many years of determined and persistent effort by Harrogate Borough Council, local activity groups, North Yorkshire County Council and sustainable transport charity Sustrans. This created a traffic free disused railway-based path for walkers, cyclists, joggers and people using wheelchairs or mobility scooters with a parallel horse track to share. It forms part of National Cycle Network Route 67.

Figure 2. Nidderdale Greenway interpretation board Source: Malcolm Margolis

Phase 1 of the Greenway has proved very popular. A Route User Intercept Survey undertaken by Sustrans over four days in early September 2018 produced the following result:-

- 59% cyclists | 31% pedestrians | 10% other users (wheelchair users, joggers etc.)
- 41% females | 59% males
- Annual usage estimate for 2018 of 196,000 users

This first section of the Greenway through Nidderdale, an Area of Outstanding Natural Beauty (AONB), gives us a glimpse of the substantial benefits that can be gained by the development of traffic free travel. There is now an appetite to extend the route further into Nidderdale, enhancing its appeal as a leisure route and helping to connect the communities along the way for a range of utility journeys of a generally shorter distance.

Helpfully, the disused railway between Clint and Scar House Reservoir is protected in the Borough Council's Local Plan as a sustainable and improved Transport Corridor, and so has been studied for its suitability and potential availability for the scheme. Where the railway has been lost to later development, or no longer provides the best link between communities an alternative route has been suggested.

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The alignment of the route proposed in this feasibility study can be revised following reconsideration of issues raised in response to the study, and route design and specifications amended where appropriate.

Wider public consultation is also envisaged.

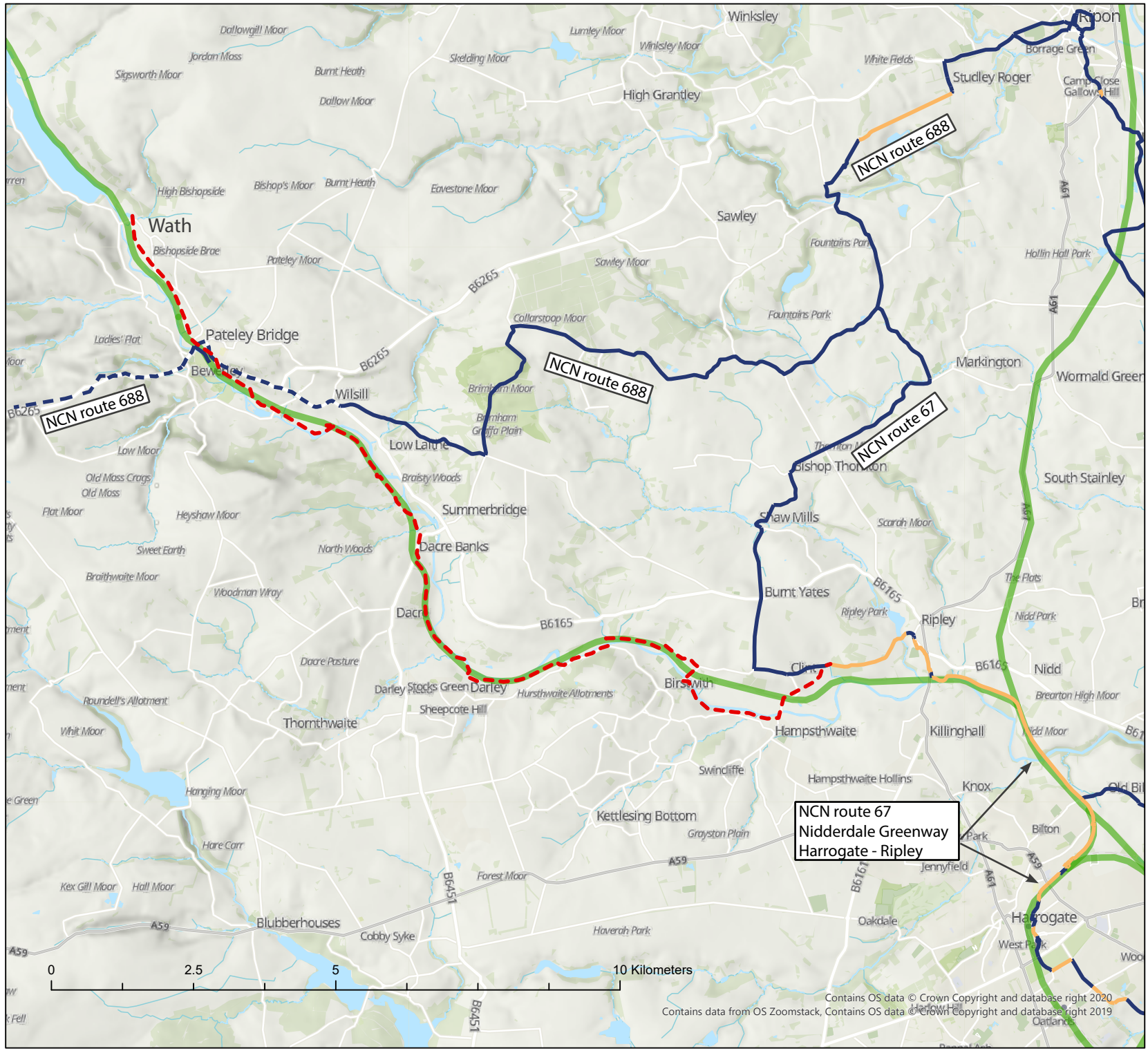

Figure 3. Potential Nidderdale Greenway and existing NCN Source: Sustrans

Legend

- Potential Nidderdale Greenway

National Cycle Network

- OnRoad
- OnRoad (Reclassified)
- TrafficFree

Former railway

- Former railway

2. Planning related issues

Harrogate Borough Council published the Harrogate District Local Plan as Draft in 2018. This shows the line of the disused railway as protected under TI 2: Protection of Transport Sites and Route policy:-

Policy TI2: Protection of Transport Sites and Routes states:
"New sites and routes which have the potential to contribute towards the revision of a sustainable and improved transport system will be safeguarded where there is a reasonable prospect of them accommodating new transport infrastructure before 2035. This will apply when a scheme is:

Included within the investment strategies or plans produced by Highways England, as the strategic highway authority, North Yorkshire County Council, as the local highway authority, or by any other body or organisation contributing towards the creation of a sustainable and improved transport system for the district, and for which there is an agreed preferred route or site;

Along the route of a former railway line; in particular the sections of the Harrogate – Ripon - Northallerton line and the Harrogate to Wetherby and Harrogate to Pateley Bridge lines that lie within the Harrogate district;

A cycle or pedestrian route identified by the local highway authority or the district council and included within an approved plan or strategy."

The importance of identifying and protecting sites and routes where there is robust evidence that they could be critical in developing infrastructure to widen transport choice is set out in paragraph 14 of the National Planning Policy.

Nidderdale AONB 2019-2024 Management Plan
Nidderdale AONB's Management Plan is a high-level strategy that provides a framework for action designed to protect the AONB's special quality. The vision set out in the Plan is for Niddderdale AONB to be:

- A vibrant working landscape where rural communities, land managers and other rural businesses are working collaboratively together to protect natural beauty;
- A place where environmental limits are widely respected and concerted effort is being made to reduce carbon emissions while seeking opportunities to increase carbon storage;
- Made up of a resilient landscape renowned for its high windswept moors, ancient woodlands, livestock-grazed pasture, flower rich meadows, historic country houses and parkland filled with veteran trees;
- Home to a greater abundance and diversity of wildlife compared to the 2019 State of Nidderdale's Nature Report Summary;
- A welcoming destination for people seeking opportunities for recreation;
- A place where people can experience tranquillity and improve their health and wellbeing;

Specifically in relation to 'Understanding and Enjoyment' (one of six key areas in the Plan), supporting the development of the Greenway is explicitly mentioned **(Figure 4)**. A focus over the next five years making significant progress towards this vision.

Understanding and Enjoyment
Aim (UE1) Create more opportunities for people to enjoy the AONB Objectives 1. Gather comprehensive, reliable and up-to-date information on the condition of rights of way and prioritise route maintenance 2. Support work by partner organisations and others to develop the Nidderdale Greenway 3. Improve the condition of the Nidderdale Way 4. Provide environmental advice to organisers of large events 5. Work with health organisations to develop plans for environment-based therapies and social prescribing

Figure 4. Table Source: Nidderdale AONB 2019-2024 Management Plan

Public / Permissive Rights of Way Issues
Stakeholder engagement so far has highlighted the desire, where possible, for the route to cater for horse-riders as well as those cycling and walking. This does not mean that braided sections of the route cannot be considered when circumstances make them more appropriate.

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Agreements with landowners are assumed to be on the basis of creating permissive rights of way wherever possible. When the path follows the line of an existing PRoW then the bridleway section of the Greenway can run alongside the PRoW or incorporate it with a new permissive agreement.

Ecology

Ecology is part of Sustrans' traffic-free routes and greenways design guide. Despite the environmental benefits of creating traffic-free routes, their construction can remove or damage natural habitat, often in important locations. Failure to follow correct procedure can be a legal offence and have detrimental effects on nature conservation.

As yet, a preliminary ecological impact assessment has not been carried out by Sustrans for the route proposal in this study. This is an early stage priority in the next phase of development and will be required to inform the design process.

There will also be a requirement to adhere to legislation relating to designated nature conservation sites, habitats, species and conservation on a landscape scale. Whilst policies are enacted through the planning process, the legislation is statutory and applies at all times, whether or not a project requires planning permission.

Where avoidance of adverse impacts on important ecological features is not possible, approval of mitigation and compensation measures will be required for the work to go ahead. A planning application would set out these measures in detail and require robust survey information.

Planning policy also stipulates ecological enhancements to be proposed as part of new developments wherever practical. The latest update to the forthcoming Environment Bill specifies a mandatory 10% biodiversity net gain to be maintained for a period of at least 30 years. These are ecological improvements beyond those required to compensate for damage.

The route proposed in this study passes nearby a range of nature conservation sites of international and national importance, and is likely to provide suitable habitat to support a range of protected species. An indication of the route in relation to some of these sites is shown in the map below.

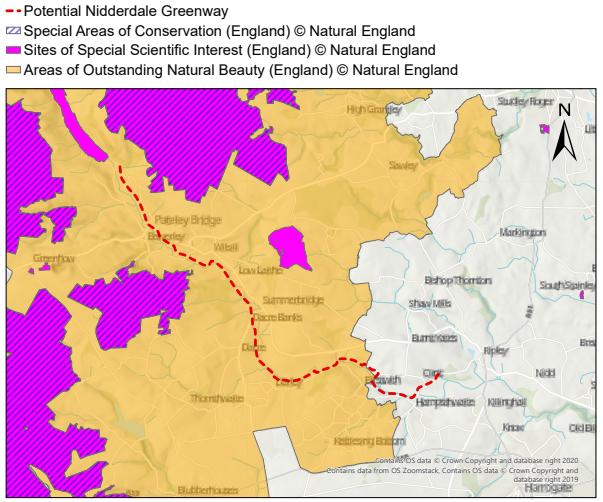

Figure 5. Some of the designated and protected sites

Figure 6. Nidderdale Greenway Source: Sustrans

3. Background to route design

Nidderdale Greenway: Harrogate to Ripley

This route was completed in 2013 and has proven very popular with walkers and cyclists alike, especially on peak days, in fine weather, but for the most part it is a tranquil experience with people passing in ones and twos.
Its more rural section, from the Nidd Viaduct to Ripley consists of a 2.0m wide tarmac path **(Figures 7 to 10)**.

It is proposed to maintain the same overall design and specifications for extending the Greenway, but take opportunities to widen the path where possible and appropriate to comfortable accommodate all users.

Figure 7. Hollybank Lane on the way to Ripley

Figure 8. Ripley towards the Nidd Viaduct

Figure 9. Riverside section east of the Ripon Road

Figure 10. Approaching the Nidd Viaduct

Ripley to Pateley Bridge and Wath

This report sets out the preliminary details of the proposed route. This is based upon extending the successful greenway currently running between Harrogate and Ripley, and will follow a mixture of disused railway track, existing public rights of way and new links to form a continuous, traffic-free village-to-village route with easy gradients.

The route is described in sections from Pateley Bridge (with an extension to Wath) because it is envisaged that the most likely next stage of Greenway development will begin there. It's also Nidderdale's principal settlement and small market town through which both the Way of the Roses coast2coast cycle route and the Nidderdale Way long distance walking route pass.
Throughout a number of options were reviewed and the arrangements proposed in this study will no doubt be revised and refined through further discussion and negotiation with landowners and other stakeholders, but overall are considered to represent the optimum routing.

During the course of the preparation of this report the project team has met as many of the landowners along the route as possible. There has been widespread support for the route in general. The project team has endeavoured to reflect many of the points of view expressed and to select the most satisfactory option where possible.

Within its Paths for Everyone report, Sustrans sets out its quality standard and the underlying design principles for the National Cycle Network which are explained in more detail in **Appendix 1.** The Business Case for this scheme is included in **Chapter 6, page 30.**

Table 1. Route sections

Wath and Pateley Bridge route	2.49 kms
Pateley Bridge and Glasshouses	1.72 kms
Glasshouses and Dacre Banks	4.46 kms
Dacre Banks and Darley	2.56 kms
Darley and Birstwith	4.9 kms
Birstwith and Hampsthwaite	1.9 kms
Hampsthwaite and Ripley	2.89 kms
Total length of Greenway from Wath to Ripley	20.92 kms

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4. Detailed description of each section of the route

The route is described in sections from Wath to Ripley. This is so that the reader of this report can see a vision of the overall complete route (**Figure 11**). The order of construction would depend upon local issues, on land agreements, and on funding requirements. For example it has been suggested that Pateley Bridge to Glasshouses might be the best initial section to open on account of the popularity of the existing riverside walk.

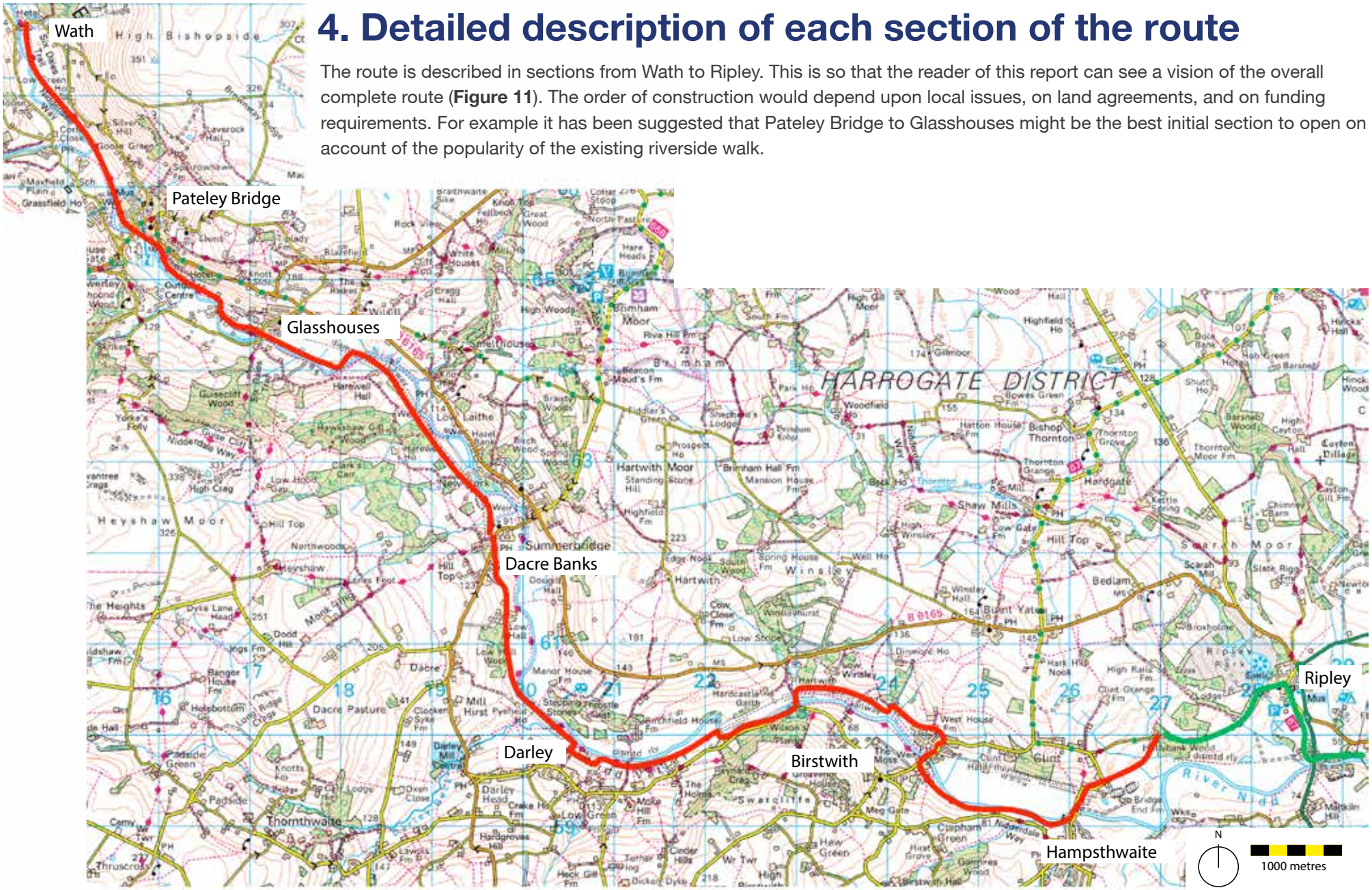

Figure 11. Plan of Proposed Route

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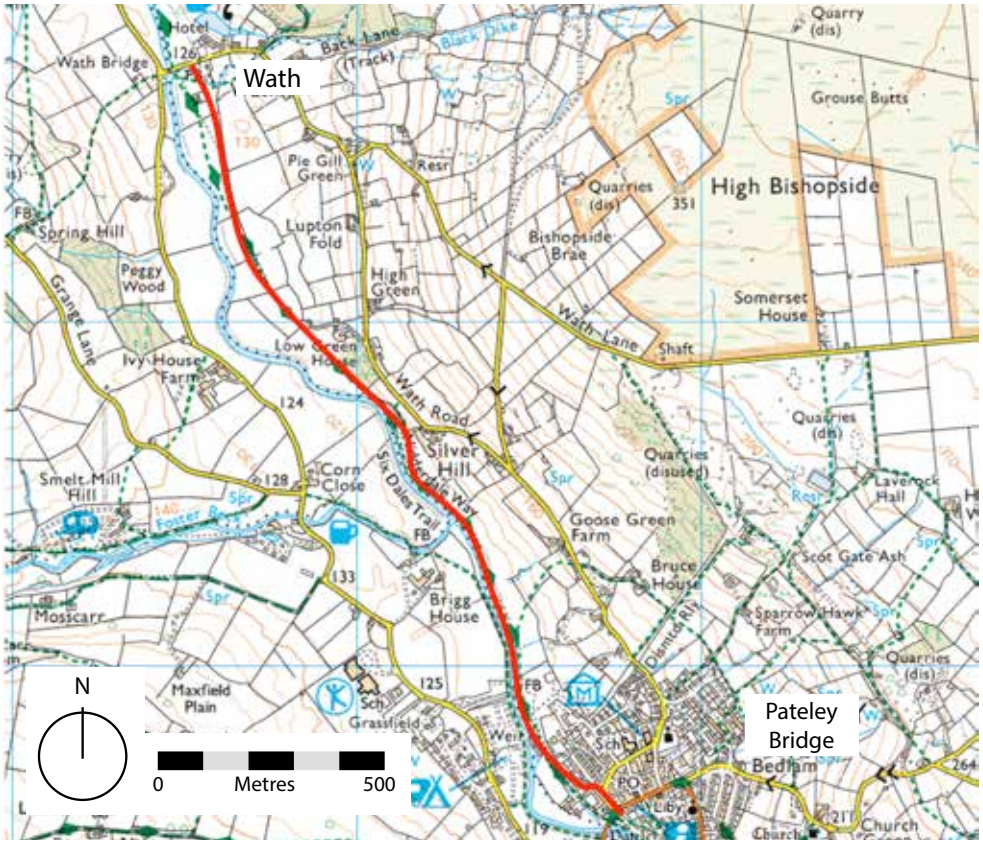
Wath to Pateley Bridge – 2.5km

This section largely follows the existing Nidderdale Way which runs on the formation of the original reservoir railway for much of its distance. It is worth noting that the whole of the old railway route down to Ripley is reserved for transport use in the local plans. We have followed this route where it is the best option but there are sections down the valley where riverside paths, for example, provide a more attractive route.

Starting from the Sportsman's Arms in Wath, the railway route is occupied by the old station house, so we need to make a new link to the railway a little closer to the river.

A long length of the Nidderdale Way then follows the low causeway of the railway route. This is a most attractive section. Approaching Pateley Bridge the public path leaves the old railway in the nearby field and runs along the riverside and then as a narrow flood bank. This could be widened or the greenway path could be built just inside the bank. Finally the path passes the Millennium Bridge and joins the car park access road to reach Pateley Bridge via The Sidings.



10 *Figure 12. Plan of Proposed Route*

Figure 13. Views of existing narrow floodbank and fence

Figure 14. View of riverside path

Figure 15.

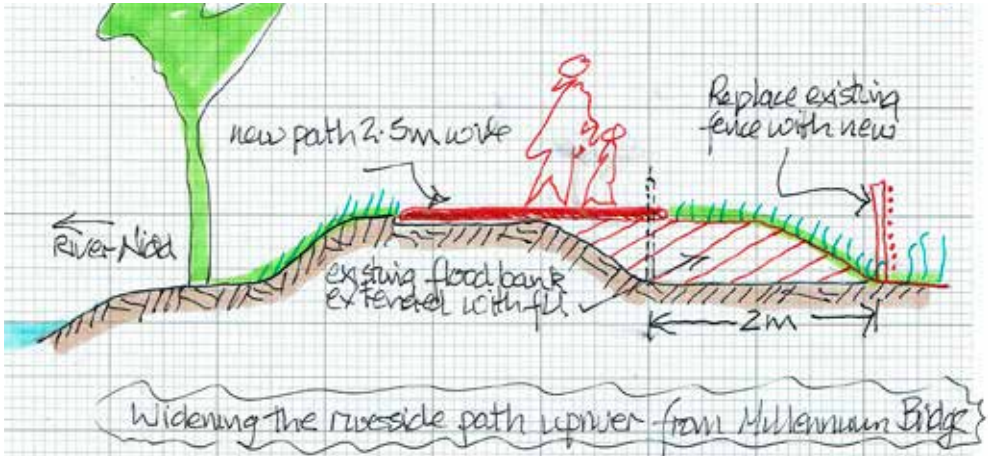


Figure 16. Sketch section through widened flood bank, with options of building the Greenway behind the bank

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Pateley Bridge to Glasshouses – 2km

Whilst most of this section of route is clearly defined first along the line of the old railway and then along the very fine walled lane along the side of Glasshouses Dam, (this includes the ornamental drive below Castlestead), we have had to consider a number of options past the Railway Cottages.

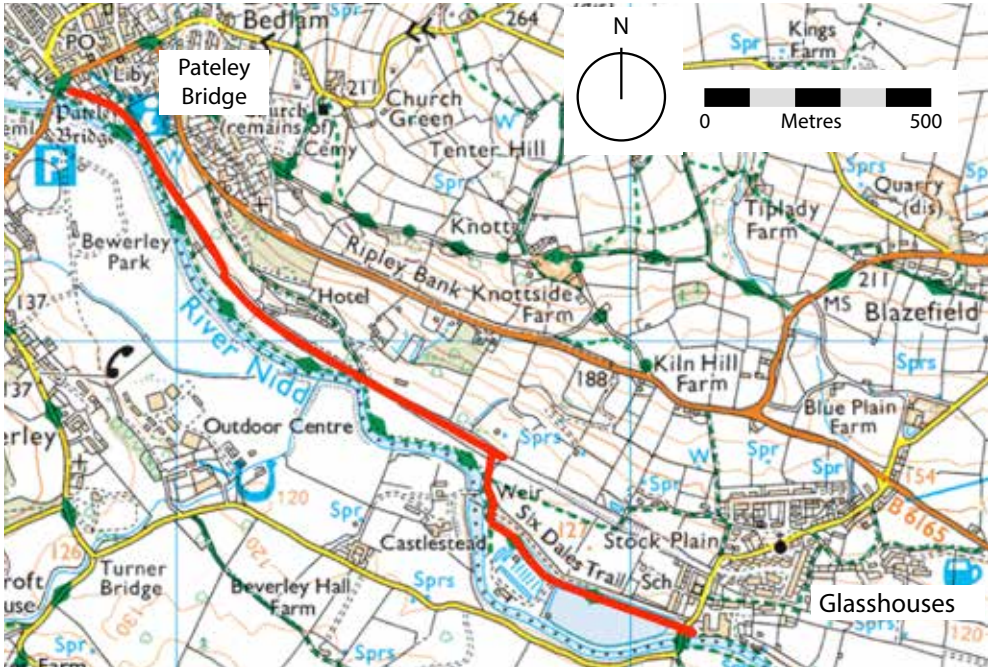

Figure 17. Plan of Proposed Route

The first part of the old railway now carries Nidd Walk, and the road to the public car park on the station site. The railway formation then becomes the private access road to the Railway Cottages for a distance of about 100m.

One option would be to divert the greenway onto the existing riverside path running behind Riverside Cottages (**Figures 18 and 19**). This is already well screened from the houses by the existing fencing.

This option would require the creation of a new ramp from the car park (**Figure 20**), as the long length of walled path constructed at the time of the railway is too narrow for shared use.

Figure 18. Views behind Cottages looking down the line of the path

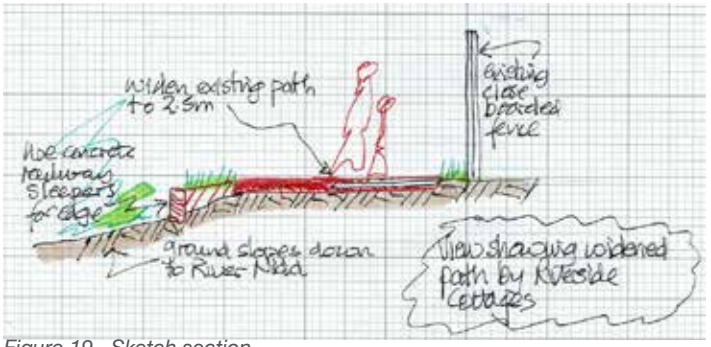

Figure 19. Sketch section

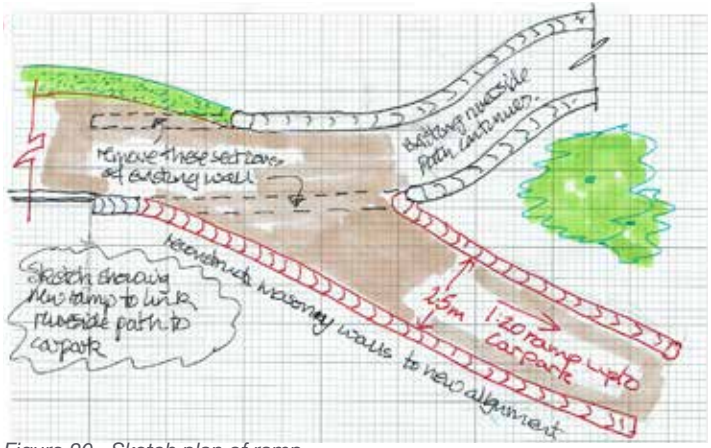

Figure 20. Sketch plan of ramp

A second option would be to construct a bypass on the hillside in front of the cottages (**Figure 21**). Here the path would need to be carefully screened by timber fencing and/or planting to minimise loss of privacy (**Figure 22**).

Figure 21. View in front of Cottages looking down the line of the path

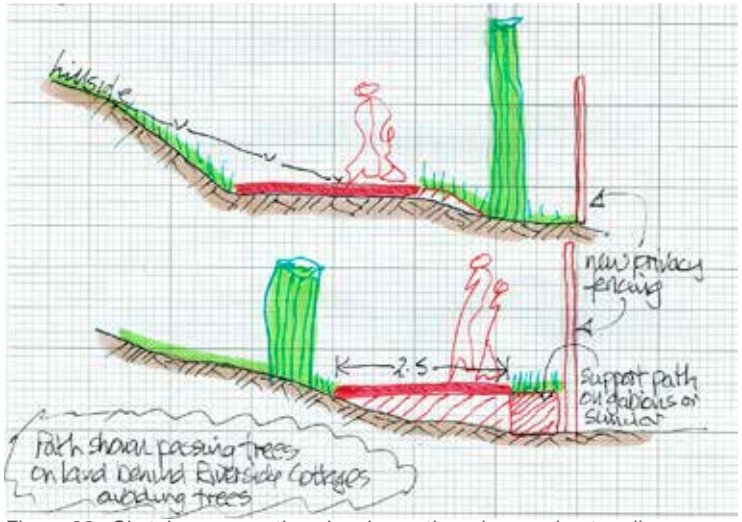

Figure 22. Sketch cross section showing path and screening to railway cottages

A third option would be to bridge over the river just downstream of the cottages and run a path along the edge of the showground area (see **Figure 23**). This would have the advantage of linking the showground and its various activities, including the Bewerley Park Outdoor Centre, to the planned Greenway, but the added need for road safety measures at the main road and into the town centre.

Figure 23. View of existing Millennium Bridge which could be replicated for the showground link

Which of these alternatives was adopted would depend upon local interests and the availability of funding as the bridge to the showground would be the most costly. For the time being we recommend the bypass to the hillside in front of the Railway Cottages.

The Greenway can now re-join the old railway as it runs through the grounds of the Harefield Hall Hotel (**Figure 24**). It would be best to keep the Greenway separate from the riverside for this section as it is a popular promenade with the public. At the far end of the railway section a new link is required to meet up with the Reservoir Lane, and this could be arranged as shown in **Figure 25** below.

Figure 24. Old railway through Hotel grounds

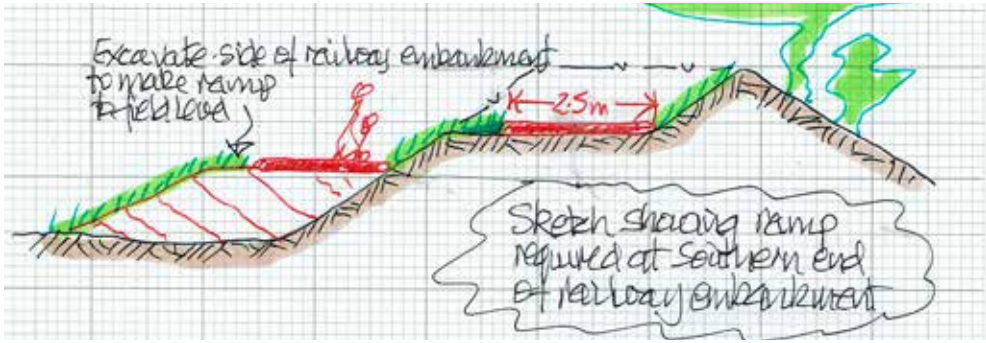

Figure 25. Sketch of ramp from railway and link to Reservoir

The Reservoir Lane (**Figure 24**) is a particularly memorable highlight of the whole route. Descriptive panels to explain the history and the workings of the watercourse in this area would be interesting.

Figure 26. View of the Reservoir

Glasshouses to Dacre Banks – 4.06km

This magnificent section of the Greenway falls into 3 sections. It begins by following the riverside, then moves onto the old railway via a new bridge span and then runs along the existing access road from Lead Wath Forestry to the B6451 road at Dacre Banks.

While work is still under way, cyclists may have to walk along the path past the redevelopment of the Glasshouses Mill (**Figure 25**) but developers are supportive of the shared use route aligning through the completed site.

Figure 27. (above) Artist's impression of Glasshouses Mill redevelopment;

Figure 28. (right) Plan view of Glasshouses Mill redevelopment.
Source: https://www.newby.co.uk/developments/glasshouses-mill

Potential route through development is indicated by dashed line (illustrative only, not yet discussed in detail with developers)

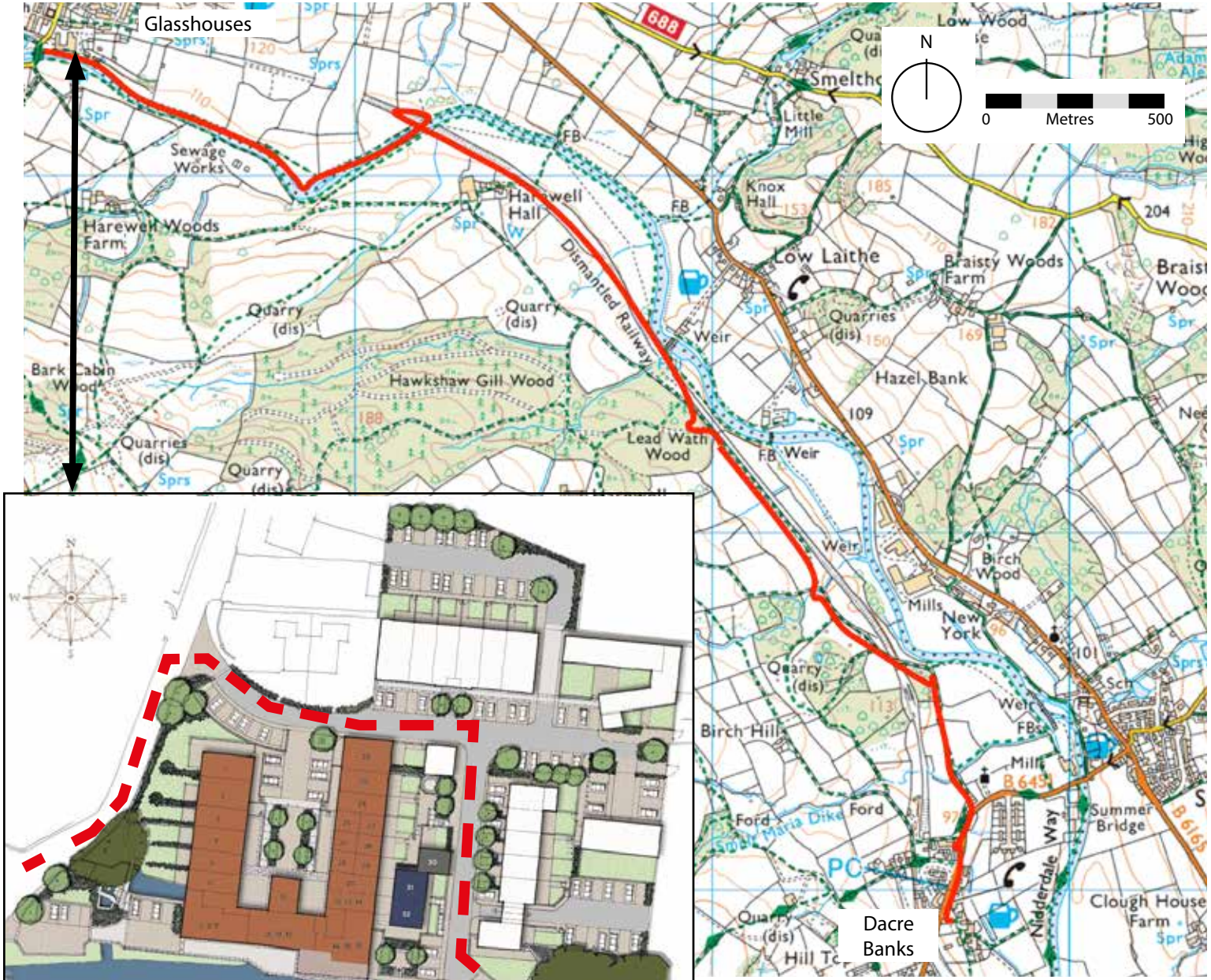

Figure 29. Plan of Proposed Route

The next riverside section is particularly attractive. An additional 3m strip of the field edge is required to make the Greenway route as suggested in **Figure 31**. There is a never ending stream of pleasure in walking and cycling along this river with a rich variety of views and the sound of the water never far away. From the perspective of the farmers too this may well be a much more attractive route for the public, on the boundary of their fields, rather than following the line of the old railway.

Figure 30. View of riverside path

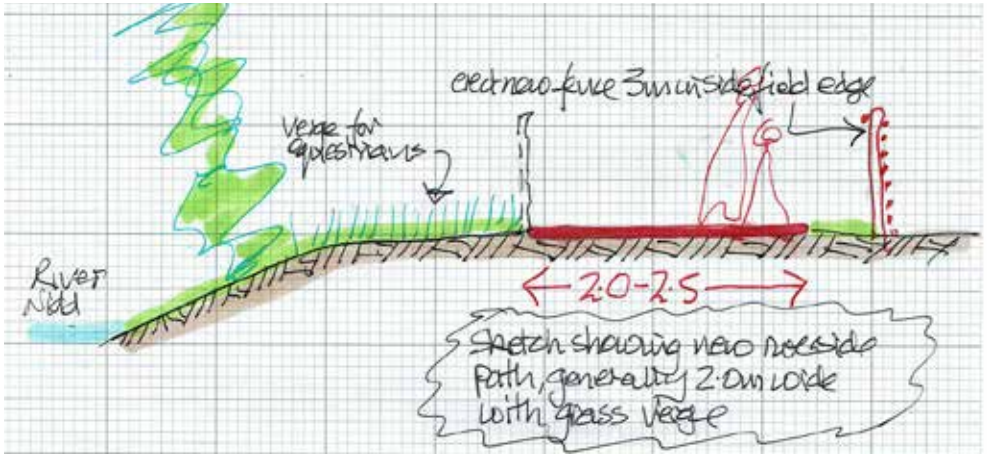

Figure 31. Sketch through typical riverside path section

At one point the riverside path climbs steeply and here a ramp needs to be cut across the side of the bank in order to secure the 1:20 gradient the Greenway needs to provide for wheelchair users (**Figure 32)**.

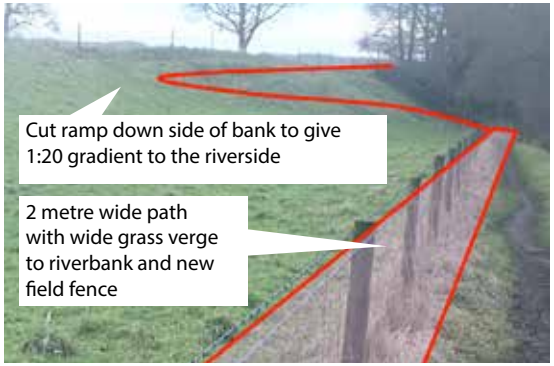

Figure 32. View of bank with overlay showing arrangement of ramp

After one more section of riverside field edge, the next detail is the link up to the old railway approach arches (**Figure 33**) where a new bridge span is required to replace the missing river span.

The Greenway should pass through the side arch so that one can appreciate the fabulous detailing of this slew arch and then ramp up alongside the old railway boundary at 1:20 to reach the railway levels.

A new steel span approximately 25m long is required (**Figure 34**). This should be 2.5m wide. The steel beams would be seated on simple concrete slabs cast against the existing massive masonry abutments.

Figure 33. Three views of masonry bridge (right)

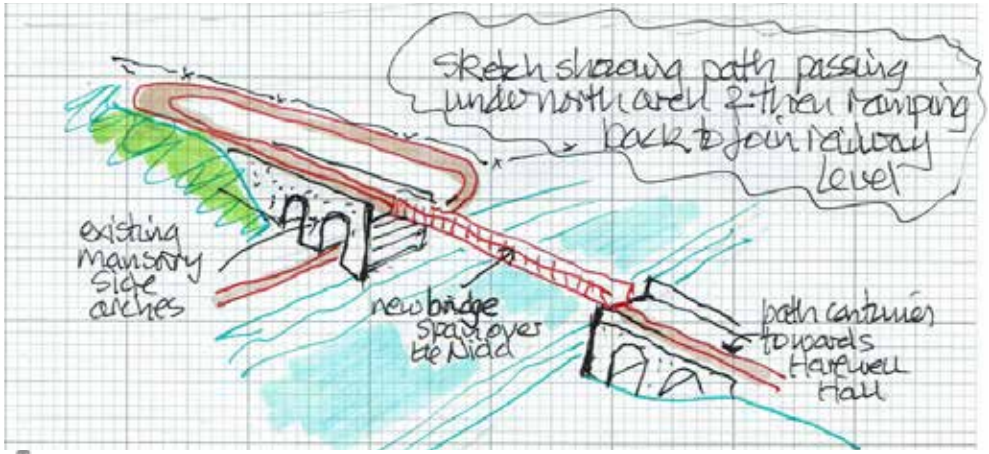

Figure 34. Sketch of link and proposed bridge

Glasshouses to Dacre Banks – 4.06km - *continued*

Past Harewell Hall the railway is used by farm traffic (**Figure 35**) and it would probably be best to construct the Greenway as a parallel path to the agricultural track (**Figure 36)**.

Figure 35. View through the Harewell Cutting

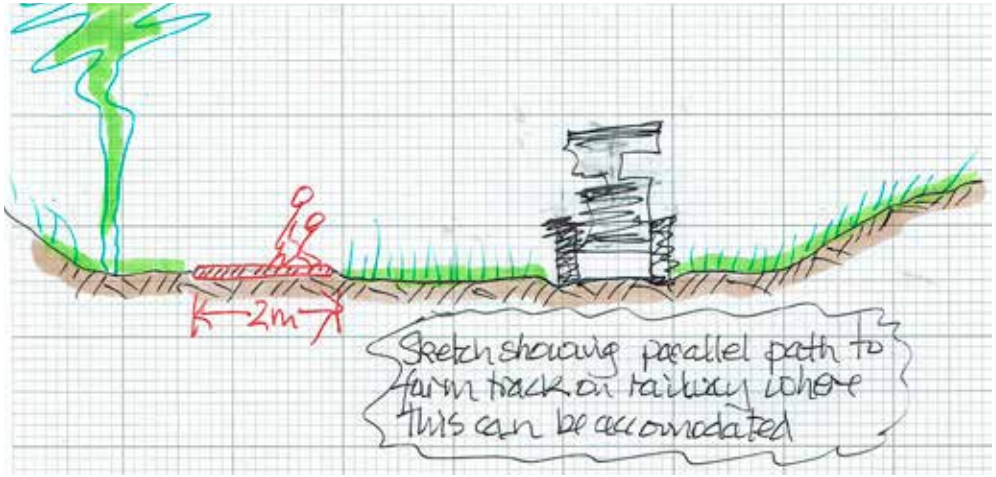

Figure 36. Sketch of parallel path

Across the last Harewell field the railway is lost, and the Greenway could move to the nearby field edge (**Figures 37 and 38**) to minimise disturbance to livestock. This section could be fenced off if this is required. **Figure 39** shows a gating and sheep grid arrangement to prevent livestock straying onto the path.

Figure 37. View along field edge

Figure 38. View along field edge

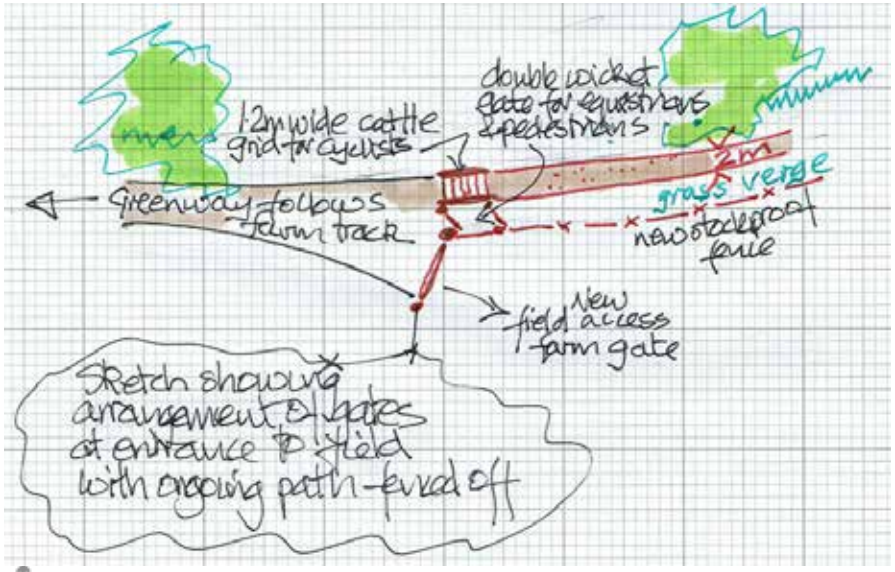

Figure 39. Sketch plan of gate

The railway now crosses a masonry arch (**Figure 40)** which will require new balustrades and the path continues along the former sidings.

The section at Lead Wath needs to be carefully detailed in order to minimise annoyance and inconvenience to the resident and works. We suggest that the existing public footpaths are diverted as shown in the sketch plan **(Figure 41)**. The existing track to the timber works would then no longer be a public right of way and could be gated off if this was required.

Figure 40. View of arched bridge

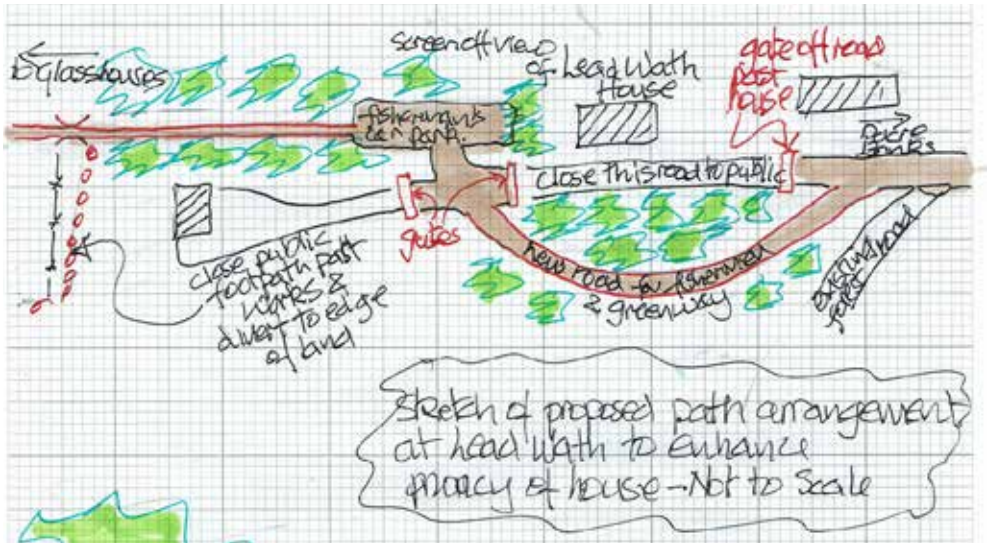

Figure 41. Sketch of diversion of public paths onto the proposed Greenway route

From Lead Wath to Dacre Banks one can conveniently follow the existing public footpath which follows the existing attractive access road (**Figure 42)**. The Greenway project could tarmac this to minimise future maintenance. Alternatively the Greenway could follow the course of the parallel railway which runs on a low embankment here.

Figure 42. Views of Lead Wath road

In Dacre Banks we recommend further traffic calming to reduce traffic speeds for the 200m of main road through to the Royal Oak Inn (**Figure 43**).

This could be designed to encourage the easy flow of cyclists.

Figure 43. View of existing traffic calming on road

Dacre Banks to Darley – 2.56km

This section runs along the old railway past Low Hall and then through the wood of the same name. It then comes out onto open grassland with one of the most memorable vistas of the whole route. Approaching the Pyefield House area, the Greenway moves to the riverbank so as to minimise the interference with the farm.

Figure 44. Plan of proposed route

The link from the Royal Oak Inn to reach the railway is an interesting challenge, as the public footpath climbs a bit right across the centre of an open field. We suggest following the public footpath route as far as the field, but then diverting the public footpath (which cuts diagonally across the open field) to run in a defile along the field edge (**Figure 45**). Ideally this would be excavated deep enough to link conveniently to the floor of the railway cutting (**Figures 46 and 47**), and would ensure privacy to the the adjacent private garden.

Figure 45. View of field edge

Figure 46. View of railway cutting

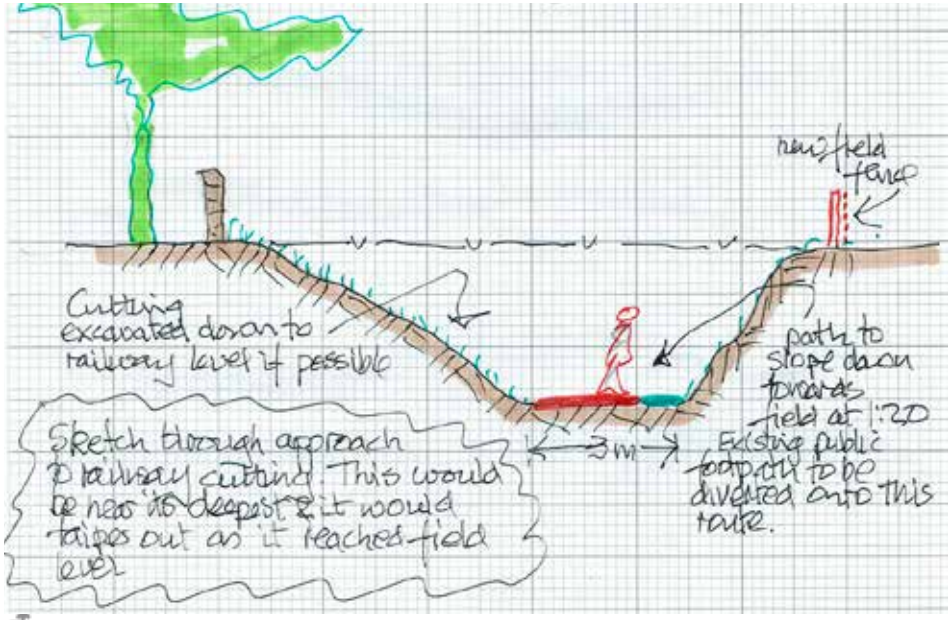

Figure 47. Sketch of path in defile along field edge

The railway cutting makes for an attractive detail along this route. At its southern end one could fence off the edge of the field (**Figure 49**) to keep the public separate from livestock.

Figure 48. View of field

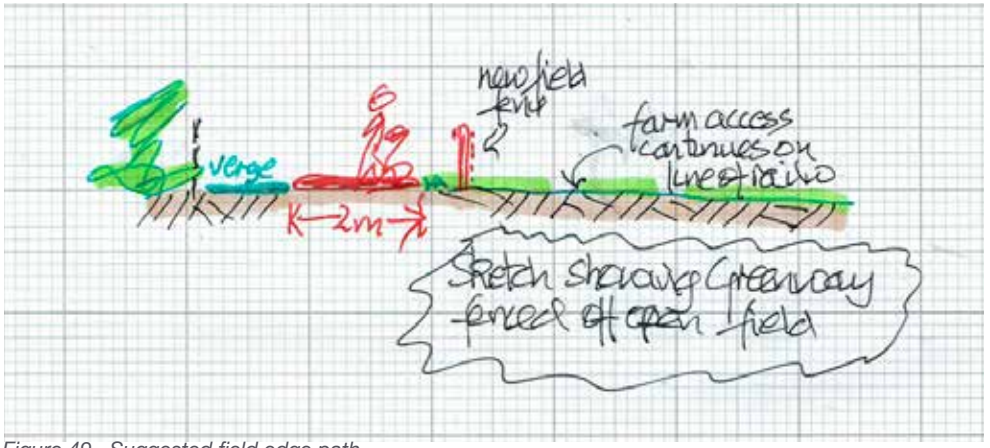

Figure 49. Suggested field edge path

The next section runs on the railway track as far as historic Low Hall. Here it has been suggested that the farm track is slightly moved away from the cottage (**Figure 50**) so as to extend its garden and planting screen (**Figure 51**).

Figure 50. View of cottage

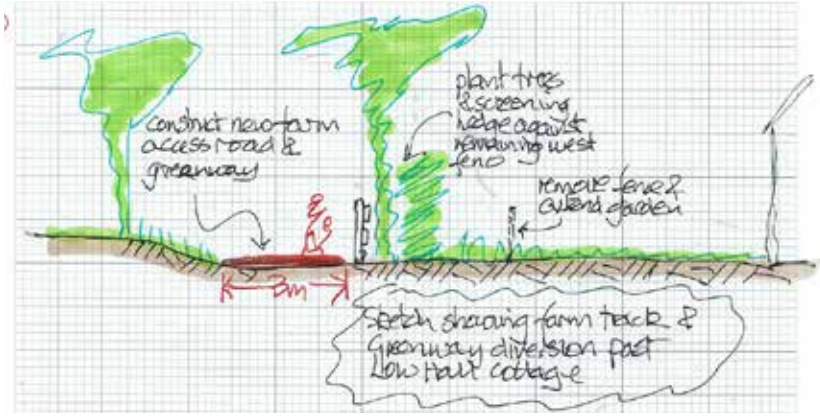

Figure 51. Sketch showing a possible arrangement so as to enhance the privacy of the existing cottage

This whole section is a public footpath which runs past the farmyard (**Figure 52**) to reach a most attractive section of route through woodland (**Figure 53**).

This section is one of those where the track surface is almost good enough for Greenway use without further works.

Figure 52. View past the farmyard

Figure 53. View on woodland section

Dacre Banks to Darley – 2.56km *continued*

Pyefield House is very close to the railway and public use of the old railway track would be intrusive.

Fortunately, the riverside path (**Figure 54)** offers a most attractive alternative.

Figure 54. View of railway

Figure 55. View of riverside path

The most satisfactory arrangement would be to stay on the railway to near the high point of the existing riverside path (**Figure 57**). The existing arched bridge under the railway (**Figure 54**) would allow farm access to the riverside fields and the existing public path could be moved onto the railway path to keep people well clear of the farming operation. Once past the arch the path could ramp down on the side of the embankment away from the house until it reached the natural high point of the land from where it could slip down to the riverside.

The alternative riverside route would involve more extensive earthworks so as to maintain nothing steeper than 1:20 gradient suitable for wheelchairs.

Figure 56. View of riverside

The final section beside the river would require an additional 3m wide strip along the field edge to provide for the Greenway route (**Figure 58)**. Part way along, the side stream is crossed by a narrow footbridge (**Figure 59**). This would need to be replaced by a new bridge (**Figure 60**) at the higher field edge level. Note that there would have

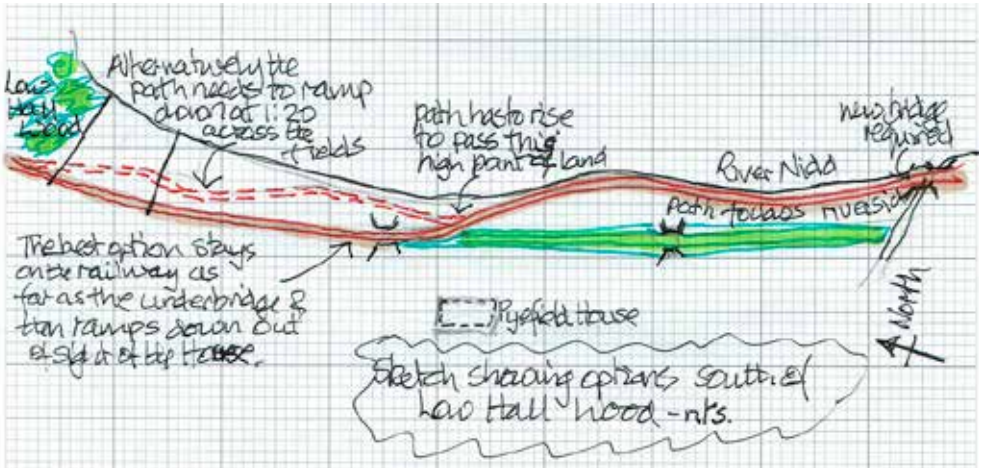

Figure 57. Sketch plan of options between railway level and riverside

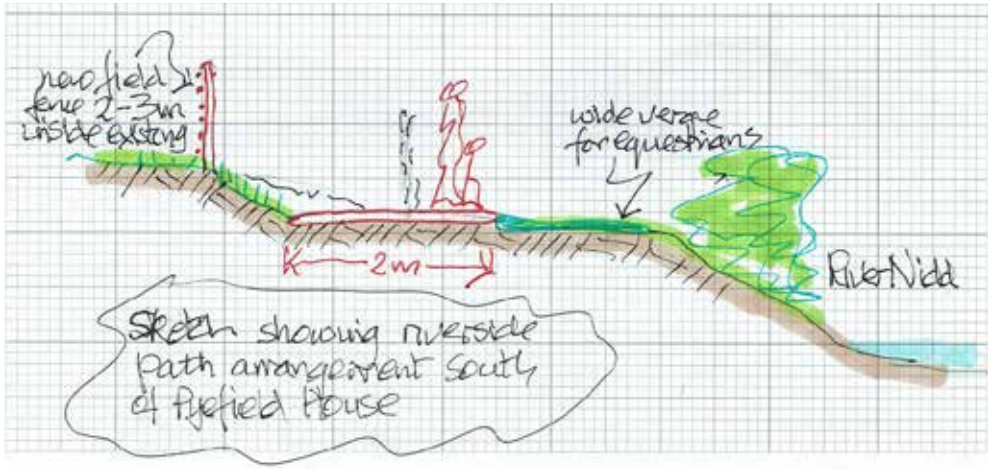

Figure 58. Sketch section of proposed path

been no advantage staying on the railway route because it has lost its bridge.

Finally, to reach Station Road a new path would be needed along the field edge so as to widen the existing narrow path (**Figure 62)**.

Figure 59. View of existing foot bridge

Figure 60. View of similar bridge at Fleet Marston

Figure 61. View to existing path to Station House

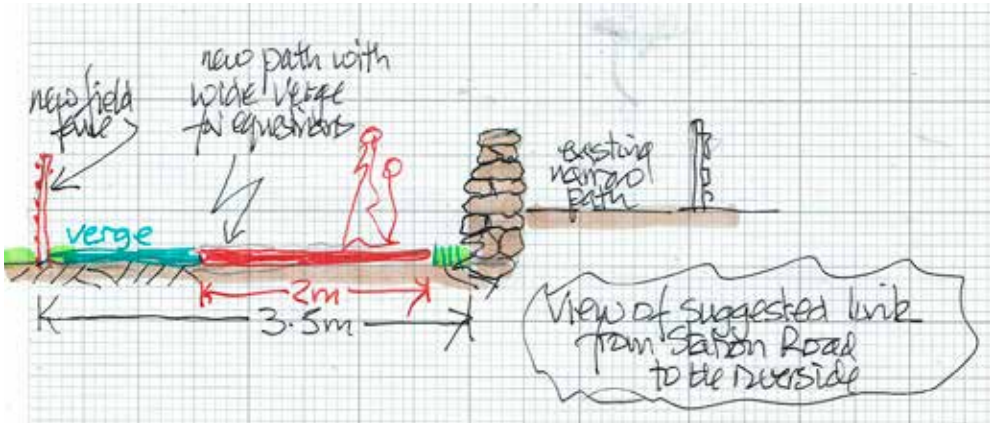

Figure 62. Sketch of link path

Darley to Birstwith – 4.9km

This is a particularly fascinating section which makes use of an original road alignment through the riverside edge of Wilsons Plantation as well a significant section of the old railway. It also includes the Ross Toll Bridge (**Figure 63**) and passes close to the historic 'New' Bridge (**Figure 64**).

To start with the path needs to pass to the south of the railway properties (**Figure 66**). Although this means going uphill a little it is no hardship because this takes you closer to the Darley Post Office, general store and café, which is an important village resource and needs to be well supported.

Figure 63. Ross Toll Bridge

Figure 64. New Bridge

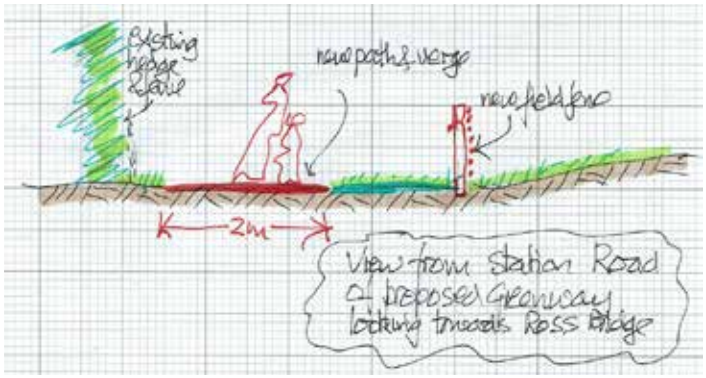

Figure 65. Sketch section

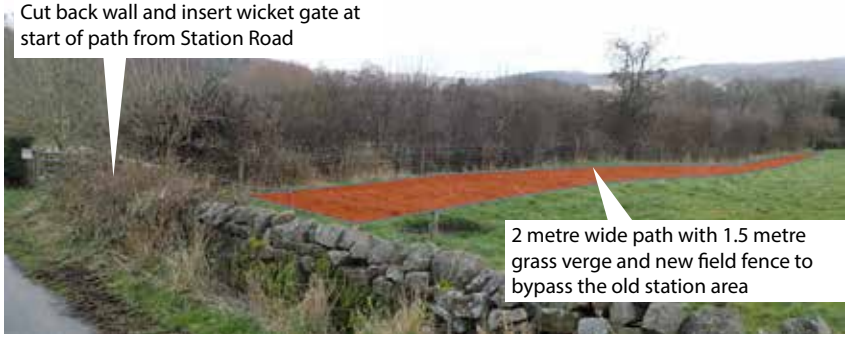

Figure 66. View of field edge with montage of suggested path Source: John Grimshaw

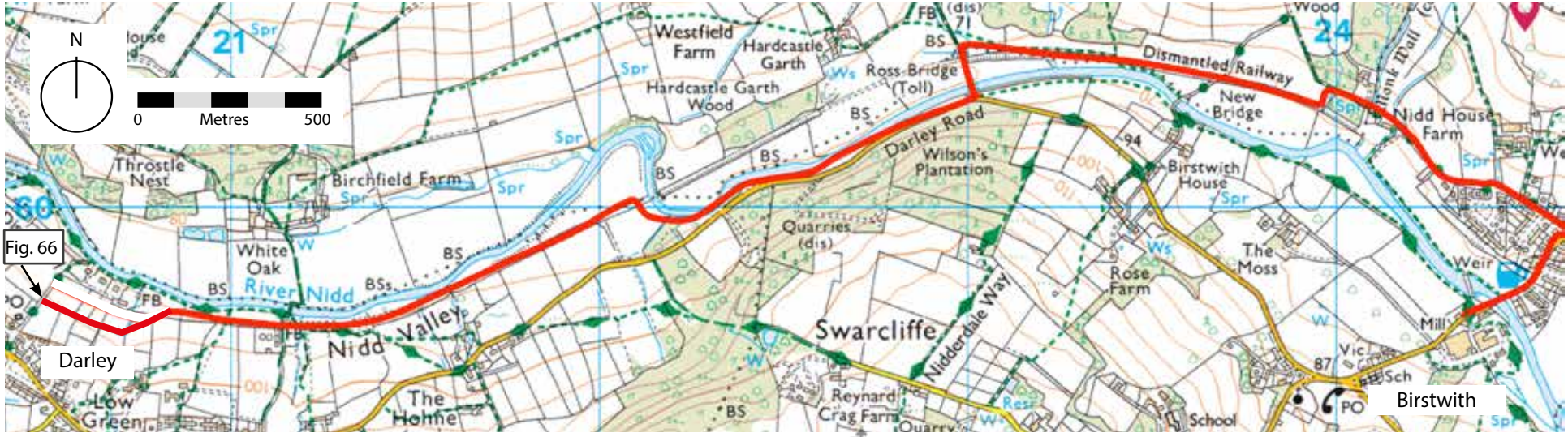

Figure 67. Plan of proposed route

From here join the railway route for the next 1.5kms (**Figure 68**). Care is needed in the detailing to ensure that this section provides complete farm access to fields either side and fencing should be provided as required (**Figure 65**).

At the river crossing, where the bridge span is missing, run along the field edge and riverside (**Figure 71**) to reach the woodland boundary.

By following the next woodland section one can avoid the need for a new river bridge. For most of the way the line of an old road is a well-defined level between the Darley Road and the River Nidd. At one point the line of the old road is marked by a line of ancient beech trees as the road climbed to avoid the steep bank eroded by the river.

Figure 68. View of the railway

Figure 69. View of field edge

Figure 70. View of typical section

Figure 71. View of diversion at river bend

There are probably three general solutions to this pinch point.
The Council might want to construct a rough retaining wall of massive rock to prevent further erosion and the eventual loss of the road, or we could construct 30 metres or so of board walk, or we could follow the probable line of the road up the slope and bypass the road on a short section of retained path. These are illustrated in **Figure 72** below. Clearly to follow over the top of the rock revetment would be the best arrangement if this was possible.

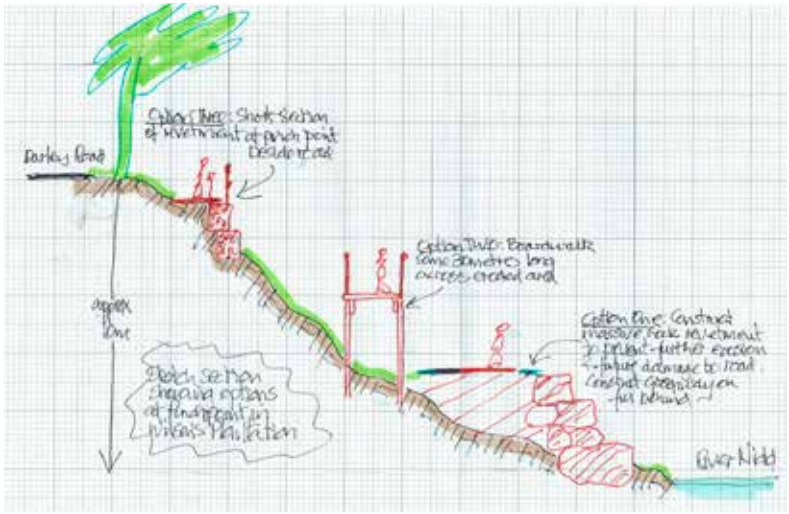

Figure 72. Sketch through option at pinch point

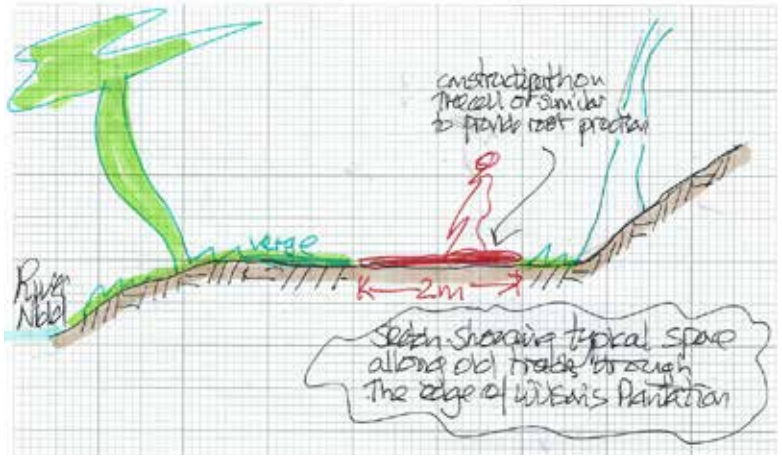

Figure 73. Sketch through typical section of riverside

Darley to Birstwith – 4.9km *continued*

Ramp up to the Ross Toll Bridge and make a link on the edge of the field past the Toll House to reach the railway formation.

Now follow a lovely section of railway route which is well used by the public, followed by another private section - this last would need to be fenced off from the adjacent field.

At the end link along the field edge to the existing green lane and bridleway. Care is needed to ensure the whole field is carefully fenced against livestock, and that there are appropriate gates.

Figure 74. View of railway section with well used path

Figure 75. View of railway towards Nidd House Farm

Figure 76. View of Green Lane

Cyclists can join the road from Nidd House Farm, whilst walkers can follow the existing riverside footpath through to the Birstwith Bridge.

Figure 77. View of path from bridge

Figure 78. View of road south of river bridge

Birstwith to Hampsthwaite – 1.9km *continued*

Although the proposed riverside route appears to be a small detour, it does take you to Hampsthwaite with its renowned café, and follows for the most part an existing PRoW whilst avoiding a section of the old railway.

Past the Kerry's factory we need a new bridge over the millstream and a series of careful detailing to gain sufficient space for a path outside the factory boundary.

Figure 79. View of boundary

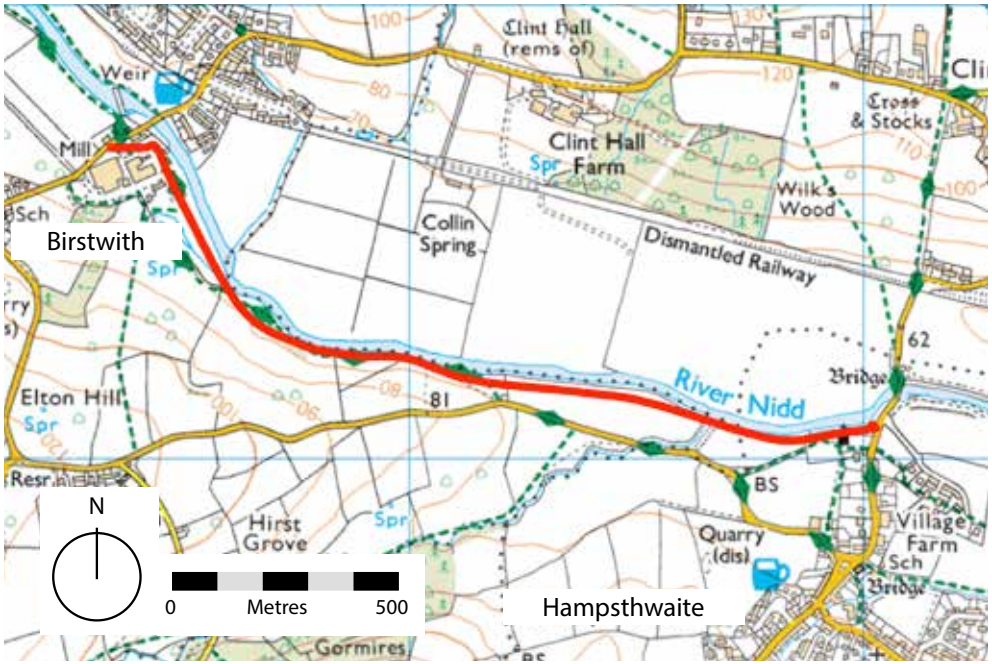

Figure 80. Map of section with views of riverside path

At the end of the fencing continue to the end of the spit of land, ramp up and bridge the outfall of the millrace (**Figure 81)** to quite a high level on the hillside beyond.

Figure 81. View of millrace near the planned bridge

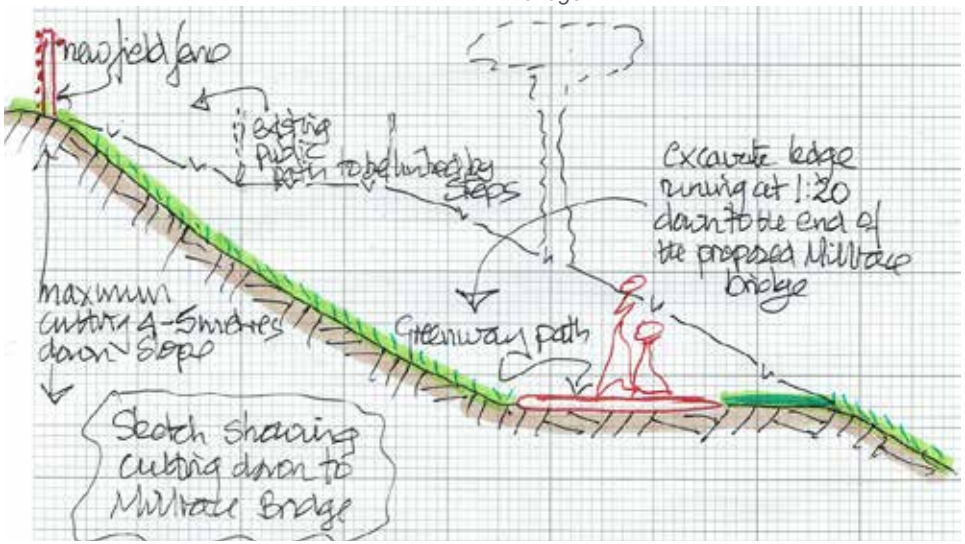

Figure 82. Sketch section showing cutting down to Millrace Bridge

The next 500 metres of riverside path are most attractive but will require careful construction to get a good path through.

Figure 83. Views of woodland section

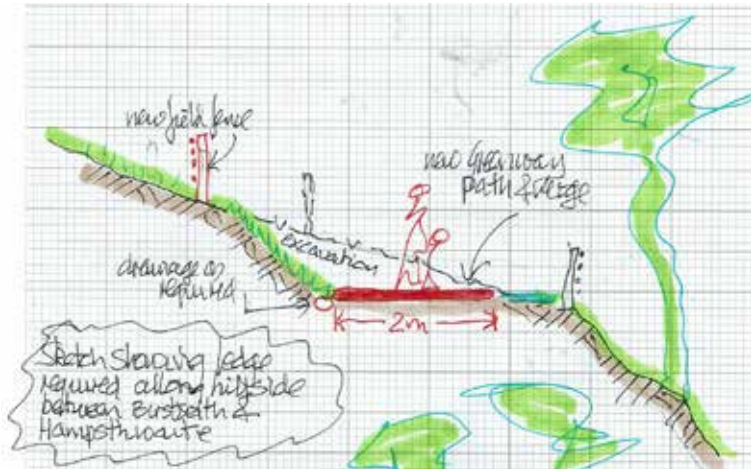

Figure 84. Sketch of section of hillside approaching bridge on the downstream side

The last section of riverside path into Hampsthwaite is much needed because currently the Nidderdale Way is routed along the road, which is neither pleasant nor safe.

Figure 85. View of field edge

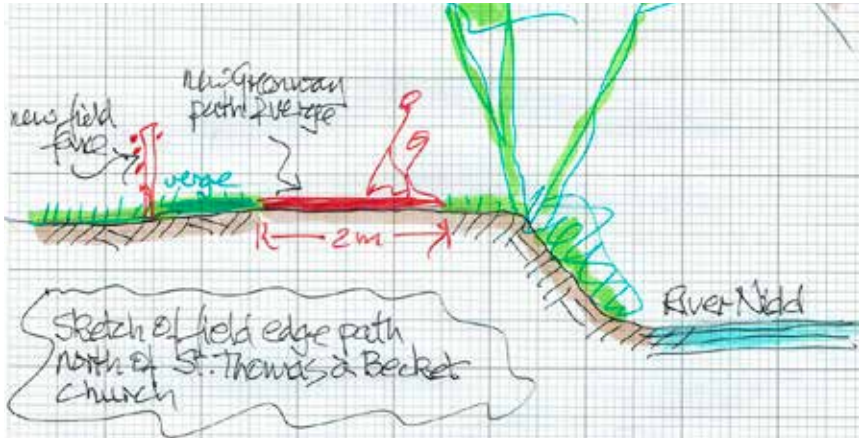

Figure 86. Sketch of field edge path

A new bridge will be required over the Bracken Brook.

Visitors will almost certainly want to walk through the churchyard of St. Thomas à Becket church to see the splendid marble sculpted monument to Amy Woodeford-Finden, as well as the much rebuilt church originally conceived as a penance by the brother in law of one of the three knights who murdered the Archbishop at Canterbury Cathedral.

The through route can pass between the churchyard and the riverside where about 10 metres of new construction will need to be supported on gabions or other revetment (**Figures 87 & 88)**.

Figure 87. View between church and riverside

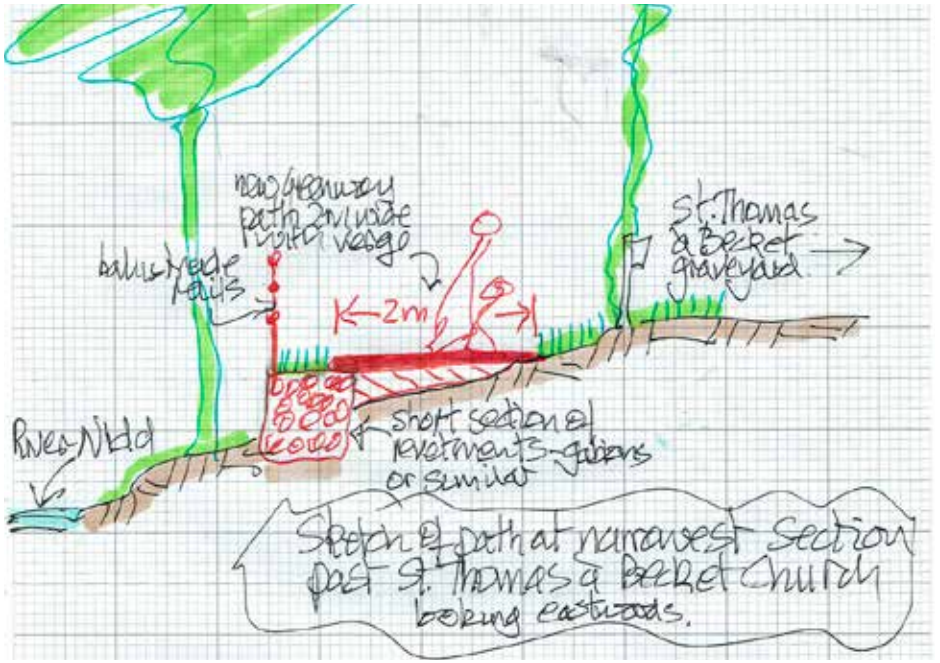

Figure 88. Sketch of path at narrowest section

Hampsthwaite to Ripley – 3km

Most of this route is already in place. One could follow the road up to Clint (walkers to use the footpath) or much better follow the bridle path from the corner of Clint Bank Lane. This lovely route will need some work to improve drainage so as to provide a good all-year path for users.

Figure 89. View of existing bridleway

Below: four views of the existing Ripley Castle Path showing 2.0 metre wide sealed surface with adjacent verge

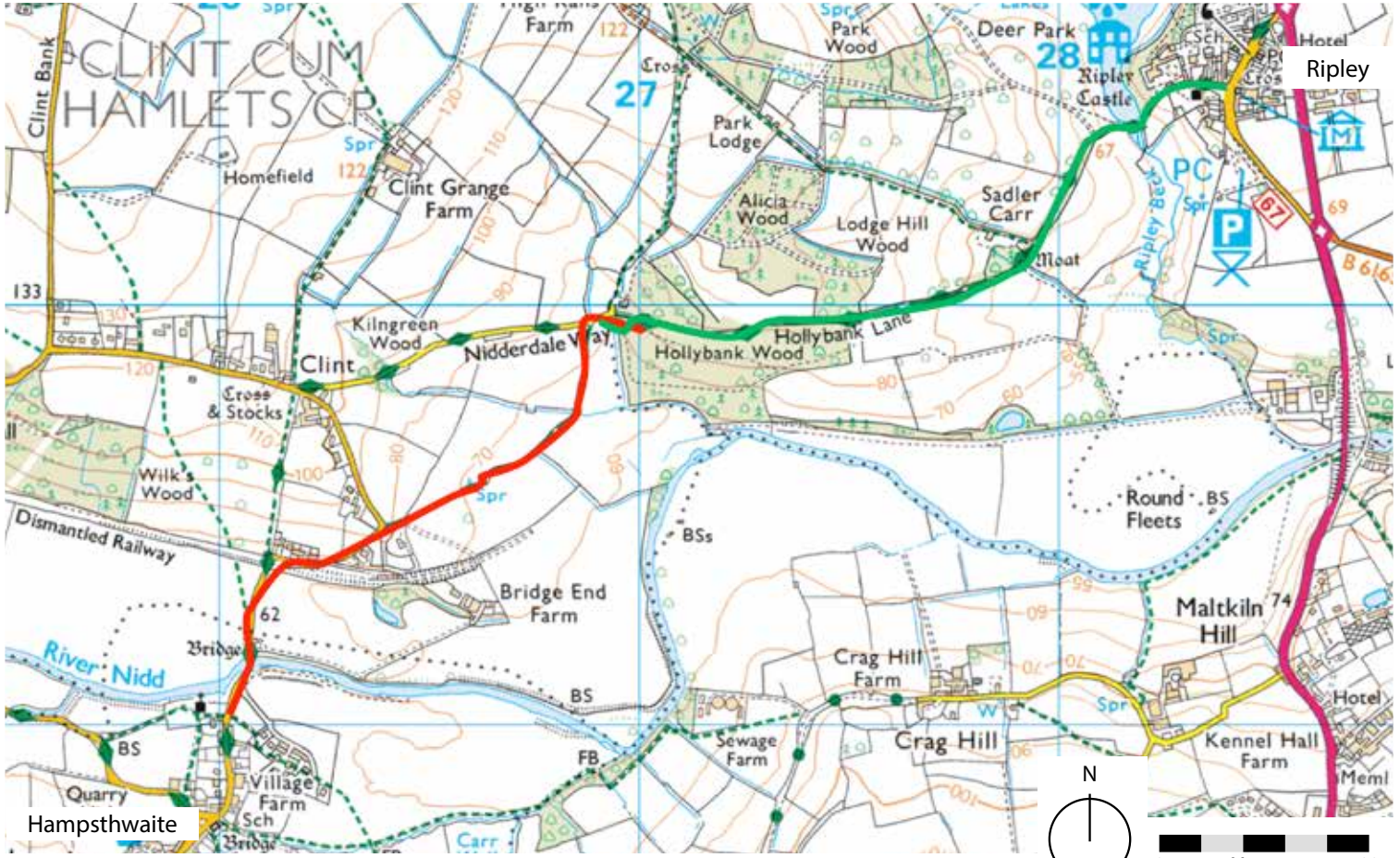

Figure 94. Plan of proposed route

Figure 90. Hollybank Lane on the way to Ripley

Figure 91. Riverside section east of the Ripon Road

Figure 92. Ripley towards the Nidd Viaduct

Figure 93. Approaching the Nidd Viaduct

5. Route delivery and preliminary costings

Table 2. Summary of route sections and distances

Wath and Pateley Bridge route	2.5km
Pateley Bridge and Glasshouses	1.7km
Glasshouses and Dacre Banks	4.46km
Dacre Banks and Darley	2.6km
Darley and Birstwith	4.9km
Birstwith and Hampsthwaite	1.9km
Hampsthwaite and Ripley	2.9km
Total length of Greenway from Wath to Ripley	20.92km

Route delivery

This report sets out the optimum route for extending the Harrogate to Ripley path as a greenway all the way through to Pateley Bridge and Wath. The next phase of the project requires the completion of working agreements with landowners all along the route, successful planning applications probably best done section by section, and the securing of funds to allow the route to be built either all at once, or in phases.

It may be possible to find an approach to delivery which is based on local supporters being more closely associated with their own local project, to manage it, negotiate with landowners, raise funds and to promote it, which is likely to result in lower costs than are allowed for here.

Preliminary cost estimates

The following preliminary cost estimates are based on aiming to construct a path to a similar standard as that existing between the Nidd Viaduct and Ripley and on through towards Clint. This 2.0m wide path (increasing up to 3m where possible and appropriate) with a metre wide soft verge seems to be suitable for the informal use as a path for everyone. As far as possible gradients will be kept to 1:20 so that those in wheelchairs can readily use the route.

No real estimate is included for tree planting (or other ecological enhancement), soft measures, landscape sculpture, seats or even additional links to the route. The estimates here are for creation of the core route all through. Costs (and arrangements) associated with future maintenance are also not included.

Table 3. Table of distances (shown in km) and types of routes

Section of route	Disused railway	Railway used as farm access	Riverside path	Existing track	Public road	New alignment	Development site	Existing route	Total
Wath to Pateley Bridge		1.13	0.91		0.45				2.49
Pateley Bridge to Glasshouses	0.54			0.62	0.40	0.16			1.72
Glasshouses to Dacre Banks	0.40	1.00	1.16	1.50	0.20	0.10	0.10		4.46
Dacre Banks to Darley	0.50	1.00	0.86		0.10	0.10			2.56
Darley to Birstwith	1.44	0.92	0.97	0.20	1.02	0.35			4.90
Birstwith to Hampsthwaite			0.70	0.10		1.10			1.90
Hampsthwaite to Ripley				0.64	0.64			1.61	2.89
Total	**2.88**	**4.05**	**4.6**	**3.06**	**2.81**	**1.81**	**0.1**	**1.61**	**20.92**

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Table 4. Preliminary construction cost estimates for Wath to Ripley section

Item	Item description	Unit	Cost per unit	Quantity	Cost	Notes
1	Earthworks	allow		As required	£50,000	Sections: Wath to Ripley (5 rembankment ramps); Darley to Birstwith (farm access points, retaining wall / boardwalk)
2	New traffic-free tarmac route	lm	£126.5	13,340	£1,687,510	Construction (2-3m wide, average cost used)
3	Fencing	lm	£60	7000	£420,000	Allowance for cost estimate: approx half of new route length (7km)
4	Drainage	lm	£40	5000	£200,000	Allowance for cost estimate: 5km
5	Bridges	item	varies	5	£400,000	Construction only
6	Ancillary items (i.e. seats, gates etc.)	allow		As required	£100,000	
7	Highways works	allow		2,810m	£200,000	
8	Planning, ecology, EA licences	allow	£20,000	1	£20,000	
9	Resurfacing works	lm	£65	2,120	£137,800	
10	Signing and information	allow		As required	£22,500	Signage for full route
11	**SUBTOTAL (interventions)**		%		**£3,237,810.00**	
12	Design and Preparation	% (interven-tions)	10	1	£323,781	Includes some allowance for negotiating with landowners, but no land assembly costs or land agents' fees.
13	Project Management	% (interven-tions)	15	1	£485,672	Covers the tendering of work, its supervision and related administration, and other construction related project management.
14	**SUBTOTAL (delivery)**				**£4,047,263**	
15	Contingency	% (delivery)	10	1	£404,726	See note below regarding Optimism Bias
16	**GRAND TOTAL excl. VAT**				**£4,451,989**	

Land assembly costs and legal fees have not been included at this stage. All figures are exclusive of VAT.

NOTE: HM Treasury guidance (2018) on the appraisal and evaluation of projects defines optimism bias as "the proven tendency for project appraisers to be too optimistic about key project parameters such as capital costs". Correspondingly Sustrans recommends that prior to any bids for capital funding being made, project partner's review all up to date and relevant evidence of any previous underestimation from similar interventions, and agree an appropriate level of adjustment to cost estimates. The recommended level of optimum bias for low complexity projects is 10%, 20% for medium and 40% for high.

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This project can be delivered in phases. For example the section from Pateley Bridge to Darley could be delivered independently to the wider route. Preliminary construction costs for this shorter section are estimated as follows:

Table 5. Preliminary construction cost estimates for Pateley Bridge to Darley section

Item	Item description	Unit	Cost per unit	Quantity	Cost	Notes
1	Earthworks	allow		As required	£30,000	
2	New traffic-free tarmac route	lm	£126.50	5,820	£736,230	Construction (2-3m wide, average cost used)
3	Fencing	lm	£60	3000	£180,000	Allowance for cost estimate: approx half of new route length (3km)
4	Drainage	lm	£40	2000	£80,000	Allowance for cost estimate: 2km
5	Bridges	item	varies	2	£216,250	Construction only
6	Ancillary items (i.e. seats, gates etc.)	allow		As required	£60,000	
7	Highways works	allow		700m	£80,000	
8	Planning, ecology, EA licences	allow		1	£20,000	
9	Resurfacing works	lm	£65	2,120	£137,800	
10	Signing and information	allow		As required	£12,000	Signage for full route
11	**SUBTOTAL (interventions)**				**£1,552,280**	
12	Design and Preparation	% (interventions)	10	1	£155,228	Includes some allowance for negotiating with land-owners, but no land assembly costs (or land agents fees).
13	Project Management	% (interventions)	15	1	£232,842	Covers the tendering of work, its supervision and related administration, and other construction related project management.
14	**SUBTOTAL (delivery)**				**£1,940,350**	
15	Contingency	% (delivery)	10	1	£194,035	See note at the bottom of Table 4 regarding Optimism Bias
16	**GRAND TOTAL excl. VAT**				**£2,134,385**	

Land assembly costs and legal fees have not been included at this stage. All figures are exclusive of VAT.

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6. Business case - green tourism

The proposed route is a safe walking and cycling path that will link Ripley to Pateley Bridge and Wath via traffic-free routes and quiet roads. Currently, there are no facilities suitable for family cycling and leisure riding, and local businesses are missing out on this strong potential market. As proposed design has inclusivity at its core, it is expected that the range of users will include people of all abilities. Family day trips in the local area are expected to utilise the proposed route.

Tourism can contribute to the economy through direct spending, indirect spending and social value - determined by a 'willingness to pay' calculation. Cycle tourism represents a growing and valuable tourist market, particularly in rural areas, and can provide new incentives for people to visit an area and help support local trade and businesses . Long distance cycle routes, which are predominantly rural, can generate as much as £30 million per year to the local economy; enough to sustain over 600 full time equivalent jobs.
Leisure and tourist cyclists have different transport and spending patterns; tourists will normally spend more and may require facilities such as accommodation, transport and parking. Research by Sustrans indicates that, on average, homebased leisure cyclists each spend £9.20 per day and overnight tourists spend significantly more at £22.90 per day. Therefore, despite overnight trips making up less than 1% of the overall volume, their economic contribution is approximately 20% of the total value of cycle tourism.
See Appendix 2 for example cases and further information on Benefit Cost Ratio (BCR).

"The extension of the Nidderdale Greenway through Ripley has brought more all-year-round trade to the village without creating any additional demand for parking . The people who arrive in the village via the Greenway spend thousands of pounds every year in our shops, tearoom and pub. For some of those businesses it has meant the difference between closure and survival. Let the Greenway bring more business to the local village shops that you value, and provide safer roads for everyone. Those who live near the Greenway will walk, jog and push the pram in the safe environment that it provides. You will be surprised by the number of people who will use it to cycle to school and work. The Nidderdale Greenway enhances the safety, the amenity and the sustainability of every community that is linked to it."

Sir Thomas Ingilby

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7. Next steps

Nidderdale Greenway Extension Steering Group

This study provides a recommendation for what Sustrans believes to be the most deliverable alignment for the Greenway between Clint and Wath.

If local authority partners agree that development of the Greenway extension should be pursued further, then there is still much work to do. We recommend the setting up of a Steering Group to oversee the key delivery stages - ecological assessment, public consultation, access agreements, detailed design, planning permission, funding applications, tendering and phased construction. On completion the Steering Group may wish to create a Nidderdale Greenway Trust to act as guardian of the project and holder of the permissive rights of way agreements.

Bringing together people representing different interest groups but with local knowledge and a willingness to work together for a common aim harnesses much volunteered talent, energy and time. The Steering Group is encouraged to take 'ownership' of the project and help drive it forward.

Representation is a matter for Nidderdale Plus membership organisations, but should draw on the talent and commitment of special interest groups including:

- Harrogate and District Cycle Action
- Harrogate Wheel Easy (leisure cycling club)
- Pateley Bridge Walkers Are Welcome
- Open Country
- Bewerley Park Riding School
- Bewerley Park Centre of Outdoor Education
- Nidderdale High School

The Steering Group will require secretarial support services and a convenor to act as project co-ordinator and route agreement negotiator. Local authority officers or Sustrans are best placed to fill the project co-ordinator's role.

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8. Future funding

While extending the Greenway further up Nidderdale and into the AONB is likely to encourage some utility cycling and walking between communities and businesses that can access the route between Harrogate and Pateley Bridge, its main usage will be for recreation / leisure and cycle tourism (for longer journeys).

Very encouragingly, the government's new plan Gear change: a bold vision for cycling and walking specifically refers to improving the National Cycle Network, stating that it will be extended but 'where it can be done in accordance with our new design standards, especially where it can be most useful for everyday journeys.'

This emphasis on investing in infrastructure for shorter modal shift type journeys is likely to be a feature of any local government and linked public body funding.

The Coronavirus pandemic is squeezing local government funding further.

However, this is a good sustainable transport / active travel / green tourism scheme, with a strong narrative and good BCR.

Opportunities for funding further project development and the actual delivery of the route are likely to arise from a combination of the following:

- Harrogate Borough Council
- North Yorkshire County Council through their Harrogate Transport Improvements Programme that is in development (following on from the recent congestion study)
- North Yorkshire & York Local Enterprise Partnership
- Funding linked to the Nidderdale AONB Management Plan implementation
- Public health funding
- The National Lottery and Health Lottery
- Local businesses and other donations
- Future government funding specifically for cycling – this may end up being devolution based depending on the model used
- Anticipated UK Government strategic regional funds
- S106 Agreement contributions
- Community Infrastructure Levy contributions
- Other small grants schemes.

9. Conclusion

This report shows that an extension to the Nidderdale Greenway running partly, but not exclusively, on former sections of the old railway formation is possible and would be beneficial for a whole range of people on foot, bike, horseback or using a wheelchair or mobility scooter.

Phase 1 of the route is in place between Harrogate, Ripley and Clint and can be visited by those not familiar with the Greenway concept. A visit will enable those interested to see the design, construction and maintenance standards applied to the scheme, and particularly to assess the surface treatment, fencing, signing, access controls, wildlife habitat and overall quality of experience.

We firmly believe that extending the Greenway to Pateley Bridge and beyond to Wath will be very popular with Nidderdale residents and visitors from elsewhere in Yorkshire and beyond.

Whilst levels of use in the more rural areas beyond Ripley will inevitably be lower than those experienced closer towards Harrogate, it will be very good for the local economy by helping to sustain many small businesses (especially local food shops and cafés so important to local village life) without putting additional pressures on the local road network. It will also be a boon for families, enabling young people to explore the Dale and gain cycling confidence away from busy roads.

Without the extension of the Greenway, active car free access through Nidderdale will remain impossible for most visitors and residents.

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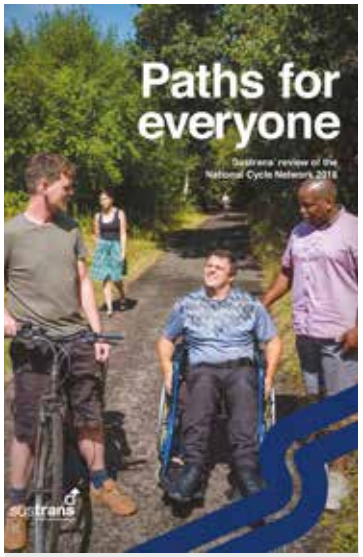
Appendix 1: NCN Design Principles



National Cycle Network routes shall:

- be designed in accordance with current best practice design guidance;
- be designed in collaboration with the local community;
- provide convenient links to key destinations, connecting cities, towns and countryside;
- meet the following nine design principles:

The National Cycle Network design principles set out key elements that make the Network distinctive and need to be considered during design of new and improved routes forming part of the Network. Where the Network is not traffic-free it should either be on a quiet-way section of road or be fully separated from the carriageway. For a National Cycle Network route on a quiet-way section of road traffic speed and flows should be sufficiently low with good visibility to comply with design guidance for comfortable sharing of the carriageway. Signs and markings should highlight the Network.

Principle 1: Traffic-free or quiet-way

- Where the Network is not traffic-free it should either be on a quiet-way section of road or be fully separated from the adjacent carriageway.
- For a National Cycle Network route on a quiet-way section of road the traffic speed and flows should be sufficiently low with good visibility to comply with design guidance for comfortable sharing of the carriageway. Signs and markings should highlight the Network.

Principle 2: Sufficient width to accommodate all users

- Width of a route should be based on the level of anticipated usage, allowing for growth.
- Physical separation between users should be considered where there is sufficient width and a higher potential for conflict between different users.

Principle 3: Designed to minimise maintenance

- A maintenance plan should be put in place in the development process.
- Construction quality should be maximised to minimise maintenance.
- New planting should be kept well clear of the path.
- Sufficient tree work should be undertaken as part of construction to minimise future issues.
- Routes should be managed in a way that enhances biodiversity.

Principle 4: Signed clearly and consistently

- Signage should be a mix of signs, surface markings and wayfinding measures.
- Every junction or decision point should be signed.
- Signage should be part of a network-wide signing strategy directing users to and from the Network to trip generators such as places of interest, hospitals, universities, colleges.
- Signage should be used to increase route legibility and branding of routes.
- Signage should help to reinforce responsible behaviour by all users.

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Principle 5: Smooth surface that is well drained

- Path surfaces should be suitable for all users.
- Path surfaces should be maintained in a condition that is free of undulations, rutting and potholes.
- Path surfaces should be free draining and verges finished to avoid water ponding at the edges of the path.
- In, or close to, built-up areas a Network route should have a sealed surface to maximise the accessibility.

Principle 6: Fully accessible to all legitimate users

- All routes should accommodate a cycle design vehicle 2.8 metres long x 1.2 metres wide.
- Any barriers should have a clear width of 1.5 metres.
- Gradients should be minimised and as gentle as possible.
- The surface should be maintained in a condition that makes it passable by all users.

Principle 7: Feel like a safe place to be

- Route alignments should avoid creating places that are enclosed or not overlooked.
- Consideration should be given as to whether lighting should be provided.

Principle 8: Enable all users to cross roads safely

- Road crossings should be in accordance with current best practice guidance.
- Approaches to road crossings should be designed to facilitate slow approach speeds to a crossing.
- All grade separated crossings should provide step-free access.

Principle 9: Be attractive and interesting

- Network routes should be attractive places to be in and pass along.
- Landscaping, planting artwork and interpretation boards should be used to create interest.
- Seating should be provided at regular intervals along a route.
- Opportunities should be taken to enhance ecological features.

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Appendix 2. Business case

Most business cases seek to generate a BCR (Benefit Cost Ratio) to justify spend. The UK has developed a tool known as AMAT (Analysis of Monetarised Costs and Benefits) that can generate a BCR for cycling and walking schemes without overly onerous calculations and is WebTAG compliant. This summary sets out to explain the economic appraisal of this proposed scheme. It provides details of the individual revenue components as well as presenting the investment as a package. The main aims and ambitions of the project are set out in the Introduction and responds to regional and national cycling agenda.

The AMAT outputs include information on benefits that can be attributed to a project including those associated with:

- Congestion Benefits
- Infrastructure Development
- Accident Savings
- Local Air Quality Improvement
- Noise Reduction
- Greenhouse Gas reduction
- Reduced risk of premature death
- Absenteeism reduction
- Journey ambience improvement
- Indirect taxation (can be negative for cycling)

To use the AMAT tool requires data regarding predicting cycle numbers. This can be difficult and time consuming, especially when the route is new and no baseline data is available.

Instead Sustrans has developed a method, which was successfully applied to recent Department for Transport (DfT) funding bids that seeks to provide comparable estimates. The numbers of predicted walkers and cyclists are used for the AMAT analysis, for a targeted Benefit Cost Ratio close to 2.0. This BCR figure is regarded as 'Good value for money' by the DfT.

The levels of use required to achieve a 'Good' rating are then given an achievability narrative and routes compared against similar past schemes to examine the probability of achieving those levels. Routes are examined against the Sustrans report Improving Access for Local Journeys (IALJ) available online and other similar projects in the area of interest.

NOTE: BCRs are generated that cover a 30 year period from completion of the project. 'New Cyclists Required' refers to average use per day over and above current use.

In the case of extending the Nidderdale Greenway to Wath we have generated a BCR of **2.94** (see **Figure 95**) using our preliminary total cost of **£4,452,000 exc. VAT**.

This does at this stage include a 10% contingency and the corresponding allowances for Design and Preparation and Contractors' Preliminaries. Under this scenario, the BCR score is achieved if 295 Cyclists per day and 375 walkers per day use the route. This method reflects a holistic approach where the project is led by the relevant local authority and key stakeholders, whilst ensuring high standards of delivery across an agreed timescale, with projects risks closely managed and mitigated as they arise.

As the project develops further, and there is greater understanding and certainty about the nature and extent of the capital costs required, the level of optimism bias is likely to reduce and may result in a lower overall project cost (and an even higher BCR value).

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Appendix 2. Business case *continued*

Figure 95. AMAT analysis for Wath to Ripley - BCR result: Sustrans cost estimate of £4,452,000

Analysis of Monetised Costs and Benefits (in £'000s)

Congestion benefit	1109.33
Infrastructure	6.15
Accident	160.20
Local Air Quality	5.79
Noise	11.26
Greenhouse Gases	34.49
Reduced risk of premature death	4328.69
Absenteeism	1135.31
Journey Ambience	1434.76

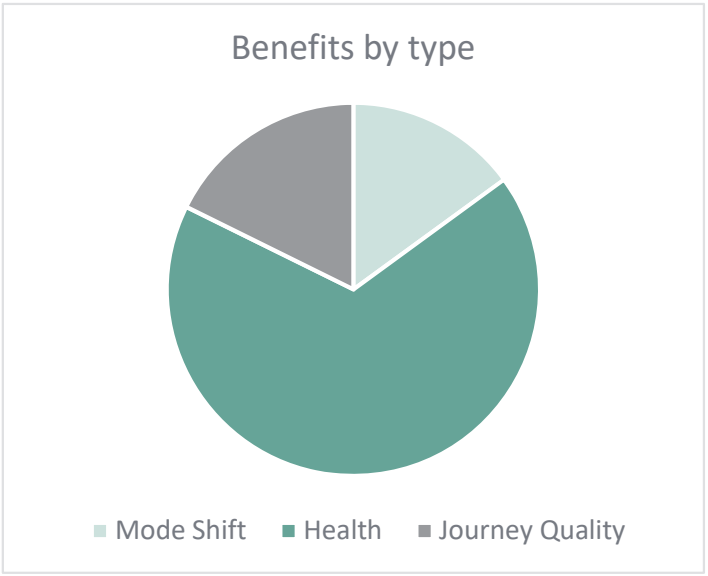
Indirect Taxation	-111.78
Government costs	2766.93
Private contribution	0.00

PVB	8108.04
PVC	2760.78

BCR	**2.94**

Benefits by type:

Mode Shift	1215.44	15.0%
Health	5464.00	67.3%
Journey Quality	1434.76	17.7%



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Appendix 2. Business case *continued*

Example case studies:

Gellings Greenway, Kirkby

This 2.6km route was delivered by the Department for Transport's Linking Communities 2012-13 programme. The scheme provides a traffic free alternative for cyclists travelling between Knowsley Business Park and the existing networks around Kirkby and Knowsley. The number of cycle trips on the network has increased 126% following the scheme, leading to a benefit cost ratio of 5.2 to 1.

Hockley Viaduct, Winchester

This 4.3km route was delivered by the Department for Transport's Linking Communities 2012-13 programme. The scheme provides a new shared use path from Winchester city centre to South Winchester Park and Ride. The route now carries over 50,000 cycle trips per year, compared to just over 4,000 previously.
This had led to the equivalent of over 17,000 car trips being taken off the road and a benefit cost ratio of 3.9 to 1. The route also attracts a high number of recreational cyclists, with an estimated £382,500 being spent per year by tourists and day-visitors, supporting 5.8 direct and 3.9 indirect jobs.

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1) Sustrans/University of Central Lancashire (2007), The Economic Impact of Cycle Tourism in North East of England.
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3) Sustrans (2013) Sustrans Tourism report (unpublished)
4) https://transformscotland.org.uk/wp/wp-content/uploads/2014/12/The-Value-of-Cycle-Tourism-full-report.pdf

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