Welland Valley Route

Market Harborough to Peterborough feasibility study
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Table of contents
Executive Summary
1 Introduction and Background
2 Route Description
3 Alternative Route
4 Route Design
5 Ecology
6 Summary

Appendix A – Land Ownership
Executive summary

This report represents the findings of a study to examine proposals to introduce a cycle route along the line of the former London Midland Scottish Railway from Market Harborough to Peterborough.

The aim of the report is to assess the former railway route and consider the options at various locations to provide a cycle path on the route linking the communities along the way. The study focuses on the former railway alignment as it leaves the existing live railway to the North East of Market Harborough Station travelling east through a number of local communities in Leicestershire, Northamptonshire and Rutland before reaching the western edge of Peterborough at Yarwell.

The former Railway links with NCN64 to the North East of Market Harborough forming a link into the centre of the town via quite roads. At the Yarwell end of the former railway the route has the potential to link with the Nene Valley Heritage Railway, the nearest section of NCN is further East at Castor.

This report identifies the technical issues and practicalities of constructing a cycle path along the former railway.

The report is split into four main sections:

• Introduction and background
• The National Cycle Network and the local area
• Detailed Route Sections
• Alternative route and route design
• Ecology
• Summary

At the end of the report it is noted that most of the former railway track bed would be straightforward (in terms of construction) to transform into a cycle path. Land ownership is the key constraint along most of the route. The exception to this is where the line of the railway has been broken by the removal of bridges at crossing points of roads or water courses. A final physical constraint (two locations) occurs where the track bed under road bridges has been blocked. Where physical barriers exist along the route the financial cost of providing replacement bridges or ramps becomes a major constraint.

Whilst the number of points at which the former railway is crossed by roads introduces a constraint in terms of providing a continuous cycle route it also provides an ideal opportunity to develop a staged approach to developing an off road cycle route with an on road route signed on problematic sections. The number of adjacent quiet roads also provide ready links to neighbouring communities.

1. Introduction and Background

Disused railways that are mainly intact offer the opportunity to create routes for walkers, cyclists and horse riders that are away from traffic in quiet peaceful surroundings. Sustrans has created a number of such routes over the past 30 years and in 2010 the National Cycle Network celebrated its 15th year.

Sustrans are undertaking a feasibility study for the creation of a new multi user path through the Welland Valley along the line of the former London Midland and Scottish Railway. This will primarily follow the route of the former railway between National Grid Reference SP 743 895 and TL 084 974. The new path will be 40km in length and will run from Langton Road in Great Bowden and Elton Road in Yarwell. It is anticipated that for the majority of the route the path will be situated on the former track bed. There are locations where bridges will need to be constructed over watercourses, or the route will need to leave the trackbed to ramp down to new road crossings where bridges are missing. Access points will also need to be created to enable local people to use the route, but the exact locations of these would be a matter for the detailed design of the scheme.

National Government Policy Context

National government is committed to increasing rates of walking and cycling because of the contributions that can be made to achieving a wider range of objectives. The 5 key national transport goals and how the Lias Line can help achieve them:

1. Supporting Economic Growth: This scheme will improve local connectivity, thereby improving the chances that local demand for employment, shops and services can be met by local supply.
2. Tackle Climate Change: Contribute to reducing greenhouse gas emissions by providing walking and cycling alternatives to the car. The UK Climate Change Act commits the UK to reductions in CO2 emissions of at least 26% by 2020 and a long term goal of 80% by 2050 compared to 1990 levels.
3. Promote equality of opportunity: The scheme will enhance social inclusion by improving access to employment, services and social

National Policy:

LTP3 Guidance (DfT, 2008)

When local authorities replaced their existing transport plans in 2011 consideration was given to how they will contribute to the delivery of key national transport goals.
networks – particularly for low socioeconomic groups and those without access to cars.

4 **Contribute to better safety, security and health:** Well used routes are self-policing (to an extent), and can improve the perceived safety of an area. The scheme will encourage increased physical activity and improve the health of the local population.

5 **Improving quality of life:** Providing attractive walking and cycling routes will provide more opportunities for social interaction, improve access to local facilities and connect the urban landscape with green spaces, all without any negative impact on the environment.

**National Cycle Network and the local area**

The National Cycle Network (NCN) is the UK’s national transport network aimed specifically at providing safe, high quality routes for people who want to travel by bike or on foot.

Since it was created by Sustrans 15 years ago, its length and popularity has grown enormously and it is now made up of over 13,000 miles of traffic free walking and cycling paths, quiet lanes and on-road cycling routes that are a great way to get to work, school, the shops or just to use for exercise or fun. In fact the Network now carries more than a million walking and cycling journeys every day.

The Network was conceived as a place that would give cycling and walking real status, that would give cycling and walking real status as means of transport, as well as somewhere that novices and children can learn to cycle, and it sets out to be a safe and attractive environment that encourages people to cycle more in their day to day lives. As well as providing a practical alternative for people’s everyday journeys, there are iconic routes such as the Sea to Sea (C2C) or Lon Las through Wales aimed at touring tourists and leisure riders day tripping from the East Midlands benefit from NCN 6

- **Tourism - Both long distance journeys of cycle tourists and leisure riders day tripping from the East Midlands benefit from NCN 6**

- **Economic – Tourism brings obvious benefits to the local economy with people requiring refreshments in local pubs and shops. Longer distance travellers will also seek accommodation.**

- **Health – There are clear and demonstrable benefits to health from more physical activity. Safe well maintained and signed routes provide the facilities for people to get more exercise especially with young families.**

- **Natural Environment – Such routes are of benefit to the natural environment as their creation and maintenance encourages biodiversity that is often lost when the landscape is left to overgrow. The industrial history of the landscape is also revealed by the creation of railway paths and cycle routes.**

- **Employment – New businesses and job opportunities are often a result of successful new routes as there is an increased demand for local facilities, cycle hire, etc.**

Importance of promoting healthy living:

- **Regular cyclists typically enjoy a fitness level of a person 10 years younger (British Medical Journal, 1992). Regular activity also helps to reduce the risk of heart disease, burn excess fat and reduce stress. Increasing physical activity is central to the government’s battle to curb obesity, which is predicted to cost the UK economy £50 billion annually by 2050 (Department of Health, 2009).**

**Strategy**

The London Midland and Scottish Railway route through Market Harborough and Peterborough ceased to be active after Nationalisation in 1948. Over the years sections of the track have been sold off to be built on or incorporated into adjacent farms. The resulting multiple land owners along the route represent the greatest challenge to providing a cycle route along the railway alignment.

The former Railway line also crosses the road network at 22 locations as it heads east. The majority of the crossing points are of minor roads but the route also crosses the very busy Harborough Bypass and the A43. In both cases only expensive bridges could provide suitable crossing for cyclists and therefore alternative routes have been looked into avoiding these major roads. The minor road crossings however provide opportunities to develop any route in Phases depending on available funding and land agreements with quite on road sections providing links in-between.

2. **Route Description**

The route of the former railway has been divided into sections marked by where roads are crossed. In the majority of cases the crossing would be at grade. Where the road is unsuitable for an at grade crossing this has been noted. Where cyclists crossing at grade can be made safe the type of measures required are noted. In some locations the former railway is in cutting with a road bridge provided, at these points any obstructions under the bridge that would require clearance are recorded.

From Market Harborough a number of villages are linked by the former railway. Great Bowden is the first, located to the north of Market Harborough, next is Weston by Welland linked to the route via Green Lane. A short distance to the east Ashley is linked to the route via Medbourne Road. Occupation Road provides a quiet road link from the outskirts of Cottingham with both Drayton and Great Easton having access to the route from minor roads. Caldecott is located on the road with gardens at the southern edge the village having been extended onto the track bed. Further East Thorpe by Water also sits immediately adjacent to the former railway whilst Seaton and Harrington...
are located a short distance away with existing minor road links to the route. Further East again, Barrowden and Wakerley sit to the North and South of the route. At Top Lodge Caravan Park the surrounding forest is provided with both walking, horse and, mountain bike routes, one of which (a bridleway) is a bridleway and a possible alternative to the former railway should land ownership be an issue around Westhey Wood. Kings Cliff is the largest village on the route East with Nassington and Yarwell being the final settlements on the Peterborough border.

2.1 Langton Road to Harborough Bypass

County (s) - Leicestershire.
Length – 1 kilometre
Cost Estimate – N/A
Land Ownership – Mrs Weston

1. This section of the former railway line is dissected by A6 Harborough bypass, a very busy major route with a 60mph speed limit. An at grade crossing is not considered to be practical at this location leaving only very expensive bridge or tunnel options to negotiate this obstruction. Use of the existing National Cycle route 64 is recommended as an alternative to following the railway line on this section of the route.
2.2 Harborough Bypass to Bowden Lane

County(s) - Leicestershire.
Length – 1 Kilometre
Cost Estimate – N/A
Land Ownership – Mr D Morris, Mr P Morris, Mr Rickard

1. As above this section of the former railway line is severed by A6 Harborough Bypass and as a result has not been considered further. NCN 64, aligned along Great Bowden Lane from Great Bowden provides a suitable route to the point where the former Railway meets Great Bowden Lane at ‘The Gate House’. 
2.3 Great Bowden Lane to Welham Road

County (s) – Leicestershire / Northamptonshire.
Length – 2 Kilometres
Cost Estimate - £500,000
Land Ownership – Mr Brown, Mr Hart.

1. Most of this route section has been incorporated into the surrounding fields although a narrow rough track can still be followed on the route of the railway across and along field boundaries.

2. This section of route includes two water course crossings the larger of which would require a new bridge.

3. A business operates in the cutting to one side of the Welham Road bridge. This land is unregistered and therefore it is unclear if the business using the land is the owner. Land ownership issues apart, the former railway as it runs through a cutting to the west of the Welham Road Bridge would be straightforward to install a cycle path along.
2.4 **Welham Road to Green Lane**

County(s) - Northamptonshire.
Length – 0.5 Kilometres
Cost Estimate - £75,000
Land Ownership – Mr and Mrs Fox

1. The cutting to the East of Welham Road Bridge suffers from poor drainage leading to standing water. Any path using this alignment would require works to solve this issue (for example the provision of a boardwalk). To the east of the cutting the former railway route has been incorporated into the adjacent field.

2. A house has been built adjacent to the railway path alignment at the Green Lane end of this route section. The route itself is used for access by farm vehicles to the surrounding fields.

3. Green lane is a relatively quite road with good visibility and low traffic flows. Only warning signs would be required in advance of a crossing point to advise approaching vehicles of a cycle crossing point.
2.5 **Green Lane to Medbourne Road (B664)**

County(s) - Northamptonshire.
Length – 1.5 Kilometres
Cost Estimate - £225,000
Land Ownership - Multiple land owners. See Appendix A for full list.

1. The first section of former railway land is owned and used by Anglian Water as an access road to a sewage works (also on former railway land). A farm track continues East alongside the Sewage works itself before entering a field where signs of the former railway have been largely erased. A field ditch runs on a North South alignment past the sewage works, crossing the route. The existing structure would need to be checked although its use by farm vehicles suggests that it would be suitable as part of the cycle path.

2. With the exception of one field, the remainder of this route section is used for access by farm vehicles with the former railway alignment clearly defined making the construction of a cycle path relatively straightforward.

3. Medbourne Road is busier than Green Lane but a crossing for the route would have good visibility and could be provided with warning signs for vehicles on the approaches.
2.6 B664 Medbourne Road to Middleton Road

County(s) – Northamptonshire.
Length – 2.5 Kilometres
Cost Estimate - £ 385,000
Land Ownership  Multiple land owners.
See Appendix A for full list.

1. Ashley Station House has a garden on the route of the former railway line likely to require a diversion of a proposed path. Much of the rest of the former railway route is used by farm vehicles and is therefore clearly defined and relatively easy to convert into a cycle path.

2. Two accommodation bridges are located along this section. One appears to be in good condition and is clear the other has been blocked by a soil embankment. Removal of the soil embankment would be necessary should the route alignment follow the former railway in this location.

3. The former railway route runs adjacent to Middleton Road without a crossing being made. An access point from Middleton Road does however link with the farm track that runs along the former railway. Compacted stone on this section of route provides a usable, if rough surface for cyclists.
2.7 Ashley Road to Occupation Road

County (s) – Leicestershire / Northamptonshire.
Length – 1.6 Kilometres
Cost Estimate £270,000
Land Ownership Multiple land owners. See Appendix A for full list.

1. Occupation Road forms part of ‘Jurassic Way’ a long distance footpath that crosses the former railway at this point and runs alongside it in other places.

2. One watercourse crosses the route with an existing bridge used by farmer vehicles. This suggests that the bridge would be suitable for cycle traffic but the strength should be checked. New parapets would be required for this bridge.

3. Occupation Road ends before linking directly with the former railway however, a bridleway continues on to the route. ‘Jurassic Way’ also crosses the former railway on its way north towards Brinthurst and Great Easton. Care would need to be taken at these crossing points to sign the various routes and ensure good visibility for and of horse riders and walkers crossing the cycle track.

\[\text{Map of Welland Valley Railway Path route}\]
2.8 Occupation Road to Middleton Road

County(s) – Leicestershire / Northamptonshire.
Length – 1.3 Kilometres
Cost Estimate \( £195,000 \)
Land Ownership Mr Vaughan

1. This short section of the former railway runs along a low embankment and is used by walkers at present. The route at this point is clearly defined would be relatively straightforward to convert into a cycle path.

Detail of path on low embankment

2. The route goes into a cutting as it approaches Middleton Road where a substantial stone bridge carries the road over the former railway. The bridge is used to fly tip onto the former railway and at the time of the site visit there was some standing water directly under the bridge. Either side of the bridge the route was muddy but without standing water. A properly levelled path through this location should solve the minor existing ponding issue.
2.9 Middleton Road to Gatehouse Lane / Long Lane

County(s) - Leicestershire.
Length – 1.45 Kilometres
Cost Estimate - £232,500
Land Ownership - Mrs Barby

1. This section of the former railway is clearly defined and used by farm vehicles as well as by walkers at present. Again, this section would be relatively straightforward to convert into a cycle path.

2. The route crosses Rockingham Dyke via a bridge in reasonable condition. At Gatehouse Lane the former railway again meets Jurassic Way as well as Long Lane, a Bridleway providing a possible alternative route to Rockingham Road.

3. The end of this section is a ‘cross roads’ of footways, a bridle Way and farm tracks. Visibility is good from all points, vehicle numbers are negligible and very slow. Therefore no traffic calming measures or crossing facilities for cyclists are required.
2.10 Long Lane to A6003 Rockingham Road

County (s) - Leicestershire.
Length – 1.05 Kilometres
Cost Estimate - £180,000
Land Ownership Mrs Clarke, Mrs Stephenson Harrison, Mr Harrison, Mr Stephenson

1. From Gatehouse Lane the former railway becomes less defined having been incorporated into adjacent fields. A former station house, now a house has its garden on the line of the railway. Both of the above make provision through this section of route problematic in terms of land ownership.

2. Rockingham Road is busy and traffic speeds are high on this approach to Caldecott. Visibility is however good. Ideally a Toucan would be provided at this location although this may require a reduction in the speed limit.

3. Should the cycle path be routed along Long Lane (existing Bridle Way) then a link back along Rockingham Road back to the former railway alignment would be required. Due to the fast and heavy nature of the traffic on Rockingham road a section of shared use cycle / pedestrian path segregated from the carriageway would be required to take the route back onto the railway alignment.
2.11 A6003 Rockingham Road to Mill Lane

County (s) - Leicestershire.
Length – 2.55 Kilometres
Cost Estimate - £387,500
Land Ownership - Multiple land owners. See Appendix A for full list.

1. With the exception of two small fields the former railway between Rockingham Road and Mill Lane is still well defined and would be relatively straightforward to convert into a cycle path.

2. At the Mill Lane end of the path an adjacent house has built a number of small outbuildings on the path and uses the line of the former railway for access to Mill Lane from these buildings.

3. Mill lane is lightly trafficked with good visibility. Only warning signs would be required in advance of a crossing point to advise approaching vehicles of a cycle crossing point.

![Rural crossing, Oban to Fort William](image)
2.12 Mill Lane to Thorpe by Water bridge

County (s) - Rutland
Length – 1.6 Kilometres
Cost Estimate - £341,500
Land Ownership – Multiple land owners. See Appendix A for full list

1. The former railway lane to the east of Mill Lane is used to store farm equipment but is well defined and used by farm vehicles along its length. One water course is crossed on this section of route, a new bridge would be required.

2. The former railway line bridges over one Public footpath. This bridge seems to be in good condition.

3. 200m from the Thorpe by Water Bridge. At this point the path has been purchased by adjacent houses and incorporated into gardens, The path under the bridge has been blocked. With the exception of this last short stretch of former railway this section would be relatively straightforward to convert into a cycle path.
2.13 Thorpe by Water bridge to B672

- County (s) - Rutland
- Length – 1 Kilometre
- Cost Estimate - £155,000
- Land Ownership – Multiple land owners

See Appendix A for full list

1. Most of this section of route is well defined and in a shallow cutting with trees along the route. Path construction would be straight forward.

2. A house has been built at the B672 end of this section with a further building further along the track.

3. At this point the B672 is lightly trafficked and speeds at this point are low due to a bend in the road. Visibility for cyclists crossing the road would however be poor.

Note: all roots must be removed to ensure that there is no regrowth

Detail showing path in cutting

Welland Valley Route, Market Harborough to Peterborough Feasibility Study
2.14 B672 to Seaton Road

County (s) - Rutland
Length – 1.1 Kilometres
Cost Estimate - £265,000
Land Ownership – Multiple land owners. See Appendix A for full list

1. A house and the buildings for a small business have been built across the former railway at the B672 end of this section. Access to the path could be regained after a short on road diversion (along B672). From this point the former railway route is well defined, straight and built on and embankment for most of its length, although it is at grade by the time it reaches Seaton Road.

2. The embankment travels over one narrow watercourse which would need a new bridge. There is evidence of use by walkers along this section.

3. Seaton Road is lightly trafficked at this crossing point although speeds can be high due to the long straight approaches to the Seaton Road/B672 junction. Warning signs would be required in advance of a crossing point to advise approaching vehicles of a cycle crossing point.

![Diagram showing the path and bridge over a watercourse near Seaton Road.](image-url)
2.15 Seaton Road to B672

County (s) - Rutland
Length – 1 Kilometre
Cost Estimate - £150,000
Land Ownership – Multiple land owners
See Appendix A for full list

1. A car dismantling business operates from the old station building and former railway line at the Seaton Road end of this section (a footbridge remains). Again an on road diversion would be required to get back onto the old track alignment.

2. The above business uses the former railway land to a point where a branch line heads North towards Morcott. The track bed in the direction of Peterborough continues on a well defined line under the Welland Viaduct towards a further crossing of the B672. The last section before the road has been entirely incorporated into a field with no evidence of its former use remaining. A high field level at B672 is the only indication of an embankment that previously took the railway to a bridge over the road. As a result ramps would be required to take the cycle path down to road level.

3. At this point the B672 is lightly trafficked although speeds can be high due to the long sweeping bends on the approaches. Any crossing point would require warning signs and possibly traffic calming to slow vehicles on the crossing approaches.
2.16 B672 to Wakerley Road

County (s) – Leicestershire / Rutland.
Length – 3 Kilometres
Cost Estimate - £700,000
Land Ownership – Multiple land owners. See Appendix A for full list.

1. The embankment to the east of B672 tapers down for approximately 40 metres before the former railway line continues at grade on a well defined path to meet Jurassic Way adjacent to Turtle Bridge. Now in cutting the route runs parallel to Jurassic Way and along the line of the River Welland. Part of this route section suffers from poor drainage particularly where the cutting has been filled in at a point where Jurassic Way crosses the railway route to run parallel to the former track on its North side. As the former Railway approaches the south side of Borrowden it rises again onto embankment on which it remains to Wakerley Road.

2. Three structures exist along this embankment. Two are relatively small, a farm track access bridge and a similar structure accommodating a section of Jurassic Way between Borrowden and Wakerley. The latter structure has a clearly visible crack running through it that will require further detailed inspection. The final structure is a large brick and stone structure over the River Welland. Some damage to the brick work under this bridge was noted.

3. The rail bridge over Wakerley Road has been removed requiring a ramp down from the embankment for cyclists to enable an at-grade crossing to be made. Wakerley Road is lightly trafficked with reasonably low speeds and good visibility. Signing for drivers warning of an approaching cycle crossing would be required.

Typical Ramp Detail

Remove material from embankment to create 1:20 ramp

Former railway embankment
Welland Valley Route, Peterborough Market Harborough Feasibility Study

Welland Valley Railway Path route
Minor road route to be used where railway path is incomplete

Scale (m)

0 500 1000
2.17 Wakerley Road to A43

County(s) - Northamptonshire
Length – 2.1 Kilometres
Cost Estimate - £315,000
Land Ownership – Multiple land owners. See Appendix A for full list

1. Immediately to the east of Wakerley Road the former railway line has been used as the garden for adjacent houses (former railway buildings). The route, now heavily overgrown continues on embankment to the A43.

2. This section of route includes a railway bridge over a local road linking Wakerley with the A43. This bridge appears to be in good condition but would require checking before use as part of the cycle path.

3. The A43 presents a significant barrier to the route. Traffic is fast and flows are high. Although visibility for/of cyclists at the crossing point is good extensive measures would be required to slow traffic on the approaches to this crossing point in-order to make it safe. The alternative would be a bridge for cyclists.
2.18 A43 to Toplodge Caravan Park access

County (s) - Northamptonshire.
Length – 0.7 Kilometres
Cost Estimate – £110,000
Land Ownership - Multiple land owners. See Appendix A for full list.

1. To the east of the A43 the route is in cutting as far as a road bridge that provides access to Top Lodge Caravan Park. This route section is heavily wooded but would be straightforward to provide with a path. The Caravan Park bridge has been used for fly typing and as a result considerable quantities of bricks would need to be removed from the cutting.

Detail of path in cutting looking towards bridge

2.5m wide path finished in machine laid bitmac
2.19 Toplodge Caravan Park access to Wood Lane

County (s) - Northamptonshire
Length – 3 Kilometres
Cost Estimate - £450,000
Land Ownership - Multiple land owners. See Appendix A for full list.

1. For the first kilometre of this route section the well defined track passes through Weshay Wood with continuous tree cover alongside with the exception of a one location where an access track crosses the former railway.

2. The former railway line continues to be well defined all the way to Wood Lane with no structures on the way. Trees follow the line of the track to a point just short of Wood Lane where a final field is in agricultural use.

3. Wood Lane Bridge carries a quite country lane over the former railway, at this point in a cutting. The area under the bridge has been filled in requiring the route to cross Wood Lane at grade. With very low traffic, and speeds on this roughly surfaced lane this could be easily achieved.
2.20 Wood Lane to Willow Lane

County (s) - Northamptonshire.
Length – 0.5 Kilometres
Cost Estimate - £75,000
Land Ownership – Multiple land owners. See Appendix A for full list.

1. This short section of route in a deep cutting suffers from fly tipping at the Wood Lane end but is also used at present by dog walkers on the way to the marked footpath that begins at Willow Lane. The cutting is heavily wooded but would be relatively straightforward to provide a path along.

Detail showing path in cutting

Clear whole width of cutting of all vegetation, trees and bushes, leaving only grass and small plants

0.5m high causeway made from available materials

Note: all roots must be removed to ensure that there is no regrowth

2.5m wide path finished in machine laid bitmac

2. Willow Lane bridges the former railway on a large stone structure. Steps are provided from the road down onto the former track bed.
2.21 Willow Lane to Park Street

County (s) - Northamptonshire.
Length – 0.8 Kilometres
Cost Estimate - £120,000
Land Ownership – East Northamptonshire District Council.

1. Very similar to the previous section this heavily wooded cutting includes a signed footpath for most of its length. At the time of the site visit this path was difficult to negotiate due to standing water and generally boggy conditions. Any path construction in this area would therefore need to be raised slightly.

2. The line of the former railway leaves the footpath at a small industrial estate access road. At this point the cycle route would need to use this very quite road to skirt an industrial Unit before rejoining the former railway alignment. The route, now on embankment is clearly defined and used at present by dog walkers.

3. The former Railway bridges Park Street and continues east on an embankment.
2.22 Park Street to Station Road (part 1)

County(s) - Northamptonshire.
Length – 6 Kilometres
Cost Estimate - £900,000
Land Ownership - Multiple land owners. See Appendix A for full list.

1. Immediately to the east of the Park Street bridge there are two much smaller structures giving access through the embankment firstly for a footpath and then for a small water course. Both structures appear to be in a reasonable condition.
2.23 Park Street to Station Road (part 2)

1. County (s) - Northamptonshire.
   Length – 6 Kilometres
   Cost Estimate - £900,000
   Land Ownership - Multiple land owners. See Appendix A for full list

2. The former Railway continues to the east on a well defined wooded path crossed by a number of footpaths and one water course where a bridge remains. At Fair Oak Sale the line of the track is broken for approximately 700metres the majority of which is however followed by a footpath.

3. On the 2km approach to Nassington the former railway is crossed by 2 By-ways (open to all traffic) and a watercourse. The latter is bridged by the railway (check this). The final approach to station Road/ Fotheringhay Road is on embankment and has been incorporated onto the garden of the former Station building (now a house). Therefore a diversion would be required for the route at this point possibly via Runnell Lane requiring a ramp down from the embankment.

4. The Station Road / Fotheringhay Road bridge has been removed requiring ramps (see above) should it be required to get the route back onto the railway embankment having crossed the road. This road is relatively busy and a Toucan crossing may be appropriate at this location.
Welland Valley Route, Market Harborough to Peterborough Feasibility Study

- Welland Valley Railway Path route
- Minor road route to be used where railway path is incomplete
2.24 Station Road to Elton Road

County(s) – Northamptonshire / Peterborough
Length – 1.9 Kilometres
Cost Estimate - £540,000
Land Ownership - Multiple land owners. See Appendix A for full list.

1. Immediately to the east of Fotheringhay Road the Railway embankment has a number of businesses operating from it. There is an access road to these businesses that could be used as part of the route but the embankment ends at this point with a steep drop down to the River Nene (the bridge having been removed).

2. An alternative crossing point of the River Nene exists slightly to the north of Nassington where Mill Road gives access to a bridleway that crosses the River Nene at Yarwell Mill. The bridleway to the west of the woodland crosses a tributary of the River Nene on an existing bridge. The parapets of this structure would require heightening to be suitable for cycle use. From there a farm road leads past Yarwell Junction and on to join Elton Road.
Link to NCN route to Peterborough

Minor road route to be used where railway path is incomplete
3. **Alternative Route**

This alternative route follows wherever possible quiet country lanes that in turn follow the line of the former railway. The intention is that this route would provide linkages in a phased development of an off-road route based along the former railway. The quiet road sections could be used should land agreements and or funding not be available / possible. This route is marked with a dashed line on the report drawings.

From Market Harborough NCN 64 follows Welham Road and Great Bowden Lane to Welham. From Welham a minor road (Welham Road) leads to Weston by Welland where the B664 (Ashley Road then Medbourne Road) lead to Ashley.

A minor road from Ashley (Middleton Road and Ashley Road) pass the Occupation Road junction before reaching Cottingham. The minor road, Mill Lane heads north from Cottingham to Middleton Road through Brinehurst to Easton Road and into Great Easton. From Great Easton the minor road out in an easterly direction (Station Road) leads to a surfaced farm road that forms a section of Jurassic Way.

At Easton crossing a junction meets Long Lane a Bridleway that takes the alternative route to Rockingham Road. A6116 Rockingham Road to Caldecott is too busy to be part of this route without improvements for cyclists it is however a short section before the route turns onto the B672 Lyddington Road. This minor road passes Thorpe By Water on the way to Seaton junction.

From Seaton a further minor road (Seaton Road) heads south travelling under Welland Viaduct before turning left towards Barrowden. From Barrowden the route again turns south to Wakerley and then continues south east past Wakerley Great Wood before crossing the A43 and reaching Top Lodge. Due to the fast and busy nature of the traffic on the A43, measures to assist cyclists in avoiding this road would be required. From Top Lodge the route follows a Bridleway through Westway Wood to Wood Lane and into Kingscliff. A minor road heads south east from the southern edge of Kings Cliffe in the direction of Apethorpe. At Apethorpe a bridleway heads north through Bushrubs Wood and Little Morton to Apethorpe Road leading into Nassington. Finally a Byway open to all traffic crosses the former railway heading north towards Yarwell.

4. **Route Design**

The route proposed should be designed and built to the standards and current best practice as set out in:

- The National Cycle Network Guidelines and Practical Details (Edition II) – Sustrans
- The Connect2 Greenways Guide – Sustrans
- Cycling Infrastructure Design (LTN note 2/08) – DTT

All route choices and designs should have the following core principles in mind:

1. **Convenience**
2. **Accessibility**
3. **Safety**
4. **Comfort**
5. **Attractiveness**

It is frequently not possible to deliver a full route or network in one phase and it is therefore necessary to carefully consider the order in which route or network sections are prioritised. Each section delivered should be able to standalone as useful to the local community and onward interim connections to other acceptable and safe walking and cycling routes considered.

Any connective routes designated as interim are unlikely to meet the five core principles above but user safety should be considered above all else.

4.1 **Off-road sections**

Off-road greenway routes provide the public with a linear park. These have the potential to be more than just a convenient transport link; artwork and information boards can easily provide points of interest. Proposed routes along the former railway will provide a safe and aesthetically pleasing environment. One of the railways greatest advantages is its avoidance of the undulating topography typical of the area which makes the former railway an ideal corridor for a convenient, comfortable and attractive route. A typical issue with this type of alignment is the infrequency of access and crossing points.

4.2 **Highway sections**

Where routes share the highway either on footway or carriageway, it is important to consider the design standard necessary to attract typical National Cycle Network users. The highway authority will be central to the development of cycle routes along the public highway. Cyclists may be accommodated on the carriageway, with or without a cycle lane, or on a separate cycle track which may be shared with pedestrians. In addition, cyclists can be given useful advantage over motor traffic through the provision of contra flow cycling, exemption from Traffic Regulation Orders and short cut-throughs and links.

The National Cycle Network (NCN) is designated and designed to an appropriate standard to attract a wide range of users and abilities:

- A competent 12 year old child cycling unaccompanied;
- Family groups with younger, supervised children; and
- All novice cyclists (aged 12 years and above).

With this in mind, NCN routes using the public highway or off-highway infrastructure should:

- allow a continuous “flowing” experience without the inconvenience of frequent start/stops
- have high quality surrounding environments
- have smooth, bound surfaces (where appropriate)
- have low vehicular traffic (<3000 vehicles in a 2 way flow over 24 hours) and 85%ile speed less than 20mph.
4.3 Path Surface

Path surfacing is probably the single most critical element determining the popularity of Greenways! A surface which is smooth, firm and dry throughout the year and throughout its lifetime will generate far higher levels of use than will any sort of informal surface which is prone to damage from water, erosion and even horses. On this project we recommend laying a dense bitumen macadam (DBM) surface. This should always be machine laid and generally a single 60mm layer is the most appropriate solution. (If a second layer is used then the weight of the construction vehicles laying this second layer may well damage the first layer, especially on soft ground).

Bitmac wearing course - 60mm thick or 2 courses 40mm & 20mm. Note: hand work requires hot-rolled asphalt mix for smooth finish

- 50mm base course: 38mm type 1 or have a single sub-base layer 150mm-200mm thick
- 100mm sub-base: ballast, scalings or planings

4.4 Seats

Part and parcel of walking and cycling is stopping and resting. Seats should always be carefully positioned so they have a particular view, or are under a particular tree. Therefore every seat is a place where a person may want to stop and, perhaps even more importantly, a destination a person might want to reach and a locality where they can meet friends. At entrances, or in areas likely to be used by a fair number of elderly or disabled people, seats should be close together, no more than 200–300m apart, because even these distances might present quite a challenge for some. Seats should be positioned not only so they have an attractive view out over the vista either side of the path but also along the path so that their very presence and indeed occupancy leads to informal surveillance of the Greenway itself.
4.5 Access

Although our ambition is that all Greenways should be freely open for walkers and cyclists without barriers, there are many instances where stiles, gates or access controls of some kind or other are required. These are needed for the control of livestock where the Greenway passes in and out of grazed areas, for the provision of maintenance vehicles which require larger entrances than walkers and cyclists themselves, or for arrangements of various kinds to deter motorcycles.

Bollards with a spacing of 1.20 – 1.50m can be used to prevent motorised vehicles accessing Greenways or other physically separated paths while still allowing comfortable access by cyclists, pedestrians and wheelchairs. Locked removable bollards can be used to allow access by maintenance vehicles. If the Greenway is also used by equestrians on the same alignment, the bollards need to be 1.80m apart.

Other types of access barriers should preferably be avoided. While it is recognised that use of motorcycles presents a problem on some sections of the National Cycle Network, the use of other types of access barriers restricts and deters legitimate users such as cyclists and wheelchair users as much as they do motorcycles.

Where motorcycle abuse is anticipated then “A” frames are widely used to inhibit motorcyclists whose wide handlebars are blocked, whilst still allowing wheelchairs through. The best designs are adjustable so that as the problem of motorcyclists is overcome through a combination of high levels of public use, informal surveillance and clear signage with the backing of the local police, then the gap can be widened to minimise the inconvenience to legitimate users.
Sustrans has had a long tradition of commissioning artists and sculptors to work on its projects. From the beginning the objective has been to:

1. Articulate the whole length of the Greenway and to give rhythm and points of focus on otherwise relatively featureless routes such as derelict railways.
2. Mark out the mileposts.
3. Provide local historical and geographical interpretation to enhance users’ knowledge of the location.
4. Create a memorable route one would want to visit again.
5. Make local destinations that local people could be proud of.
6. Create a way for the community to be involved in the making of their Greenway by artists working locally with schools and others to create and maintain their own pieces, promoting the feeling of ownership of the Greenway.

4.7 Fencing

Stock fences are usually post and wire. It is best to install 7-wire mesh with 2 lines of barbed wire above. The mesh ensures that dogs don’t get through to worry stock. The barbed wire should always be on the stock side of the posts with one line of smooth on the public side to reduce the likelihood of injury if a member of the public accidentally crashed into the wire.

The fence should always be as far from the path as possible so it is not casually tampered with. A minimum of 1m is highly desirable.

A post and wire stock-proof fence on a rural path at Chedzoy in Somerset. Note that fence is set 1m from path.

Another view of the field fence at Chedzoy.
Notice the profusion of wildflowers flourishing in the verges where no topsoil is used.

The dramatic profile of Lumil Soolap’s ‘Bathgate Face’ breaks up the shape of a large mound of waste earth.

4.8 Views

Views can be divided into those along the Greenway in the direction of travel and those to one side or the other of the route itself. The pictures in this section are all taken from a single Greenway – the railway path from Drumgelloch on the outskirts of Glasgow to Bathgate on the way to Edinburgh. As this was a relatively straight railway traversing a somewhat bleak landscape, considerable effort was devoted to making it as interesting and memorable as possible.

The path was moved from side to side to break up long forward views. The route was moved to the boundary to give clear views over interesting countryside, or raised onto adjacent ground for the same reason. The photographs and text here describe these devices which have wide applicability.

5. Ecology

The former railway line is ecologically important because it is a continuous landscape feature that supports a valuable mosaic of habitats. This includes species-rich and calcareous grasslands and an almost continuous corridor of scrub and trees. These habitats are likely to support notable plant, invertebrate and reptile species in addition to other fauna with statutory protection. Over half of the route is covered by nature conservation designations.

The main ecological impact of the proposal will be the loss of the grassland habitats and consequently a reduction in habitat mosaic diversity. These are significant negative impacts of the proposal due to the high ecological value of the grasslands and because they create habitat stepping stones between other important grasslands in the landscape including SSSI. Without any management the grasslands may, over time, be lost naturally through succession. The creation of this route would bring the land into long-term management. If conducted in an ecologically sound manner, this management could allow these important habitats to be maintained in the long-term.

The development of a comprehensive compensation strategy is crucial for this project to be ecologically feasible. This will include habitat creation and long-term management to replace and increase the area of calcareous and species-rich grassland, recreate structural and species diversity in the habitat mosaic and maintain a continuous corridor of shrubs and trees. This scheme must also maintain and improve the quality of the habitats for notable fauna that use the route. This compensation strategy would need to commence several years prior to the destruction of the main habitat to allow species to spread to the new areas. Detailed consultation will be required with the Local Authority, Natural England and local nature partnerships to develop this strategy.

Other impacts identified, such as potential impacts on watercourses from bridge construction, should be readily avoided through good project design and best practice in construction. Invertebrates, great crested newts, nesting birds, badgers, bats, dormice, otters, water voles and reptiles are also considerations for the proposal. Surveys will be required to determine the presence/absence of these and/or inform detailed impacts upon them. It is anticipated that the compensation strategy can be designed to maintain sufficient habitat to maintain notable fauna populations. Other impacts identified, such as potential impacts on watercourses from bridge construction, should be readily avoided through good project design and best practice in construction. Invertebrates, great crested newts, nesting birds, badgers, bats, dormice, otters, water voles and reptiles are also considerations for the proposal. Surveys will be required to determine the presence/absence of these and/or inform detailed impacts upon them. It is anticipated that the compensation strategy can be designed to maintain sufficient habitat to maintain notable fauna populations.
and bat roosts into account and mitigation measures may be required for construction. Natural England Licences may be required in relation to some of these species and it must be demonstrated that the proposal is in the over-riding public interest, that there is no reasonable way to avoid the impact and that the conservation status of the species will not be negatively impacted.

Current planning policy demands that construction projects not only minimise their ecological impact, but provide enhancements wherever possible. Ecological enhancement measures proportional to the scale of the proposal should be built into the detailed design scheme.

6. Summary
Most of the former railway track bed would be straightforward (in terms of construction) to transform into a cycle path. Land ownership is the key constraint along most of the route. The exception to this is where the line of the railway has been broken by the removal of bridges at crossing points of roads or water courses. A final physical constraint (two locations) occurs where the track bed under road bridges has been blocked. Where physical barriers exist along the route the financial cost of providing replacement bridges or ramps becomes a major constraint.

Whilst the number of points at which the former railway is crossed by roads introduces a constraint in terms of providing a continuous cycle route it also provides an ideal opportunity to develop a staged approach to developing an off road cycle route with an on road route signed on problematic sections. The number of adjacent quiet roads also provide ready links to neighbouring communities.