Appendix A

Design Principles

National Cycleway Core Standards of Design and Construction

The National Cycleways are intended to be the best quality cycling routes in England – ones which will attract popular use and be exemplars for best practice throughout the Country. The standards currently adopted by local authorities around the country vary from place to place, but the core design philosophy seeks to achieve a step change in the quality of cycle infrastructure provision. As such, reference to the Dutch CROW manual is recommended in addition to local standards or practice. Some localities, such as Nottingham, Wales and London, have developed ambitious cycle design standards which are useful to refer to as a way of seeing how continental best practice can be applied in a domestic setting.

At this point it should be said that there is always more than one solution to any detail and best practice will vary depending upon the location and the anticipated levels of use. The capacity of a cycling route in Central London, for example, will need to be considerably greater than in rural Northamptonshire. The type of users will also vary from perhaps predominantly commuters in central urban areas to more varied everyday trips, leisure users and tourists in other places. The forthcoming guidance document for the National Cycling and Walking Investment Strategy will contain a directory of appropriate and applicable standards and best practice guides for cycling infrastructure.

However whatever the circumstances a National Cycleway will be characterised by:

1. Complete continuity of route with provision at every junction and crossing with priority where appropriate.

2. Passing through the centre of each Town and City Centre to maximise use and exposure.

3. A complete absence of barriers, dismount signing, or walking sections.

4. Careful segregation from heavy traffic, (in excess of 2000 vpd), and segregated paths adjacent to highways should always be separated by a grass or tree lined verges wide enough to dissipate the stress of traffic and to capture any detritus which otherwise might be flung off the highway into the cycling route.

5. Gradients should not exceed 5% (unless the general terrain is hillier) such that the routes may also be comfortably used by pedestrians and those with wheelchairs.

6. The surfaces should be permanent, and machine laid for a smooth ride, and carefully drained to be free of water at all times.

7. Signing should be continuous and unambiguous.

8. The routes should be promoted in all local opportunities and via the appropriate apps.

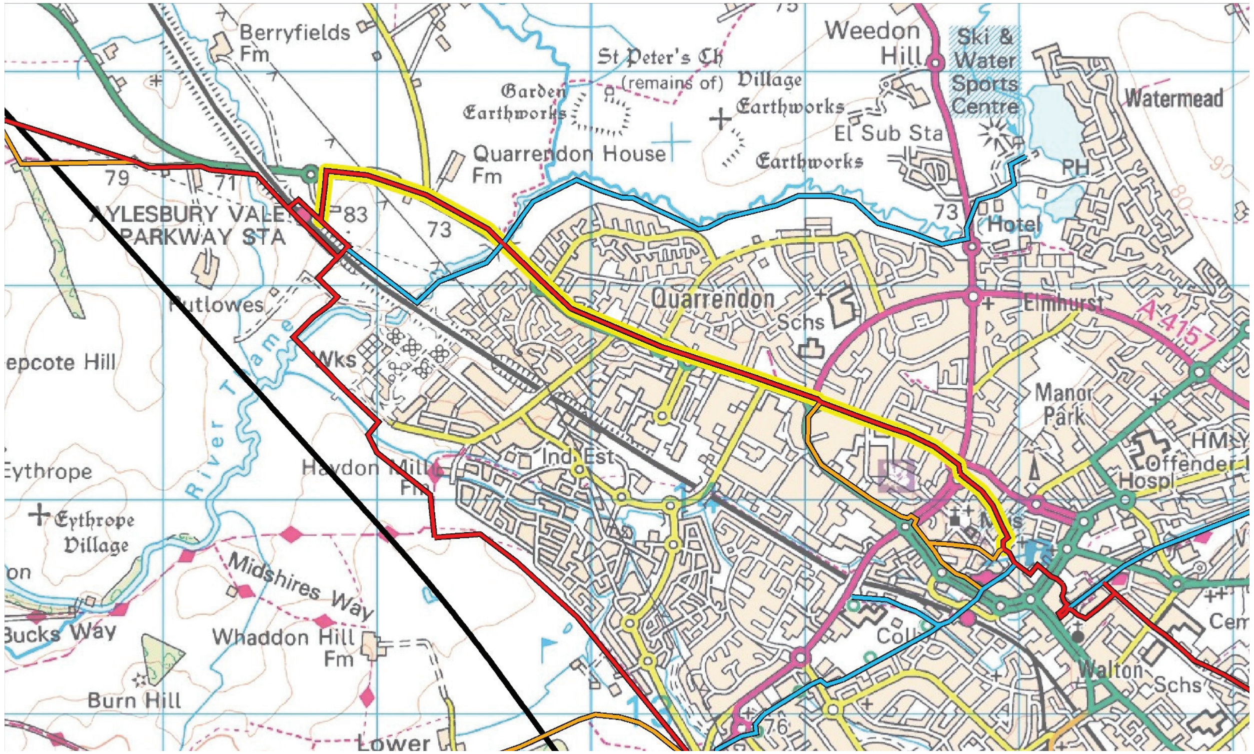
9. Grants and monies for the routes will be predicated against these principles and as set out additionally with each authority, and paid across from the central NCN Trust as sections are completed to standard.

Appendix B

Place-making Examples

National Cycleway in association with HS2: Preliminary Feasibility Study

Mini Study February 2016



Aylesbury Parkway - Aylesbury Town Centre

Royal HaskoningDHV

PHIL JONES ASSOCIATES
transport planning consultants

John Grimshaw & Associates

Introduction

Background to the Study

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

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

The report of this first phase of work was completed in December 2014 and included a series of detailed appendices that described the preliminary route options in some detail. The routes themselves were derived from discussions with local authorities and other interested bodies, backed up by cycling the routes as far as this was possible.

The DfT has commenced a second phase of the Feasibly Study (January 2015) designed to explore the options in greater detail, and in particularly to enter into a close discussion with Highway Authorities, Local Councils, interested individuals and groups, and the larger landowners, including Network Rail, the Canal & River Trust, the National Trust, Sustrans, and HS2 Ltd.

As part of the study, a series of draft design standards have been established that set-out the standard of quality that the route would be subject to.

Mini Studies

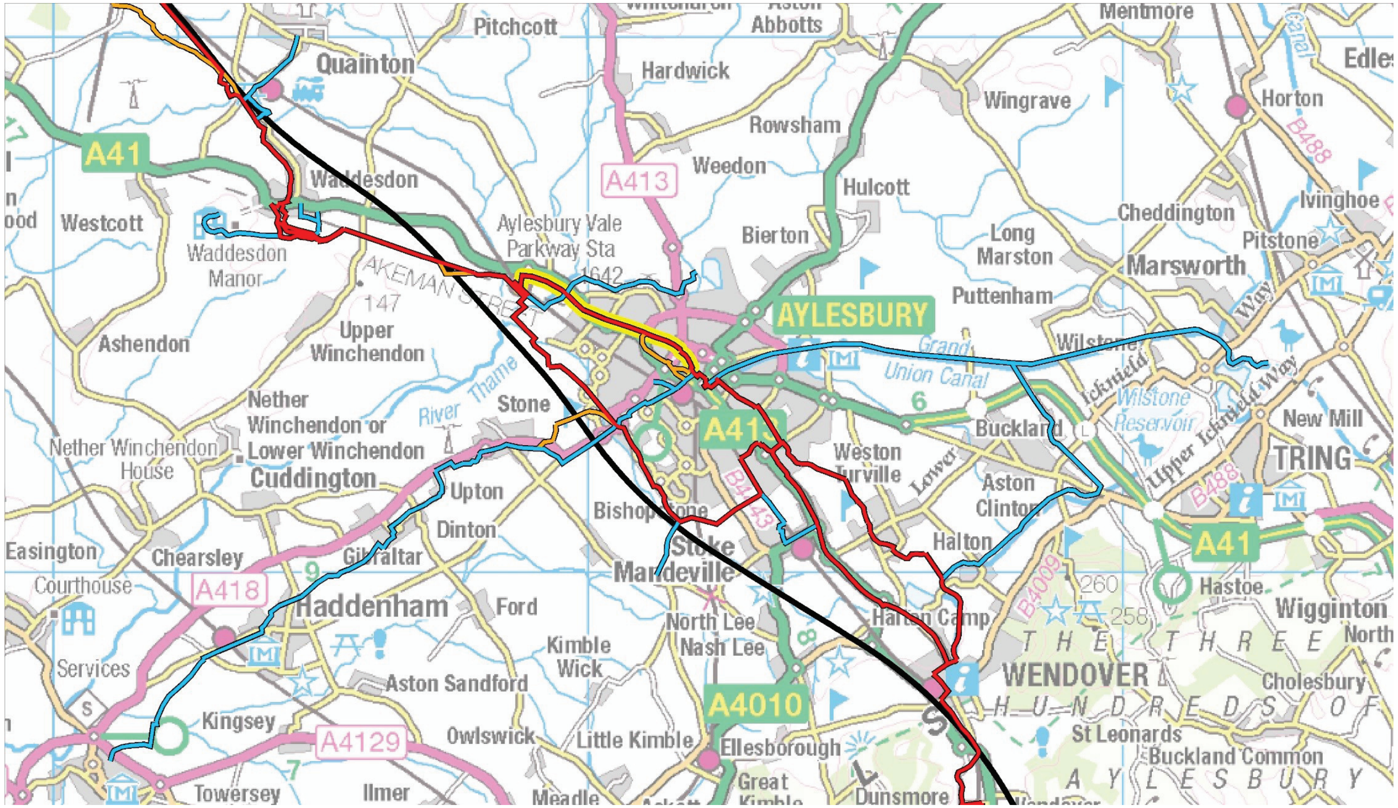
In order to test the application of the design standards on the identified routes, a selection of three locations types have been used to undertake a mini study where an outline design has been carried out to the required standard. The three types of location that have been selected are:

- An arterial route into an urban area
- A route through the high street of a typical market town
- A route through an historic centre with conservation considerations

The mini-study demonstrates what the design standards and principles of the National Cycleway would look like in a real environment, but do not constitute actual proposals. Nevertheless, if high volumes of cycling usage are to be achieved, adopting a similarly ambitious approach to design will create the conditions which would encourage more people to cycle.

This mini-study considers an arterial route into an urban centre using a 4km section of the A41 extending between Aylesbury Parkway Station and Aylesbury Town Centre.

The layouts contained within this document are hypothetical to be used for demonstration purposes as part of this project only. They do not, in any way, represent actual proposals for the area.



Context

Cycle Demonstration Town

Aylesbury was one of six 'Cycling Demonstration Towns' selected in 2005 to promote the use of cycling as a means of transport. The town received £300,000 per annum (plus match funding) over three years to invest in a range of measures designed to get more people cycling.

The initial three years of Aylesbury's Cycling Town programme focused on using 'soft measures' such as route signing and promotions to encourage people to get on their bikes. A key initiative of the project was to develop eight main cycle routes, named and coloured after gemstones to make them easily identifiable to the public (the Gemstone Cycleways). The program also pioneered a radical new approach to signage, obtaining Department for Transport permission to count down to destinations in minutes rather than miles (Cycling England).

Following renewed funding in 2008, Aylesbury prioritised infrastructure measures and improvements. All Gemstone routes have red surfacing installed on side road junctions to help ensure motorists look out for cyclists, and additional signs to direct cyclists to the town centre. This has improved access for major employment centres and has been supported by the installation of additional cycle parking spaces.

A41 Bicester Road

Bicester Road is an arterial road to the west of Aylesbury Town Centre. Much of Bicester Road is classified as a primary route (A41) and serves a strategic function connecting Aylesbury with surrounding villages (e.g. Waddesdon), Bicester and the motorway network (M40).

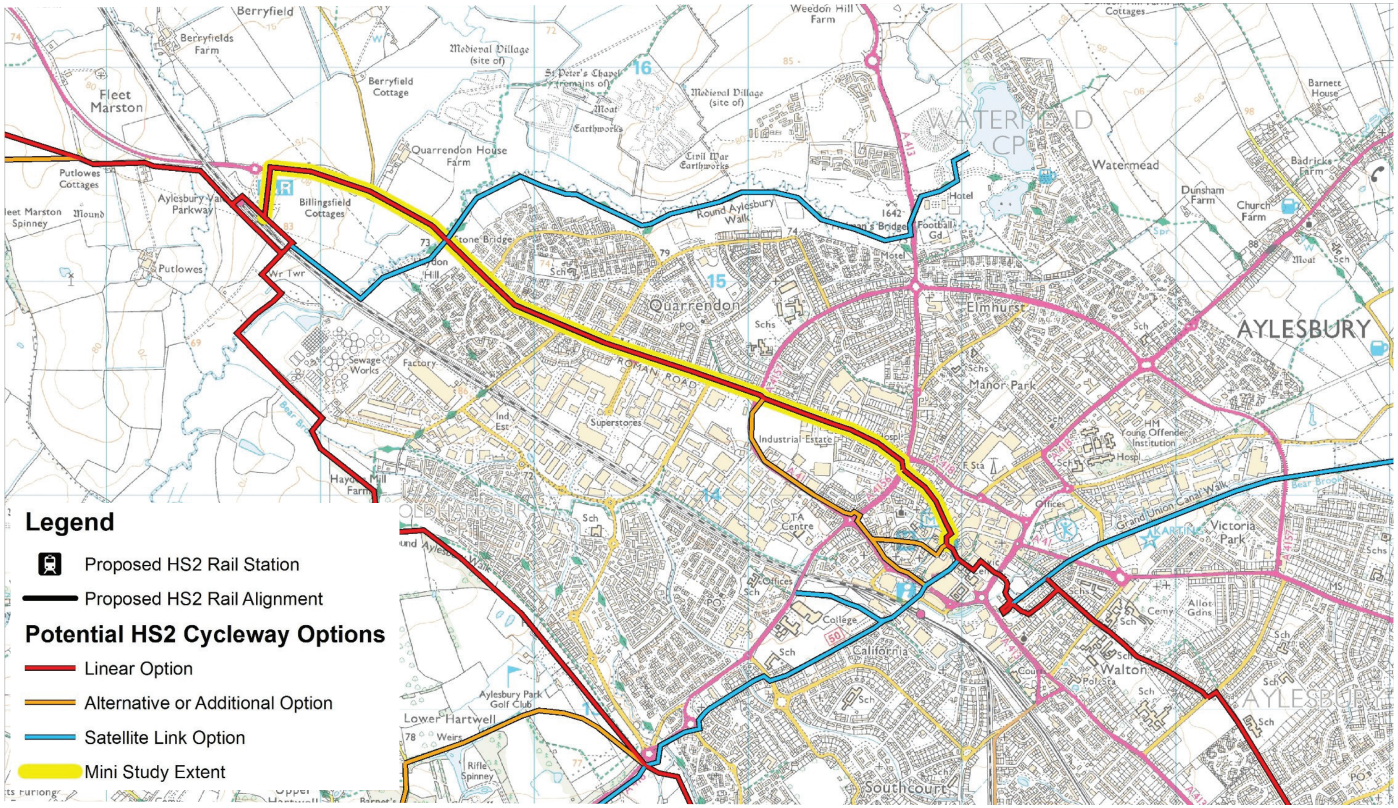
Within the urban area Bicester Road varies in function and cross-sectional profile along its length. It is fronted by residential, retail and commercial frontages, as well as serving key destinations such as Aylesbury Parkway Station, Broadfields Retail Park and a number of significant new developments (e.g. Berryfields).

To the east of the roundabout junction with Weedon Road (A4157) and Gatehouse Road (A41), Bicester Road is unclassified and provides a direct route to the town centre; its form and function is very different to the classified sections to the west.

Bicester Road meets the A418 Oxford Road which acts as an inner ring road around the town centre. The junction is one of three roundabouts located in close proximity to each other; but is heavily traffic dominated.

Bicester Road has been selected as it represents an arterial route with features and characteristics found within many similar towns along the HS2 cycleway route. In some locations the route benefits from wide highway cross-sections with significant potential for dedicated cycle infrastructure of the standards expected by this project to be provided. It also has a number of challenging locations where innovative solutions will be required to overcome these challenges, whilst not deviating from the five core principles of cycle design:

- Convenience
- Safety
- Attractiveness
- Comfort and
- Cohesion

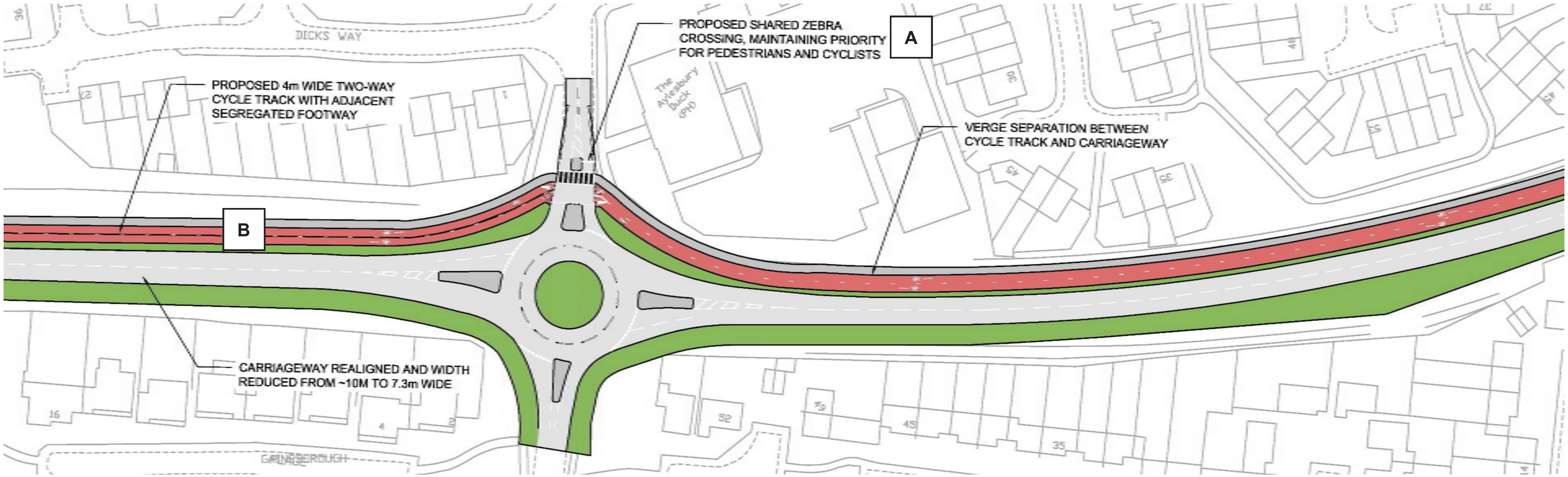


A41 Bicester Road: Jackson Road—Meadow Croft

At the western extent of the study area Bicester Road is a 10m wide single carriageway, with wide verges on both side of the carriageway. An existing 3m wide shared use footway/cycleway is provided on the northern side.

Any potential improvement scheme would seek to:

- Segregate cyclists from pedestrians
- Provide a highly visible piece of infrastructure for cyclists, to recognise the importance of cycling in the 'mix' of transport provision.
- Provide priority for cyclists at side roads and roundabout crossings.
- Provide some separation between the cycle track and carriageway to a) increase the feeling of safety for cyclists and b) to catch detritus, spray etc. generated by vehicles which currently collects on the footway/cycleway.
- Reduce the carriageway width to promote lower traffic speeds and reinforce the existing 30mph Posted Speed Limit.



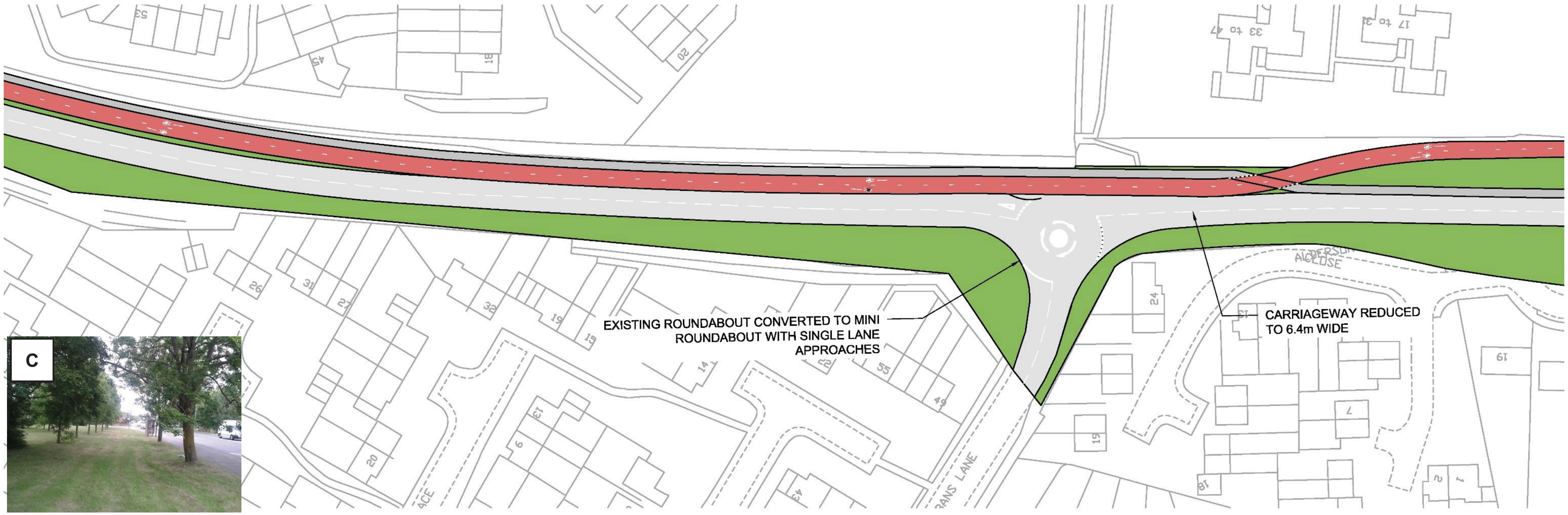
Existing cycle provision lacks continuity and priority over side roads.

Potential to use 'shared zebra crossing' to maintain priority for cyclists.

Existing shared use cycle/footway

Example of bi-directional cycle track in Arnhem, Netherlands

A41 Bicester Road: Meadow Croft—Broadfields Retail Park



A41 Bicester Road: Broadfields—Weedon Road

The section of A41 Bicester Road between Broadfields and Weedon Road is traffic-dominated, comprising four general traffic lanes, whilst provision for pedestrians is constrained by narrow footways.

The HS2 Cycleway scheme has the potential to provide significant environmental improvements along this section through reallocation of road space. This could involve providing space for buses or as shown in the concept scheme below, the provision of dedicated high quality cycle infrastructure.

The concept scheme comprises the reduction of carriageway space, together with segregated footways and uni-direction cycle tracks, separated from general traffic by verges.

Cyclists would also maintain priority over side road traffic, through the provision of raised ‘Copenhagen-style’ crossings.

Existing shared use footway/cycleway adjacent to four general traffic lanes.

Footway width reduces in places due to kerb separation

Existing shared use cycle/footway

Example of bi-directional cycle track in Arnhem, Netherlands

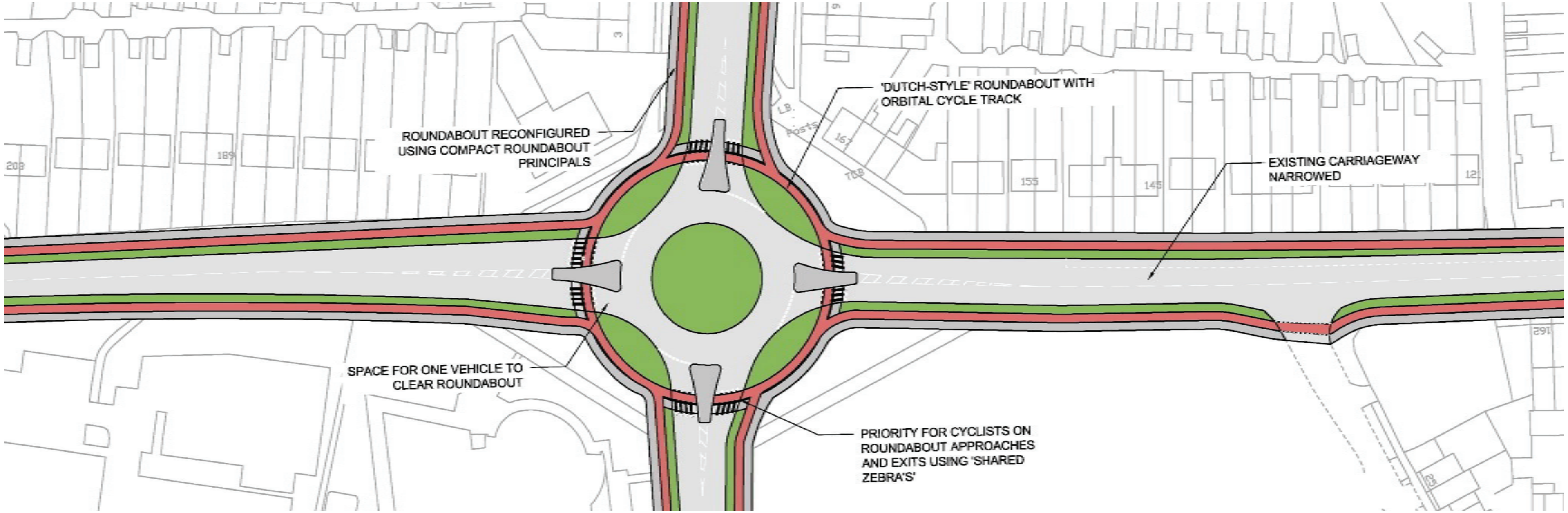
A41 Bicester Road: Weedon Road (A4157) and Gatehouse Road (A41)

The existing roundabout junction of Weedon Road, Bicester Road and Gatehouse Road is a standard UK design roundabout, comprising large entry and exit radii, which encourages high speeds on and entering the junction. A slip road from the southern approach to the west is provided for additional capacity.

A more ‘cycle friendly’ roundabout is proposed, base don the principles of Dutch/continental roundabout design, whereby entry and exit radii are tighter to reduce traffic speeds, cycle tracks are segregated from the roundabout circulatory reducing conflict locations between cyclists and drivers and crossing facilities for pedestrians and cyclists are provided on all arms.

The concept proposals demonstrate that an ‘orbital’ cycle track could be provided, whereby cyclists maintain priority over the majority, if not all approaches and exits.

The concept design is likely to reduce in a reduction in traffic capacity; however should ‘too much’ traffic capacity be lost (as determined through traffic modelling), consideration could be given to a ‘turbo roundabout’; whereby all vehicle movements are separated by intended direction, on both the approaches and circulatory.



Existing roundabout (aerial view)

Existing roundabout from southern approach

Typical ‘Dutch-style’ roundabout with cyclists and vehicle movements segregated

Dutch ‘Turbo Roundabout, designed for high vehicle capacity and segregated cycle facilities

Bicester Road: Weedon Road—Buckingham Road

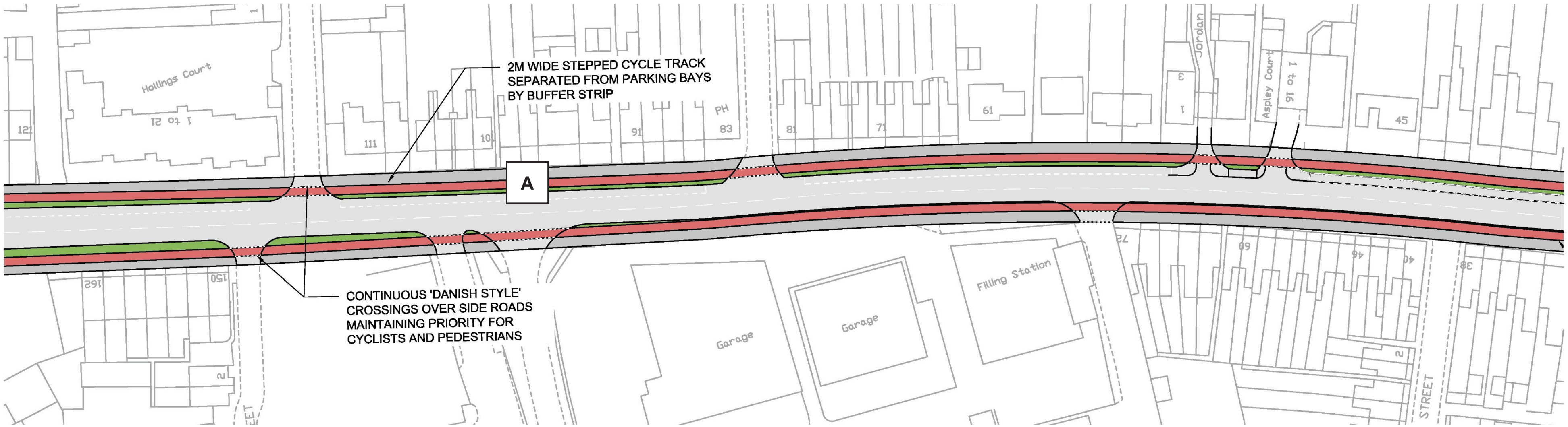
The section of Bicester Road between the roundabout junctions of Weedon Road and Buckingham Road forms the former primary arterial route in to Aylesbury Town Centre. It has since been declassified and traffic encouraged to use Gatehouse Road, which serves as a bypass of the town centre to the south; however the route still attracts high traffic volumes and high traffic speeds. The physical cross section of Bicester Road still presents an environment that where cars and general traffic is dominant over other modes.

A number of commercial properties are located on this section, together with residential frontages with no off-street parking.

The concept scheme below aims to 'downgrade' the route and create an environment that promotes low traffic speeds, as well as being more conducive to active travel modes. Consideration is given to parking on-street provision, including build-outs and tree planters.

Segregated cycle tracks are proposed along this section to ensure continuous provision along the full length of the scheme; however 'less formal' types of provision could be adopted such as 'stepped' cycle tracks.

More radial solutions could also be considered, including the introduction of a bus gate at the eastern end of Bicester Road, in order to significantly reduce traffic flows along this sections.



Existing street scene; dominated by general traffic lanes and right turn lanes that may no longer be required.

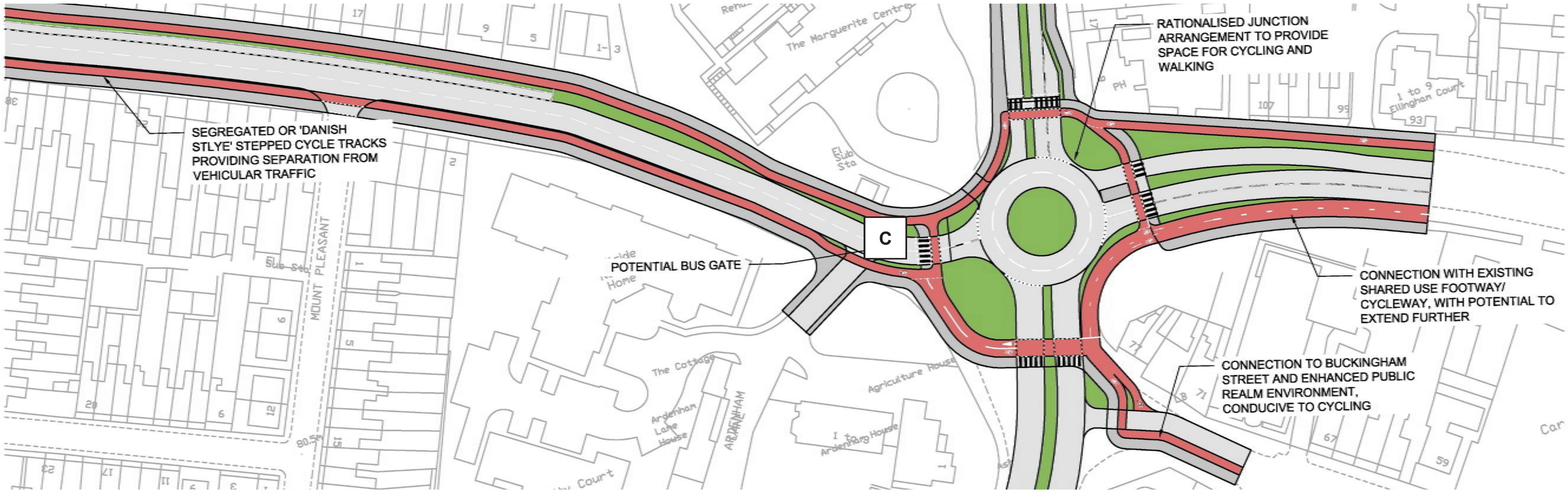
Danish style 'stepped track', providing a less formal approach to segregated cycle tracks.

Bicester Road / Oxford Road / Buckingham Road / New Street Roundabouts

Oxford Road / Buckingham Road / New Street junction currently comprises three roundabouts in close proximity; again an area that is traffic dominated and forms a barrier to accessing the town centre.

The concept scheme below provides an example of how the junction could be rationalised to provide a safer and more convenient arrangement for all users; reducing conflict between vehicles (by rationalising the number of junctions and conflict points), cyclists (through segregation from traffic and pedestrians) and pedestrians (through controlled crossings of the approach arms).

Whilst the scheme below focuses on the movement of people and vehicles, a scheme could equally be implemented to develop the 'place' function; serving as a gateway to the town centre and given its position immediately adjacent to the prestigious Royal Buckinghamshire Hospital. An example of how a more 'place making' scheme, with a higher quality of public realm is shown overleaf.



Existing street scene and complex junction arrangement.

Existing junction layout (aerial view)

View faced by cyclists arriving from Bicester Road

Oxford Road / Buckingham Road/ New Street Place Making Scheme

Technical Note

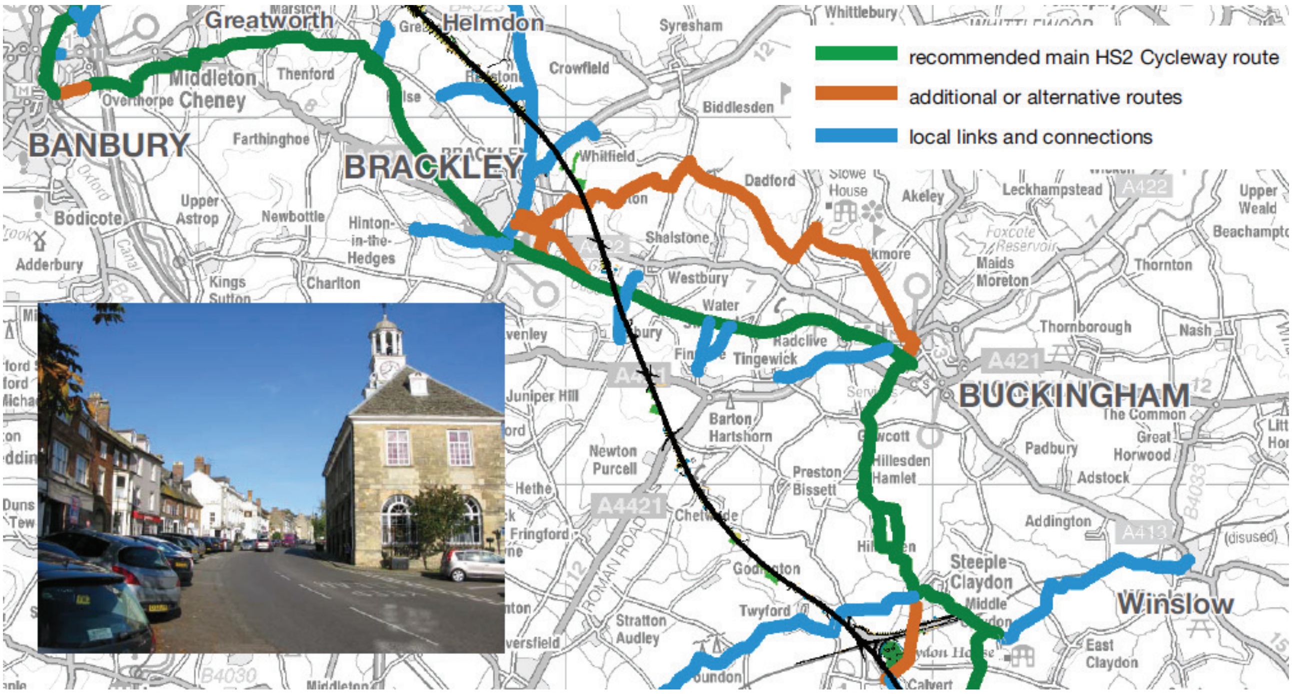
Project: National Cycleway, associated with HS2

Subject: **Mini Study - Brackley**

Client:	Royal HaskoningDHV / Department for Transport	**Version:**	1
Project code:	1377	**Author:**	Andrew Saffrey
Date:	18th February 2016	**Approved:**	Adrian Lord

Summary

The mini-study considered a corridor along Burwell Hill, High Street and Bridge Street, forming a north-south axis through the centre of Brackley. The place-making element of the mini-study focused on the historic market place and surrounding area of the High Street (inset, below). The corridor within the town subject to this study ties together a network of three greenways radiating out from the town to the north, east and west. Completing a coherent cycle network has the potential to serve a great many trips into Brackley as well as journeys focused on the nearby Buckingham. The mini-study demonstrates what the design standards and principles of the National Cycleway would look like in a real environment, but not necessarily what might constitute a proposal. Nevertheless, if high volumes of cycling usage are to be achieved, adopting a similarly ambitious approach to design will create the conditions which would encourage more people to cycle.



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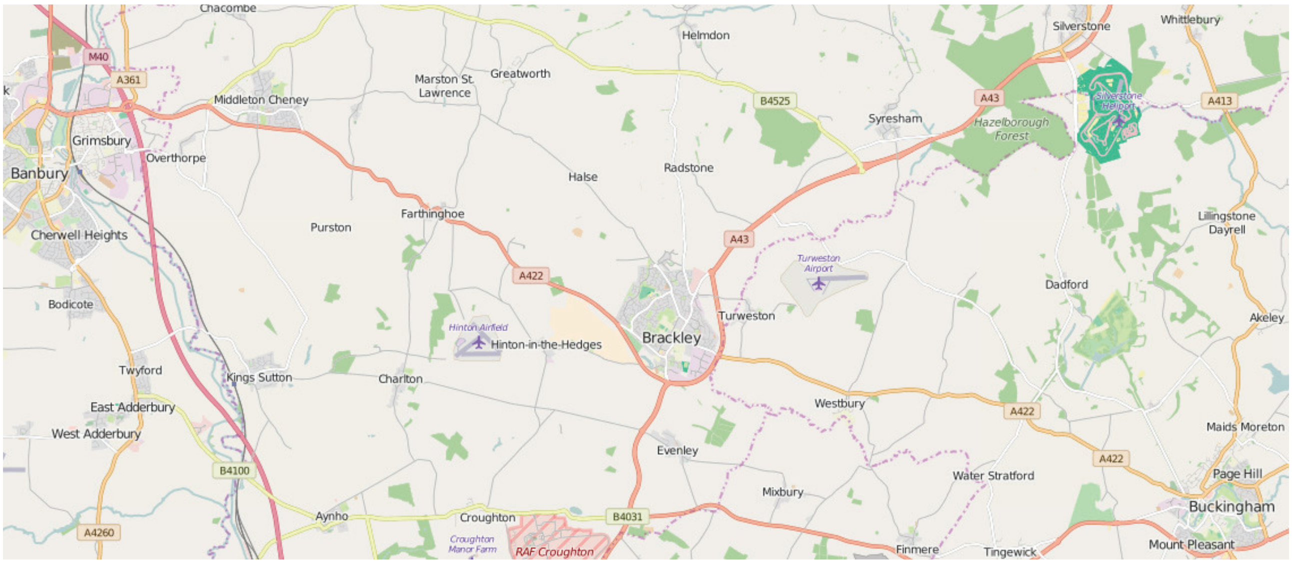
Context

Brackley is located in the extreme south of Northamptonshire, close to its borders with Oxfordshire and Buckinghamshire. Although it is in the East Midlands politically, Brackley is closer to London than it is to Nottingham by around 50 kilometres or 30 miles.



The main north-south axis through the town is the former A43 trunk road, which has now bypassed the town since 1987. The A43 is a strategically important route for freight traffic from the Midlands and Yorkshire accessing the Solent ports. The A43 corridor is also historically the traditional stagecoach route between Northampton and Oxford. As such, Brackley has a wide high street that typifies many important staging towns. This main north-south axis also corresponds to the section of route under consideration in this mini-study. Other than the A422 and A43 bypass roads, there is only one highway crossing over a small watercourse to the south of Brackley, where Bridge Street becomes Oxford Road.

Brackley was once served by two railway lines, but now local people must travel by road to Aylesbury, Banbury, Bicester, Bletchley or Milton Keynes to access train services. In terms of cycle-able distances, the closest of these is Banbury, but that is still some 10 miles (16 km) or so away.

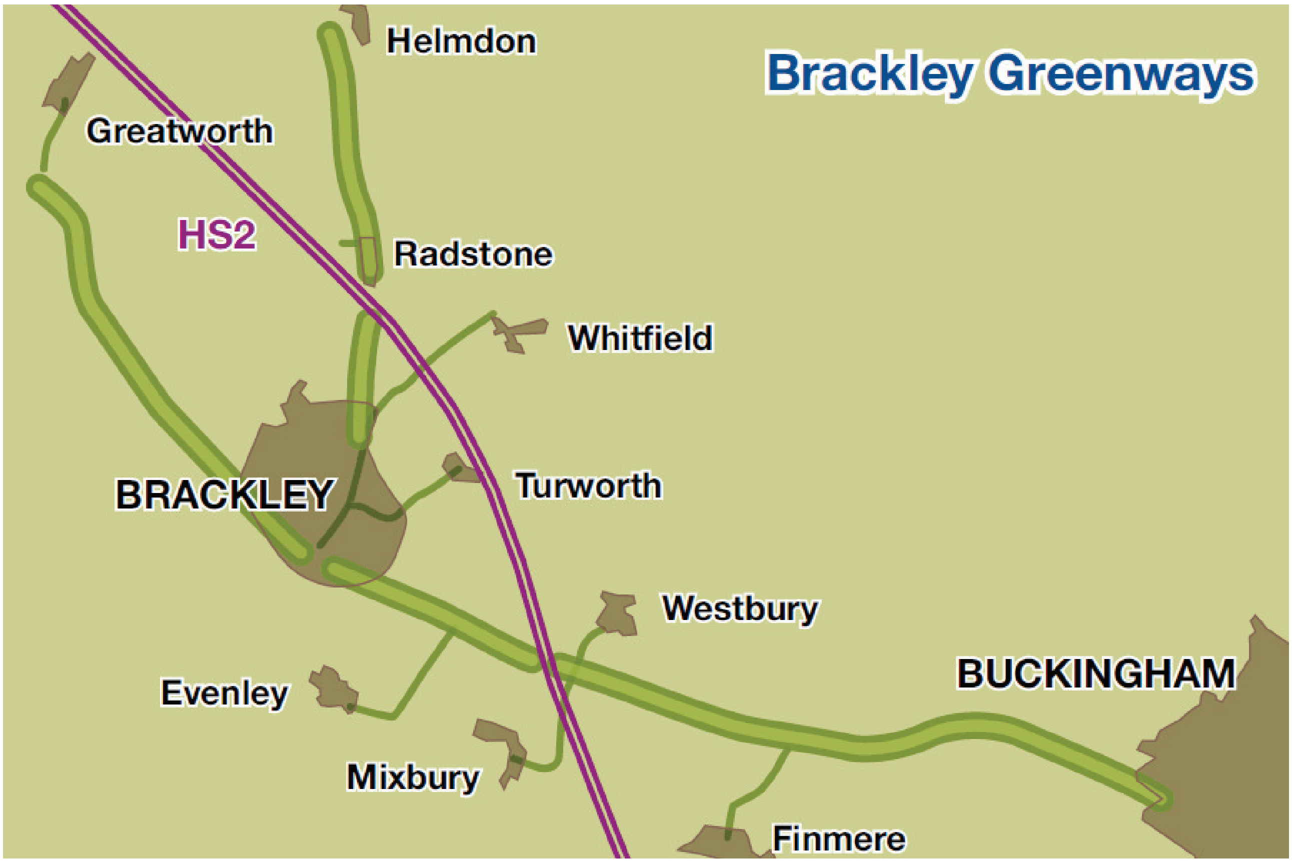
Brackley is home to the headquarters of Maclaren-Mercedes racing cars, and due to the nearby Silverstone circuit and propensity for motor racing teams and manufacturers to locate in the area, the south Midlands is sometimes nick-named “motorsport valley”, and Brackley finds itself at the heart of this region.

The planned HS2 railway around Brackley corresponds closely to the former Great Central Mainline (GCML) railway which once directly linked Brackley to London, Rugby, Leicester and Nottingham. Completed in 1899, the GCML was Britain’s last purpose-built high speed railway before the Channel Tunnel Rail Link, however it was soon run down and ultimately closed after the grouping of railway companies in 1923 saw the line being taken over by its competitors. This probably ranks as one of the most short-sighted decisions in the history of British transport, given the GCML was built to continental loading gauge with the ultimate aim of being able to eventually run with European through traffic in the event of a cross-channel link being completed, which eventually did happen nearly a century later.

It is very easy to understand the frustrations of people in areas such as Brackley who are seeing new rail infrastructure being developed, but no restoration of local rail services which might be more accessible to them. As such, the remit of a project like the National Cycleway provides the opportunity to create accessible connections for local communities, and this mini study aims to demonstrate the infrastructure decisions required to achieve this in the context of developing user-friendly walking and cycling environments.

Overview

The section under consideration links the Helmdon Greenway to the north of Radstone Road, to the new fire station on Oxford Road, where there is a connection to the east-west greenway which ultimately links Banbury and Buckingham. The mini-study looks at the best way of achieving this connection while applying the key design principles – that the routes are continuous, and that users are segregated from busy traffic.

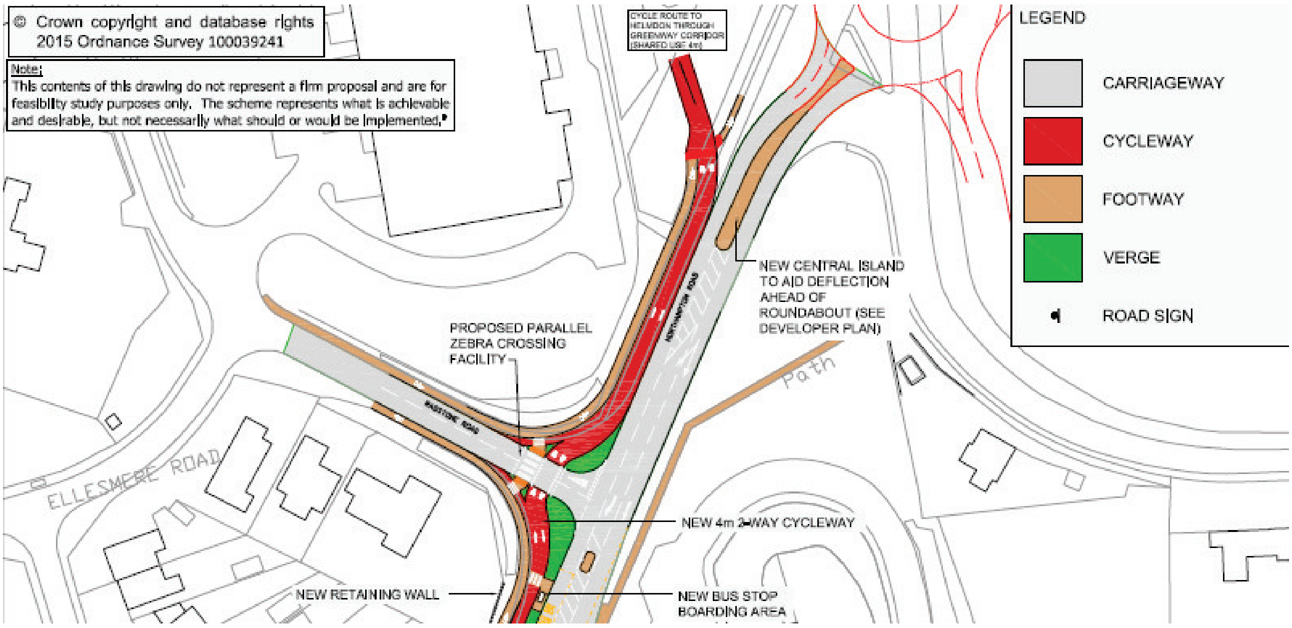


List of sections

1. Northampton Road – Helmdon Greenway to Burwell Hill
2. Burwell Hill – Northampton Road to Halse Road
3. Place-making study
    a. High Street – Halse Road to Pebble Lane
    b. High Street – Pebble Lane to Buckingham Road
    c. High Street – Buckingham Road to Market Place
    d. High Street – Market Place (in two sections, north and south)
4. Bridge Street – Banbury Road to Oxford Road

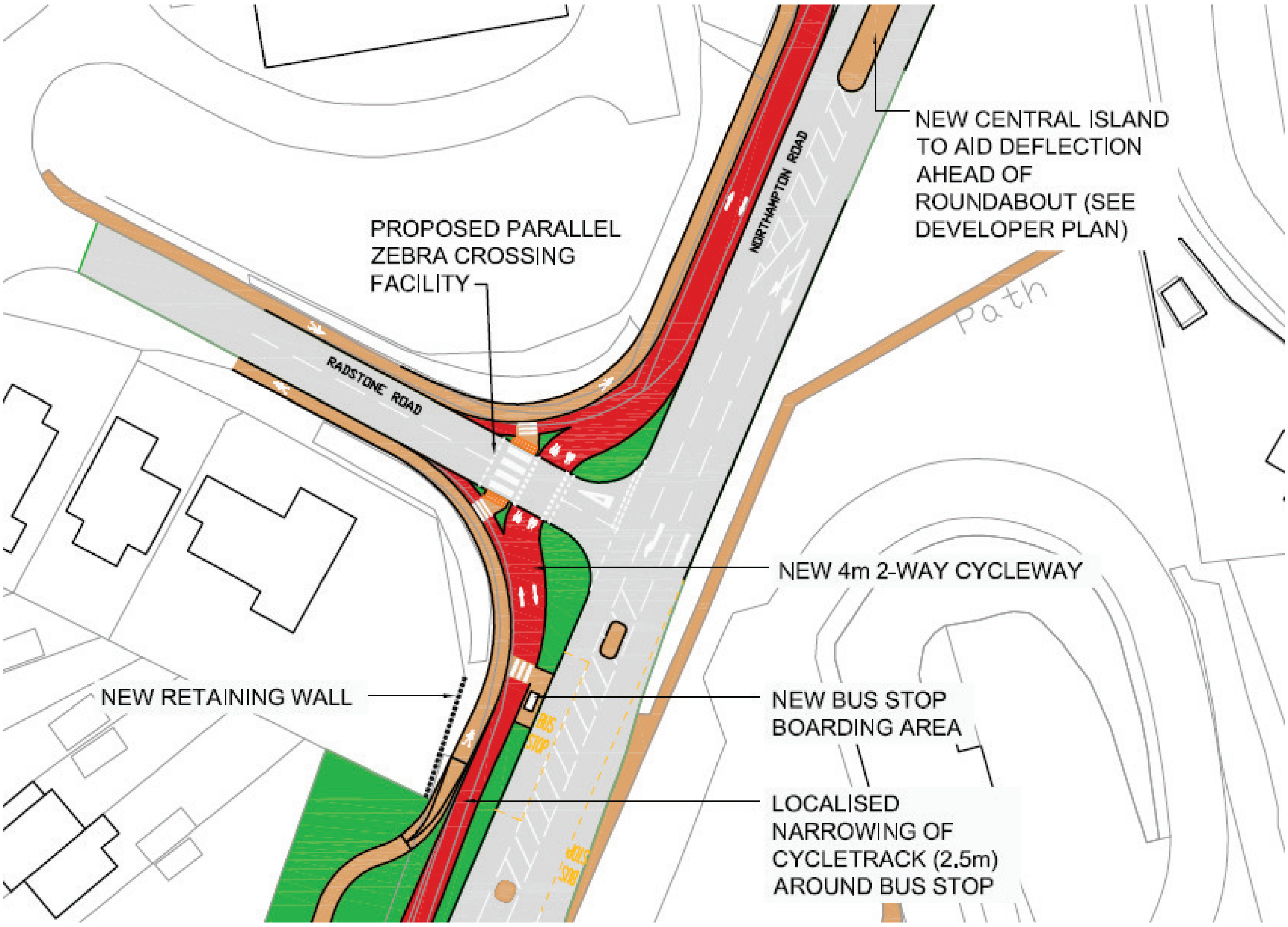
Northampton Road – Helmdon Greenway to Burwell Hill

At the northern end of the study section, the identified greenway route from Radstone and Helmdon meets Northampton Road, the former A43, close the former site of Brackley Cental railway station (GCML). Despite the reference to "Central" in the station's name, its location was some 0.8 miles (1.3 km) from Brackley's Market Place. The suffix *Central* was commonly used for stations in the ownership of the Great Central Railway, e.g. Leicester Central and Rugby Central, and not always a geographically accurate designation. As such the site was locally referred to as the "top station", being the higher in elevation of the town's two railway stations. The other former railway station site in Brackley is also encountered later on in this study as the site of the new fire station on Oxford Road.



The greenway route is a reserved corridor adjacent to some very large housing developments currently being built out. To connect the greenway into the heart of Brackley, a two-way cycle track can be accommodated alongside Northampton Road as far south as Burwell Hill. Subject to this being included in the new Traffic Signs Regulations, expected to come into effect in 2016, a parallel cycle zebra crossing is recommended across Radstone Road.

The existing geometry at the Radstone Road junction appears excessive, particularly in the context of the new housing development which will "urbanise" the area which is currently the fringe of the settlement. Being around a mile from the town centre, it is assumed that local highway authorities would want to encourage as many as possible of these new residents to walk into the town centre where feasible as opposed to driving and adding extra vehicle trips onto the network. The existing kerb radii at the junction are very generous, presumably dating back to when Northampton Road was the A43(T), but as they encourage fast vehicle turns it places pedestrians, particularly vulnerable ones, at a disadvantage when trying to cross the road.



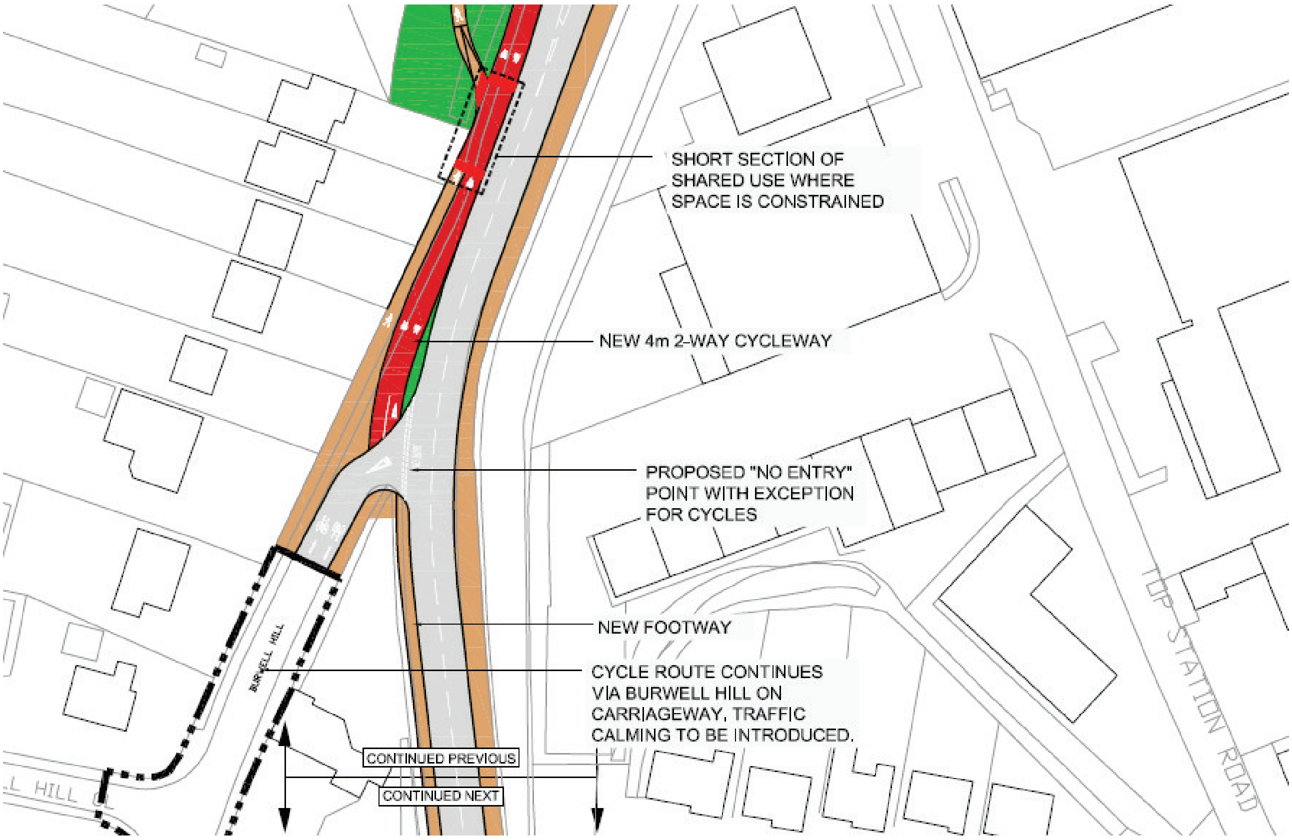
The mini study recommends tightening the junction geometry down to befit a more urbanised setting and thus benefitting pedestrians and not just potential cyclists. The mini study also recommends a concomitant narrowing of the running and turning lanes on Northampton Road to also reduce speed of through traffic in addition to the radius tightening which reduces the speed of turning traffic. The northbound bus stop layby would be in-filled to create sufficient space for the cycle track. Buses are then stopped in-flow in the carriageway, with central islands either side of the bus stop cage marks to physically restrain the speed of vehicles overtaking stationary buses. Overall, this creates a calmer traffic environment.

South of the bus stop, the mini study recommends diverting the footway into the raised bank to the west. This appears to be land in public ownership, so even if not dedicated highway it ought to be obtained relatively easily. This diversion is suggested in order to achieve for as long as possible a 4m cycle track, notwithstanding the localised narrowing to 2.5m around the bus stop. This reduction in width of the cycle track – to the bare minimum acceptable standard over a short length – is necessary to be able to accommodate the bus shelter and requisite carriageway width. The short length of narrowed track will be useful in attenuating the speed of cycles on the approach to the “mini-zebra” at which pedestrians cross over the cycle track to and from the bus stop waiting area. Like the parallel zebra, the mini-zebra is expected to be prescribed in the new Traffic Signs Regulations and General Directions.

If the cost of providing the necessary ramps for the footway diversion is prohibitive, or the land cannot be obtained, a compromise would be to accept a short length where the cycleway is shared with pedestrians. This is a sub-optimal provision, however, from the perspective of both type of user except in conditions where usage is light. It has already been necessary to accept a very short length of shared use at the southern end of the green area, hence any additional length should be avoided if at all possible. The segregated two-way track continues for a short length to the northern bifurcation point of Burwell Hill.

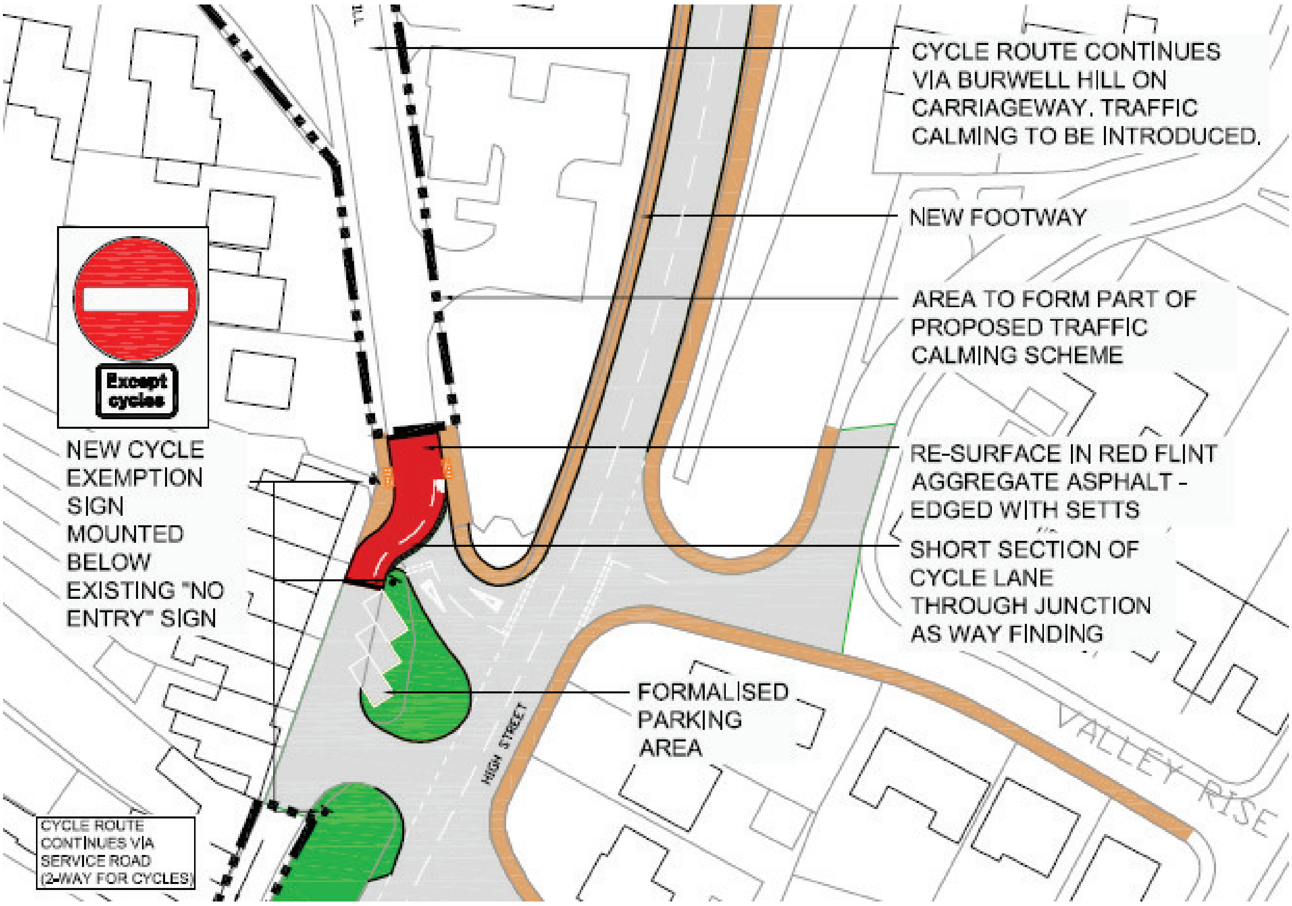
Burwell Hill

Burwell Hill appears to split into two, with the eastern road appearing to be a much newer alignment as it lacks a footway on one side and has a geometry that suggests the carriageway was built as part of a trunk road straightening scheme. This local bypass, in effect, provides a useful opportunity for the cycle route to take the “residential” route rather than following the main road, which lacks any significant frontage. However, it should be noted that the carriageway of the new road is very wide, so space could be found for a cycle track or an additional footway as there is currently a footway only on one side of the road.



As the western arm of Burwell Hill is a quiet residential street, it is an acceptable environment for the cycle route to share the carriageway with general traffic. However, some traffic calming and junction geometry tightening is nevertheless recommended to offer potential cyclists as high a possible level of service and sense of subjective safety. To improve the transition from segregated track to shared carriageway, it is recommended that the northern section of the western arm Burwell Hill becomes one-way for motor vehicles. This will mean that cycles turning right from the cycle track would only have to look in one direction rather than having to give way to traffic coming from behind them, which is extremely difficult without the use of rear vision mirrors, not normally a factory fitted feature on a cycle. Vehicles turning right from north to west would also be likely to do so at speed because of the geometry of the junction and the downhill gradient.

At the other end of the residential section of Burwell Hill, the cycle route would turn to follow the existing shared surface service road running south to Halse Road. The quiet street in front of terraced housing is a quite typical environment for cycling that can be found in countries with high rates of cycling, and as such its use here should not only be encouraged but is in fact quite beneficial to the route with little or no impact on the wider public. A minor road layout change would be required to prioritise the movement of the cycle route, which would require traffic turning left into Burwell Hill to give way. As this is in on a section with a gradient, a raised table may be beneficial in controlling vehicle speeds on approach. Use of materials would help users understand the priority movement and find their way accordingly. An exemption to the No Entry and One Way traffic orders would be required to allow two-way cycling. This is a common intervention in areas across the country where authorities are trying to encourage the use of cycling as mode of transport, particularly in inner London.



The southern end of the service road at Halse Road marks the start of Brackley High Street, where a place-making focused approach has been adopted.

Place-making scheme – key principles

The over-arching principle of the place-making scheme is to balance the street environment to accommodate the needs of all potential users. As a former trunk road, some sections of the High Street appear to retain a geometry that would have been consistent with a major traffic artery. It is evident that this has in part already been remedied in the northern part of the High Street – north of Buckingham Road – where kerb-side parking has been introduced which reduces the carriageway to less than 6 metres in width. The place-making scheme aims to apply the principles of Manual for Streets and recommends an environment which encourages low traffic speeds, and forgiving and courteous behaviour, as well as extending the use of a narrowed carriageway. Overall, the place-making study has opted for providing zebra crossings or informal crossings in place of signal-controlled crossings, many of which may date back to when the High Street was still the A43. The place-making study aims to provide a less cluttered environment with clearer routes matching the principal desire lines of all users, especially pedestrians.

Throughout the place-making scheme drawings, the cycle track is shown in yellow where proposed.

High Street – Halse Road to Pebble Lane

Consistent with the mini-study at large, the place-making scheme recommends tightening of geometry at the Halse Road junction. This enables an informal crossing to be provided close to the desire line and tying in with the residential service road to the north. Informal crossings benefit from being placed on a raised table to encourage "courtesy" behaviour. A more conventional approach would be to provide a zebra crossing, with parallel cycle crossing soon to be authorised by the new TSRGD, however this may be difficult to achieve with the interaction with the residential service road.

South of Halse Road, a pair of uni-directional cycle tracks are recommended, with southbound cycles switching to the "with flow" side via the crossing outside the Greyhound. In areas with busier frontages, uni-directional are more "legible" as they mean people cycling can access properties and businesses on both sides of the road, and pedestrians and drivers can better predict the behaviour of people cycling, particularly at junctions where drivers may not think to look the "wrong" way when turning left across a two-way cycle track. The disadvantage of uni-directional tracks is that to achieve a high level of service for people riding bikes, at least 2m width each direction is required, which can impact on the remaining street cross-section, compared to a 3m minimum for a two-way track. As will be seen later on, this study does vary the recommendations as the most appropriate solution will always be determined by the local circumstances. A crossing, for both cycles and pedestrians, is recommended at both ends of this section. This allows users to freely circulate this section of the high street, travelling between shops before continuing their journey or returning from whence they came.

In this section, the tracks are generally located on the nearside of parking bays as this minimises interaction between vehicles manoeuvring into and out of parking spaces and all but eliminates "dooring" collisions, where a car occupant opens their door into the path of a cycle. Where possible, a buffer zone ought to be provided between the cycle track and the parked cars, however as sufficient width is not available, flush cycle tracks have been recommended instead. A flush cycle track will allow some flexibility in that a person cycling can deviate out of the cycle track if someone is standing next to a car or a car door is open. There may still be a residual dooring collision risk, but this is inevitably much lower (as 80-90% of car journeys are with the driver as the sole occupant and hence only exiting from the offside) and the resultant injury likely to be far less serious (the person on a cycle falling onto the footway rather than under the wheels of another vehicle). Some parking has been lost in this section, but the scheme allows the maximum possible parking capacity outside the businesses, where demand also appears to be highest.


THOMAS CREWE CL
Malthouse Yard

High Street – Pebble Lane to Buckingham Road

This section was the most difficult to design for in terms of balancing the needs of all users judiciously. Without losing space to pedestrians, providing segregated cycle tracks would have required the removal of most if not all the parking spaces. And without losing any parking, a huge portion of the footway outside the school would have been given over to cycling. Therefore, a balance was struck on the basis that informal observations concluded that most parking activity took place on the western side, where the shops are located, and that where parking occurs on both sides of the road it was sporadic and not constant so therefore consolidating all the capacity onto one side of the road would likely provide adequate capacity, particularly given the parking improvements elsewhere in the scheme.

In striking this balance, a compromise to the directness, legibility and continuity of the cycle track was required. On the western side of the road, where parking has been retained, the capacity has been provided in the space between trees on the footway. This reduces the visual intrusion of the parked vehicles, and also makes use of the space in the "tree zone" which, due to its obvious discontinuity, is not a useful part of the footway for pedestrian movement. Materials treatment would be important in such an arrangement. A more attractive approach for relocating the parking, compared to constructing inset bays, would be to strengthen the footway construction and provide a splayed or low-upstand kerb, with the parking area flush with the footway but marked out in a contrasting material. This approach has been adopted in many new public realm schemes on the basis that when not occupied, parking bays can form a contiguous part of the footway. Whilst the example below is poor in terms of the remaining footway width and position of the cycle lane, it nevertheless illustrates the principles of a flush-with-footway parking bay albeit in a residential area with simple materials appropriate for the suburban environment.

At the southern end of this section, a level difference would need to be resolved to accommodate the cycle track, which results in the cycle track being stepped up above footway level, and stepped down below carriageway level. This is in place of the existing rake between the carriageway that is raised up above the eastern footway.


Swimming Pool
Play Area

High Street – Buckingham Road to Market Place

The Buckingham Road junction currently operates as a set of traffic signals. The main change suggested here is operating it as a priority junction with displaced zebra crossings to promote a more constant throughput of users, albeit at limited speed with constrained geometries.

A significant change suggested is to remove the section of Hill Street between the service road and the main carriageway. This would provide a large public space outside the Methodist church which could encapsulate the whole junction into Buckingham Road to further enhance the setting of The Plough PH.

South of here, the cycle route would not use any dedicated facilities, but would be routed via the existing service roads which are a low speed and low volume environment. A new crossing would allow cycles to cross from the western service road over to the eastern side. The inset visualisation shows this crossing along with the continuation of the narrowed carriageway along High Street, which allows more green space to be created which could accommodate environmentally-beneficial features such as a swale. Alternatively, the carriageway space could be retained as additional parking capacity.

High Street – Market Place (north)

At present, a large part of the highway is taken up with two bus stop laybys, including a turning area for buses which terminate here. The parking located in the middle of the square is laid out in echelon bays, and as such there is no clear pedestrian route from the eastern footway to the controlled crossing.

The place-making scheme recommends removing the bus turning area but setting out the geometry of the service road so that buses can use it to perform a u-turn by looping around the square. This consolidation enables better mediation of the space and thus the parking area can be enlarged, with the bays straightened out to keep clear two key pedestrian crossing routes.

The suggested approach is for the parking area to be a level surface allowing free movement of pedestrians rather than a rigidly-defined vehicle space. The circulatory carriageway along the service road should be narrowed but with a clearly defined vehicular movement space. As per the suggested treatment to the north, it is recommended all parking bays are flush with the footway. In particular in the car park, this arrangement means the space can be flexibly used, e.g. for ad hoc markets, fairs, or other public events and gatherings.

High Street – Market Place (south)

The southern part of the Market Place has already recently seen some public realm improvements, and this scheme would not seek to replace that. What would be desirable, however, would be the downgrading of the road to the east of the Town Hall as more of a "forecourt" than a road. This is effectively how it functions today, but the formalised demarcation of vehicle and pedestrian space results in the Town Hall and the public space in front of it feeling somewhat disconnected. A "forecourt" style treatment would unite the Town Hall and the Burgess Square, and indeed the small space to the south of the Town Hall which, if a subtler and less managed approach were adopted, could also provide a visually more coherent and attractive environment. This is shown in the artist's rendition opposite.

The downgrading of the road to the east of the Town Hall would help emphasise that it is the priority route for cycle and pedestrian movement.

The provision of additional pedestrian and cycle crossings improves access and permeability for people moving around the town centre.

Although the main cycle route runs north to south, connectivity to other destinations is important, so at the Banbury Road junction, appropriate cycle track connections are recommended as shown.

Bridge Street – Banbury Road to Oxford Road

This section was the most difficult in terms of sacrificing space for moving traffic – as opposed to parking capacity. Bridge Street is a steep hill with a level difference to one side between footway and carriageway. The restricted carriageway width – less than 8 metres – precludes the provision of segregated cycling infrastructure. An uphill-only segregated lane was considered as the first option as this would provide dedicated space where people cycling would most need it – when they are struggling uphill – and people cycling in the opposite direction would be more able to comfortably share with traffic for a short distance, being assisted by the downhill slope. However, the uphill side is the one where there is a level difference in the verge, and hence enormously intrusive works would be required, which would also affect trees. It was considered that in such an attractive setting, this would not be an appropriate treatment.

Given that Brackley is almost entirely encircled by high-speed, purpose-built roads, vehicle movement around the town is relatively well-catered for. However, all north-south corridors for non-motorised traffic funnel into Bridge Street, because as the name suggests a watercourse crossing has historically been the focal point for movement, at the bottom of the valley.

In other words, vehicles travelling from the southern end of Brackley to the north of the town have a choice of three routes – the A422, the A43 and Bridge Street. Pedestrians and cyclists can practically only use Bridge Street. It is therefore key link in the local cycling network, and it should also be noted that most of the town's employment is located to the south of Bridge Street, and a likely destination of short trips.

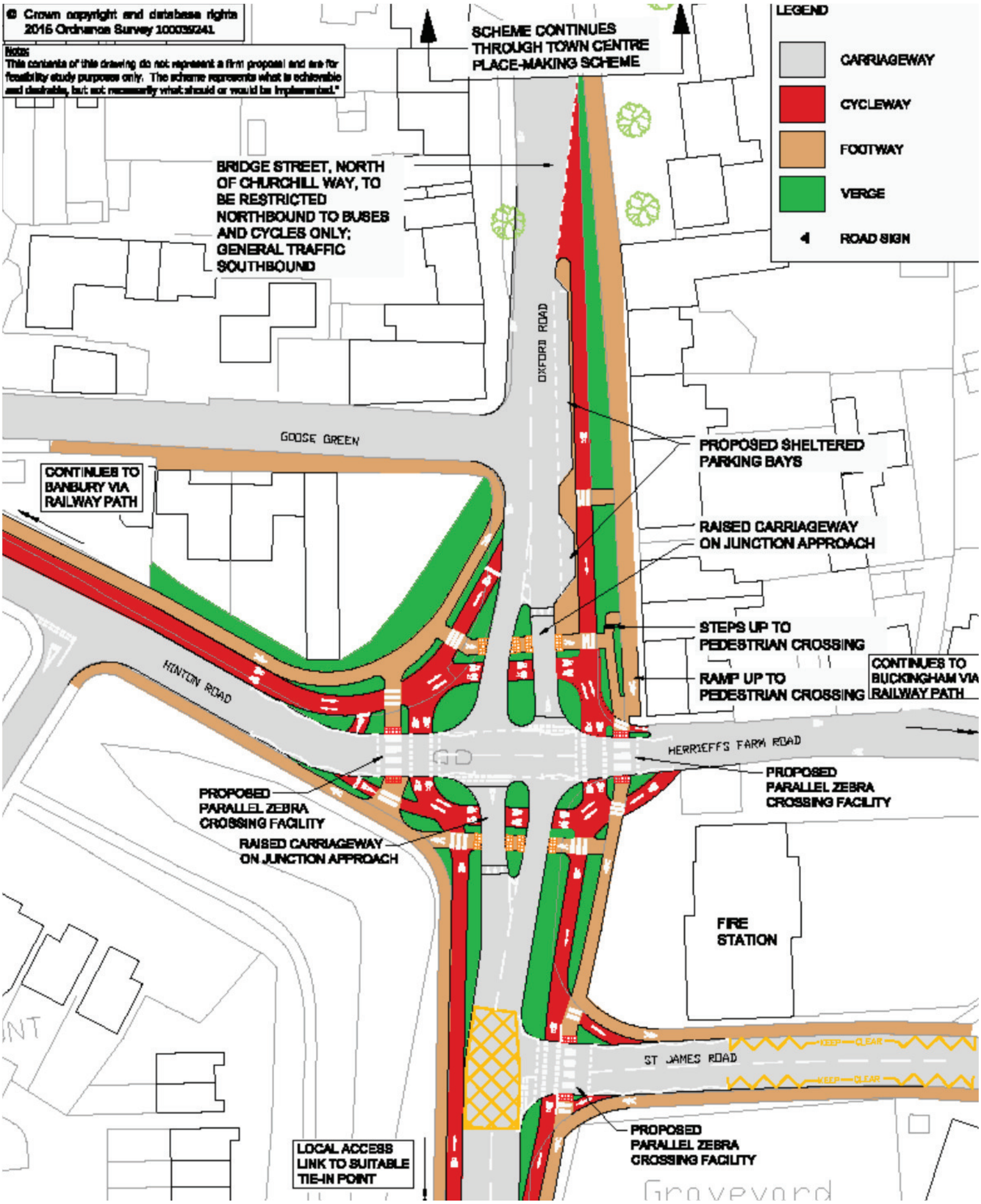
While it is appreciated that public acceptance of such a solution may be difficult, to provide the best level of service for what is – by elimination of all other routes – a key link in the Brackley cycle network, the mini-study recommends a restriction to through traffic on Bridge Street.

The suggested configuration of this would be for buses and cycles only to be able to travel northbound on Bridge Street north of Churchill Way (the first turning south of Banbury Road). Southbound traffic would not be restricted as with-flow cycling here would be acceptable, especially given that a two-way restriction would likely be even harder to gain support. As the volume of bus traffic is low, the northbound bus and cycle only gate provides an almost dedicated cycle route on a difficult section to negotiate with the steep gradient.

Like any traffic order, an exemption would be in place for emergency service vehicles, so this may in fact be a benefit to the fire station to the south of Bridge Street as less traffic would be passing its entrance.

South of Churchill Way, where the Bridge Street would remain open to traffic in both directions, carriageway space can nevertheless be repurposed on account of the reduced volumes to move the parking out from the kerb and introduce a protected southbound cycle lane. This would lead into a Dutch-style crossroads at the Hinton Road / Herrieffs Farm Road / Oxford Road / Bridge Street junction, with cycle and pedestrian crossings. The priority is reversed to complement the traffic reduction scheme on Bridge Street.

This site is the connection for the main line of the National Cycleway – west along Hinton Road towards Greatworth and Banbury, and east along Herrieffs Farm Road towards Westbury and Buckingham. Despite low traffic volumes, a parallel cycle track is suggested alongside Hinton Lane as this would provide better continuity, given the greenway connects in only a short distance to the west off the plan below. A suitable tie-in point for the cycle tracks would need to be found on Oxford Road to the south of the junction.



Discussion

The place-making scheme was presented to Northamptonshire County Council in August 2015. They expressed surprise that such a thorough public realm improvement was designed without any input from the community or key stakeholders. It was explained that this was a necessary facet of working on a scheme which has not yet been formally announced nor given any firm funding, and that also the primary purpose of the study was to show what was feasible and desirable in order to test and challenge the design principles. It would be an interesting challenge to repeat the process with a more thoroughly needs-led approach, and clearly careful stakeholder engagement would be required.

The mini-study shows the key difficulties are often quite localised but often at the locations where road space reallocation or changed priorities are most required. It is understandable that in a rural setting such as Brackley, car use and ownership will continue to be high for much longer than in urban areas where there is either a reduction in driving, or at least a slowing in the rate of increase. Nevertheless, it should be borne in mind that 60 years ago, cycling was a very common form of transport in rural and urban areas, and that Britain had cycling rates almost as high as the Netherlands.

In terms of a more modern context, local authorities are seriously challenged in terms of funding, and sustaining services such as school transport or subsidised school travel can be burdensome especially in rural areas where distances travelled are far higher. Connecting together outlying villages to towns with schools and other services with good cycling networks could obviate considerable personal and social cost of providing motorised transport, and in turn reducing traffic congestion. Boot and Ploeger[1] in 1987 estimated this to be worth 1.1 bn Guilders, about £300m, to the Dutch economy in terms of money saved by not having to provide school buses for journeys that children were making by cycle.

Conclusion

The mini-study shows the technical challenges can largely be met whilst on the whole respecting the design philosophy. Creative thinking is the key, because of the varied contexts encountered even in a very short length of scheme – a little over a mile in length. Clearly the toughest challenge will be securing the key decisions in terms of highway space re-allocation, and convincing the public of the validity of those choices.

[1] De economische waarde van het fietsverkeer (The economic significance of cycling); O.J. Boot and J. Ploeger, Adviesbureau Van Roon, Den Haag, 1987

Technical Note

Project: National Cycleway, associated with HS2

Subject: Mini-study – Lichfield

Client:	Royal HaskoningDHV / Department for Transport	Version:	1
Code:	1377	Author:	ANS
Date:	16 September 2015	Approved:	PJ

Contents

1 Summary

1.1 To help illustrate the type of interventions that may be expected if the National Cycleway associated with HS2 were to be implemented, the project team undertook three "mini-studies" to develop proposals along a section of the scheme in three typical environments. These are – a large urban area, a small rural town, and a historic town or city centre. For these respective "typological contexts", the locations studied were Aylesbury, Brackley and Lichfield.

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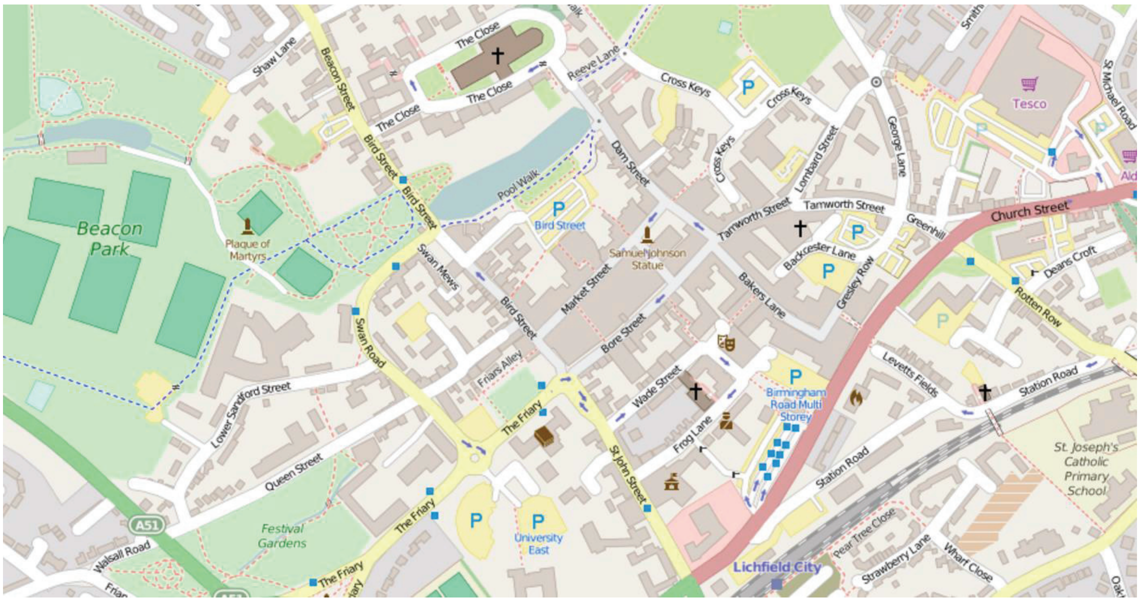
2 Context

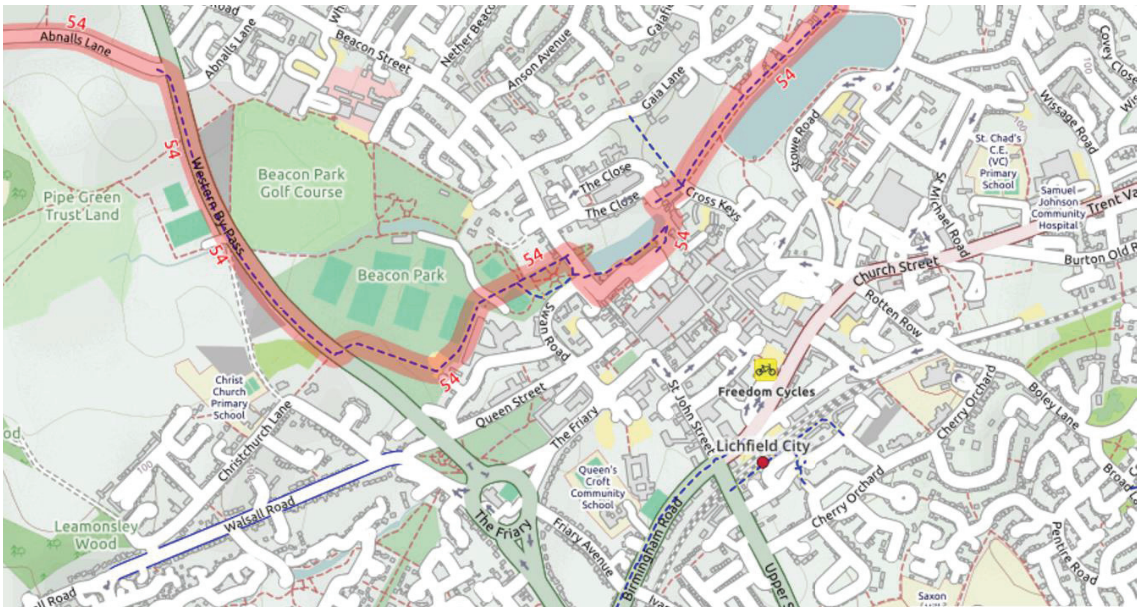
2.1 Lichfield is a historic cathedral city with a population of 32,000. It is close to the end of the western arm of the first phase of the HS2 railway: the HS2 connects back to the Trent Valley Line west of Lichfield.

2.2 The city has a traditional ladder street pattern between two principal thoroughfares – Dam Street/Bakers Lane and Bird Street / St John Street – which run in a north-west to south-easterly direction. At the southern end of the city centre, this street pattern has been interrupted on both axes by developments in the second half of the 20th century. Both the ladder street pattern itself, and its subsequent disruption, also restrict cycle permeability; restricting movement along the north-west to south-east axis to the busy Bird Street / St John Street corridor.

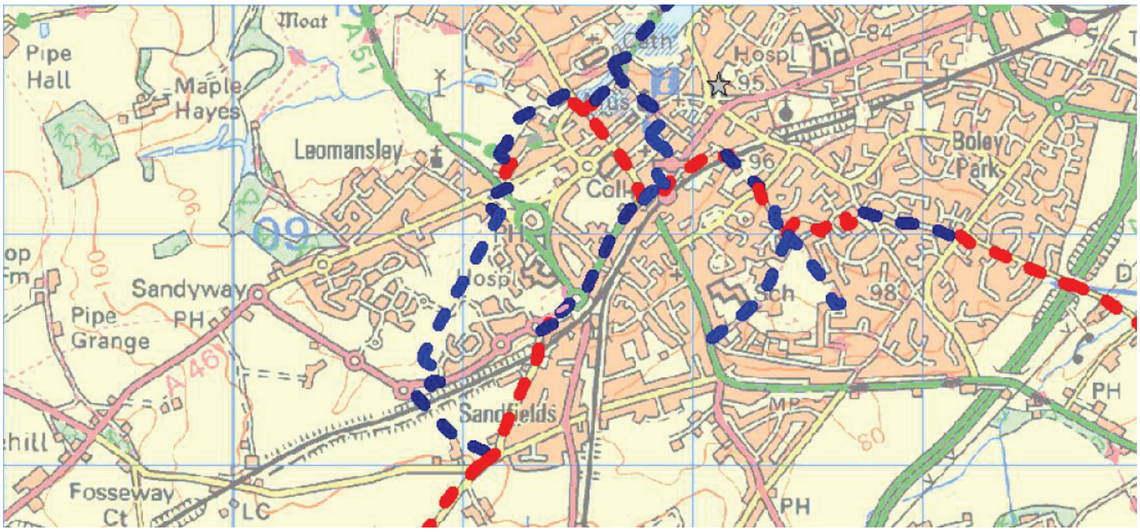
2.3 Lichfield is served by two railway stations: Lichfield Trent Valley (on the West Coast Main Line, Trent Valley line) and Lichfield City (on the Birmingham Cross City Line). The Cross City Line also serves Trent Valley station. Lichfield City station is immediately to the south-east of the city centre, but pedestrian access to it, along with the adjacent bus station, is made difficult because of the interrupted street pattern described above.



2.4 The existing National Cycle Network route 54 passes through Lichfield in a roughly west-to-east direction, through the area of the city centre closest to the Cathedral. Lichfield is a key node of the National Cycleway proposals being close to where the HS2 corridor branches to the east and west.



2.5 As opposed to the Y-shaped railway corridor, the National Cycleway's response to the situation around Birmingham is akin to the Birmingham motorway box. At point at which the western and eastern arms branch, a principally rectangular network is situated in the West Midlands formed by Lichfield, Tamworth, Birmingham Airport/Birmingham Junction, and Birmingham City Centre. As such, Lichfield will benefit from three radial routes as part of the national cycleway: Tamworth (south east), Birmingham (south west), and Rugeley (north west). The existing NCN54 route is the basis for the Birmingham and Rugeley approaches to Lichfield.



2.6 The route in from Tamworth follows quiet residential streets and traffic-free links through the Boley Park residential area. It would enter the city centre by crossing the railway via a wide footbridge connecting Cherry Orchard Road and Station Road.

2.7 The aim of the mini-study is essentially to tie this Tamworth Link via Lichfield City centre to the existing NCN54 route and the cycle track along Birmingham Road leading south-west from Lichfield City Station.

2.8 At the time of the mini-study, it was known that Lichfield District Council held an aspiration to redevelop the bus station, but an exact layout was not available. Subsequently a masterplan was subject to public consultation; this is discussed later in this note, including how the scheme can adapt to the requirements of this local development.

3 Principal elements

3.1 There are three principal elements which the mini-study is seeking to address:

- Improving continuity of the NCN route 54
- Improving cycle permeability across the city centre, particularly linking the station with the cathedral and NCN54
- Providing place-making opportunities

3.2 The last of these is particularly important in the historic setting of Lichfield. Therefore, this mini-study will provide a guide as to how similar aesthetically sensitive areas could be treated across the length of the scheme.

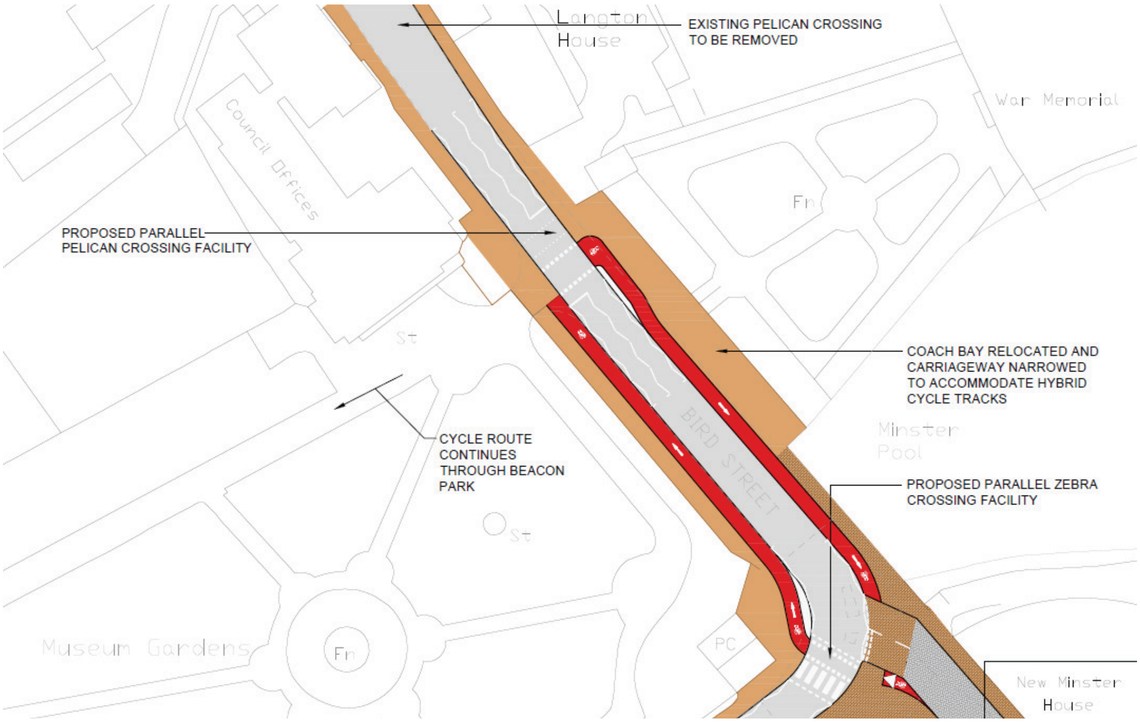
4 Improving continuity of NCN route 54

4.1 The first element of the mini-study is to enhance the continuity and level of service of the existing NCN route 54 which skirts the north western edge of the city centre. Either side of the city centre it is an attractive, traffic-free route but users are required to share with busy traffic for a short stretch near the cathedral, and route legibility is unclear as it leads through a car park and pedestrianised area with only minimal wayfinding.

Bird Street – Beacon Park to Swan Road

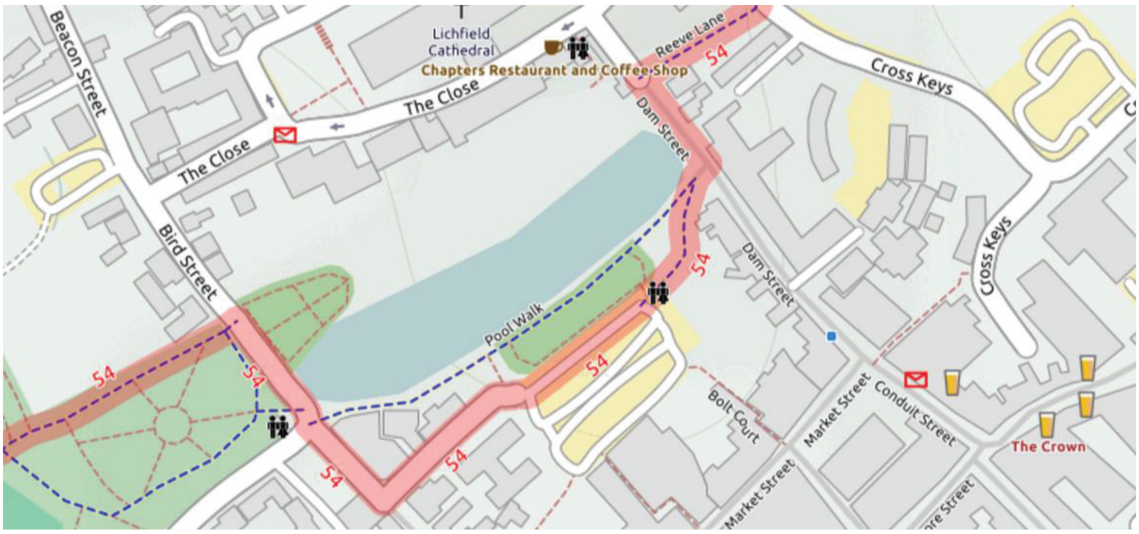
4.2 The section where cyclists share with busy traffic is Bird Street, between the north-eastern gate of Beacon Park and the junction with Swan Road. Overall highway width here is generous, although space is allocated to a coach parking bay. To improve the level of service for the National Cycleway, it is suggested the coach parking is relocated in order to provide a one-way cycle track on each side of the road, which would be a hybrid or stepped track: meaning the cycle track is lower than the footway but above carriageway level, providing a clear demarcation of space for cycling. The carriageway is thus also reduced to 6.4 metres width, the standard street width recommended in Manual for Streets 2 for a general purpose urban distributor road.

4.3 For access into and out of the city centre (Bird Street south of Swan Road), the existing informal pedestrian crossing would be converted to parallel cycle-zebra, which will be authorised in the new version of the Traffic Signs Regulations and General Directions, expected to be published in 2016. This facility is an improvement for pedestrians as well as cyclists, an important concern of the National Cycleway as it is acknowledged in most contexts pedestrians will far outweigh even elevated volumes of cycles. It is observed that traffic speeds approaching the existing crossing are high, making it difficult for some pedestrians to accept a gap in which to make an informal crossing movement. It is therefore suggested that the narrowed 6.4 metre carriageway extends back along Swan Road for a suitable distance to induce slower vehicle speeds on approach to the crossing.



Bird Street to Dam Street

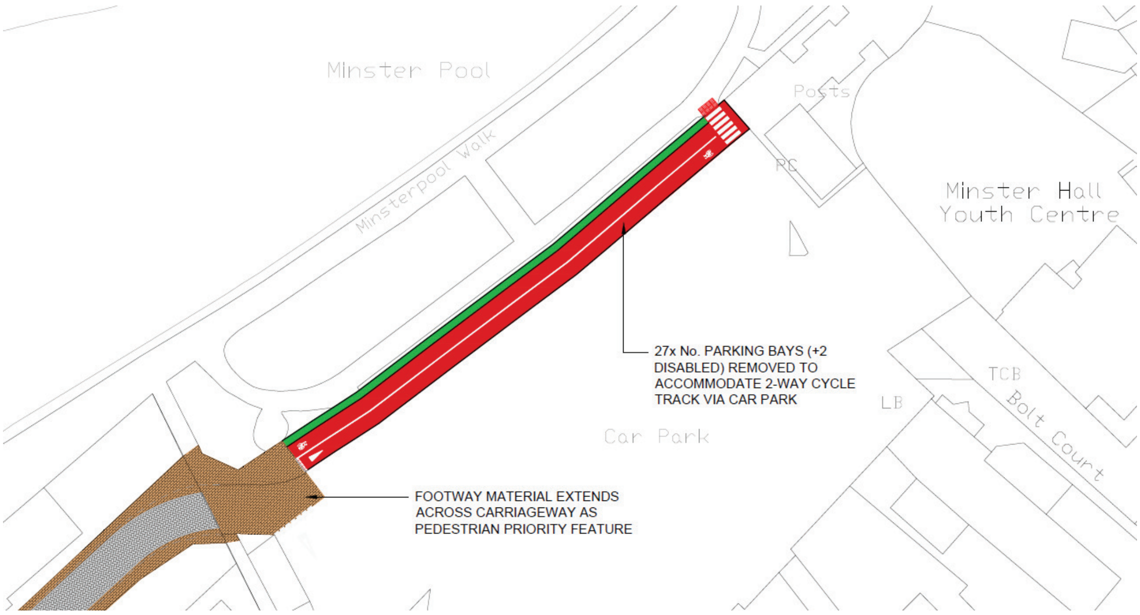
4.4 South of Swan Road, where the major traffic route turns to the west to skirt around the city centre, Bird Street is an access-only street, primarily acting as a connection to the Bird Street car park south of Minster Pool.



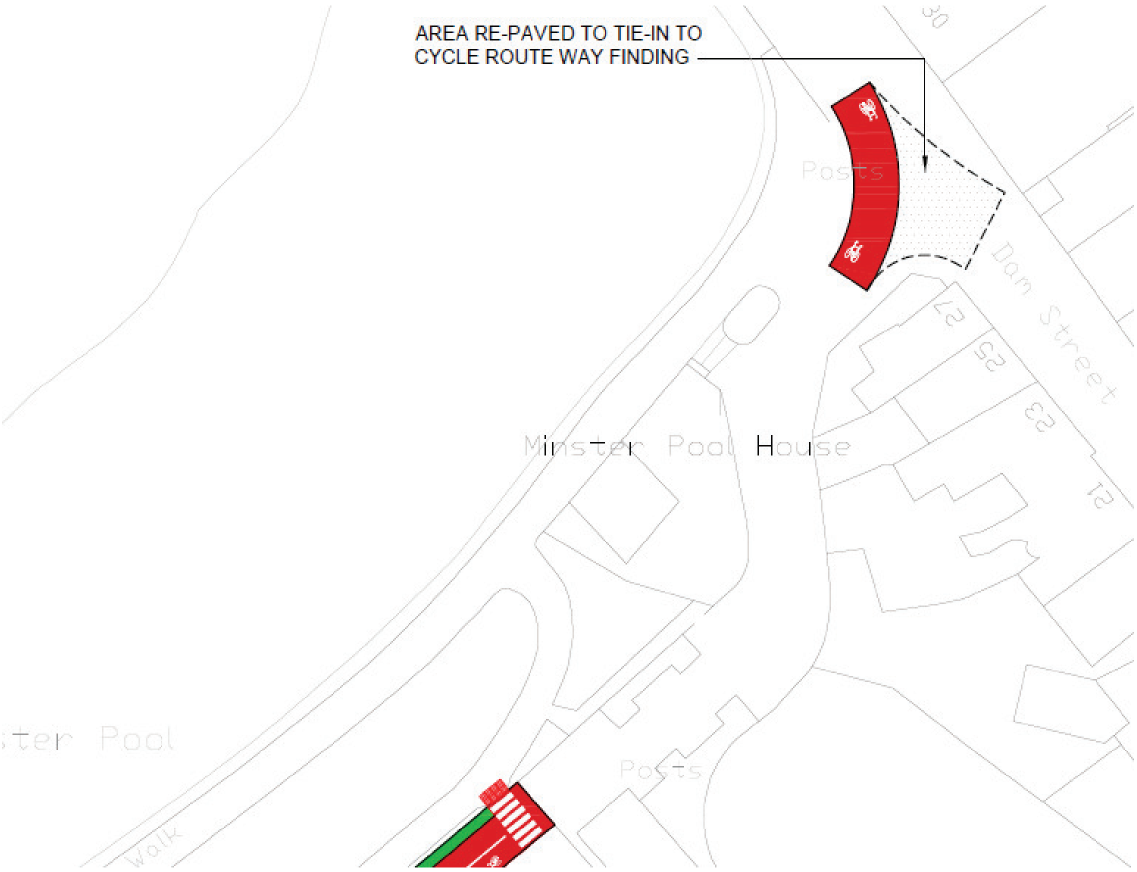
4.5 For the purposes of the National Cycleway, this is considered an acceptable environment in which cyclists and motor vehicles can be expected to share the carriageway as motor traffic volumes are low. Nevertheless, the mini-study suggests there is scope to reduce the traffic dominance of this section, particularly as footway space is reduced in places. A potential option would be to mimic the paving scheme for the section of Bird Street south of the car park access road junction, where the entire cross-section of the street is at a single level, and a notional vehicle space is demarcated in a contrasting coloured paving with a reduced width for vehicular movement. The existing "Restricted Zone" (parking prohibited without the need for yellow lines) could be extended along Bird Street to Swan Street to reaffirm a more pedestrianised character. A loading bay would be marked out in contrasting material to retain a facility for deliveries. As this area would be all one level, when the loading bay is not occupied, the footway width is effectively increased.

4.6 The existing cycle route through Bird Street Car Park is difficult to follow, as such environments are seldom optimised for cycling and hence this can lead to users feeling out of place. As such, people are more likely to cycle along the path besides Minster Pool – Pool Walk – despite signs saying not to. This practice is so accepted that it has been incorrectly shown as a cycle route on the community-created Open Cycle Map (extract shown in paragraph 4.4 above), in contrast to the correctly-shown NCN route highlighted in pink.

4.7 To address this, an obvious route for cycles should be created and wayfinding improved. This would require removal of some 27 spaces from the car park. Mitigation for this would be the fact that the proposed redevelopment of the Bus Station – the Friarsgate shopping centre – would include new car parking facilities.

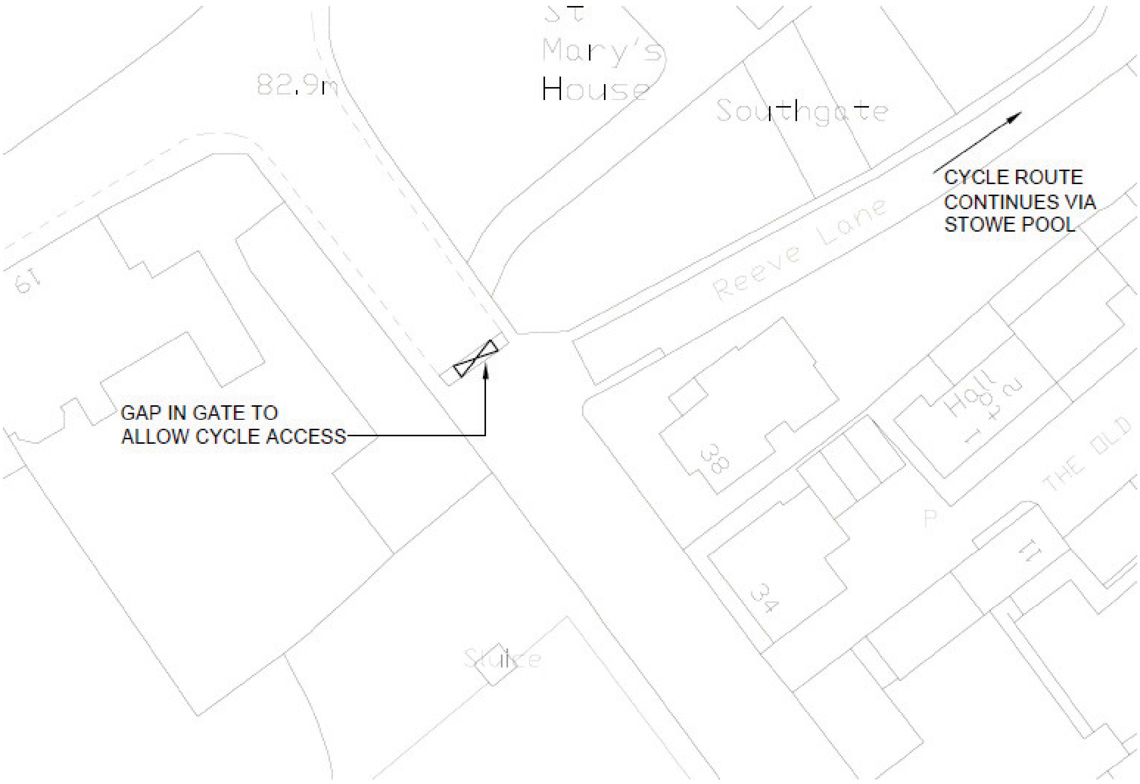


4.8 East of the car park, the existing NCN route continues via a quiet access-only street leading off Dam Street. This route is more than acceptable, however again wayfinding is lacking. Coming south from the Cathedral, the obvious route is to follow the waterside path or continue down Dam Street. The route into the car park does not appear obvious. Whilst it is the wider of the two routes, as it is kinked one cannot see through it and it feels like a no-through-route. To improve legibility, it is suggest some re-paving works could emphasise the route to guide users to follow the correct route.



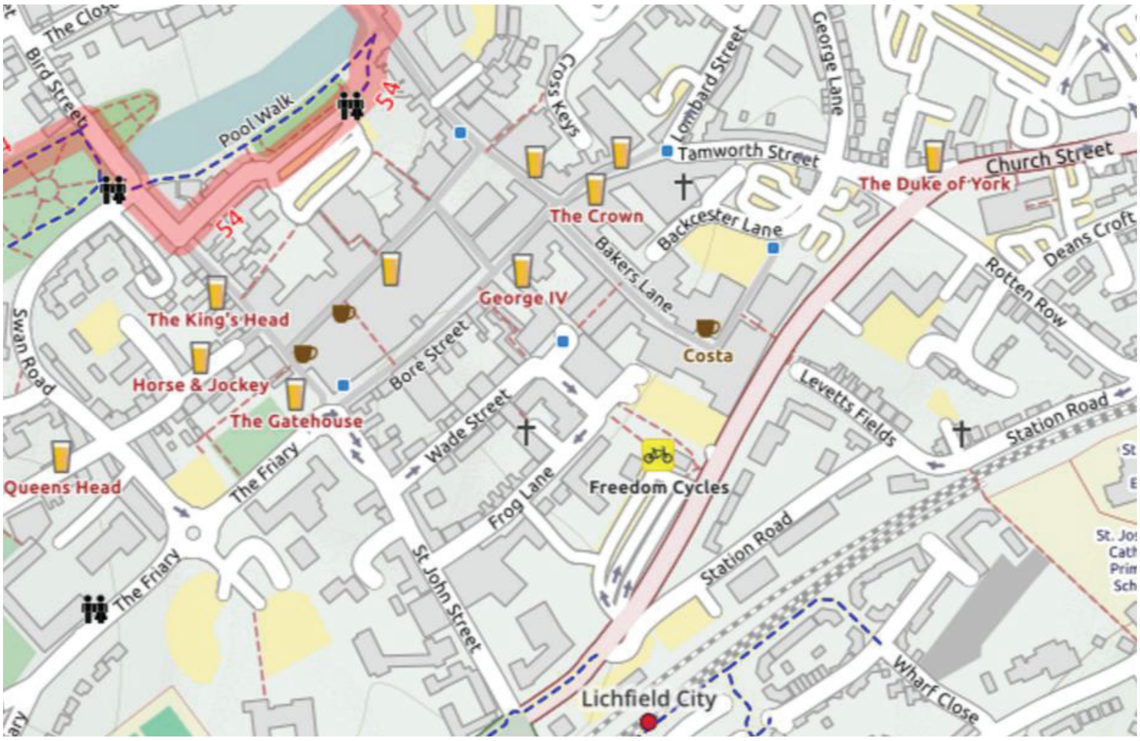
Dam Street – access to Cathedral

4.9 The cycling environment on Dam Street and Reeve Lane is excellent. However, access to the Cathedral Close could be improved to make things easier for all types of cycle user, particularly those with “non-standard” cycles. At present, the vehicle barrier between Dam Street and The Close requires cyclists to dismount in order to be able to negotiate it. The gate can be modified to leave a gap to allow the passage of cycles but still prevent access by vehicles. The Cathedral is a significant way point on the route for cycle tourists. Ensuring convenient by all types of cycle – particularly people on tandems and those with children in trailers, likely to be a popular means of carriage on a cycling holiday – will ensure the cathedral and wider city can benefit from tourists using the route.



5 Cross-city link

5.1 Cycling into Lichfield city centre is possible by following the pedestrianised Dam Street from NCN 54. However, the interruption of the street grid means permeability across the city centre is lacking. St John Street and Tamworth Street provide the only connection onto Birmingham Road, the main route passing outside the front of Lichfield City station.



5.2 St John Street is a busy road, carrying significant volumes of through traffic as well as local traffic servicing the city centre and buses. The alignment of the A51 through Lichfield means that St John Street offers a much more direct route for motorists travelling southbound from Rugeley towards Tamworth instead of following the signed route of the A51, avoiding a right turn at the junction with Birmingham Road.

5.3 Tamworth Street is much less busy as it effectively an access loop into the northern area of the city centre, however it does also carry traffic passing through the city centre to access the Stowe residential area to the north. Tamworth Street is one way in a westbound direction and also a steep hill, with a downward gradient in the direction of flow.

5.4 A more direct route through the city centre is possible by dismounting and walking via the Three Spires Shopping centre. The restricted width and need to pass through a building mean this is unlikely to be a preferable option for the National Cycleway.

5.5 By process of elimination, the clearest route to choose is along the direct axis of Bird Street and St John Street. Therefore, the task of the mini-study is to improve conditions for cycling on St John Street.

Bird Street – city centre section

5.6 Within the city centre, Bird Street is a pedestrianised street with access for loading except at its junction with Swan Road, where a section is open to all traffic to allow access to the Bird Street Car Park south-east of Minster Pool. The pedestrianised section of Bird Street operates one-way for vehicles in a north-westbound direction (from St. John Street towards Beacon Park).

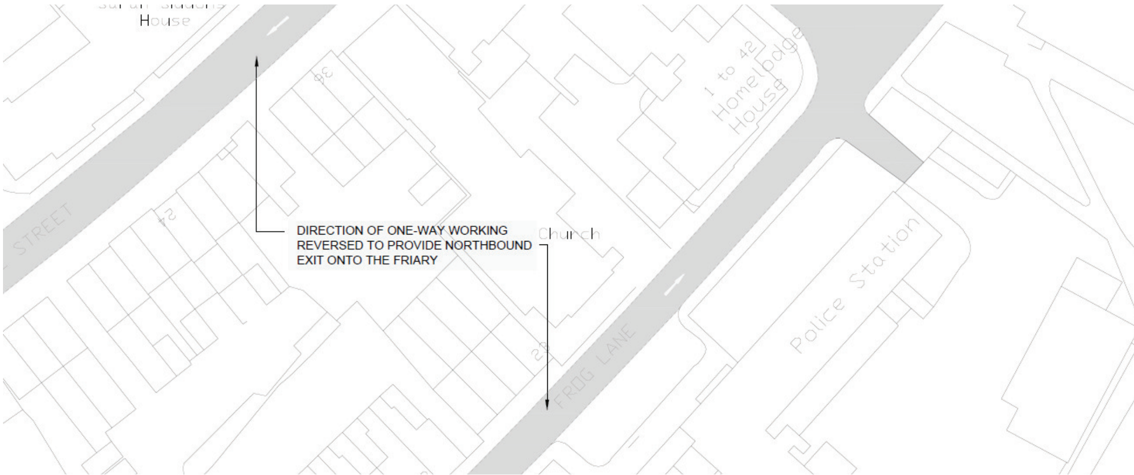
5.7 The mini-study recommends that cycles are exempted from the No Entry / One Way restriction. This is consistent with current best practice for cycling in heritage and low traffic urban environments on the continent, and indeed in places like the City of London. No other engineering measures would be required other than signage because of the calm, quiet "pedestrianised" character of Bird Street at this location.

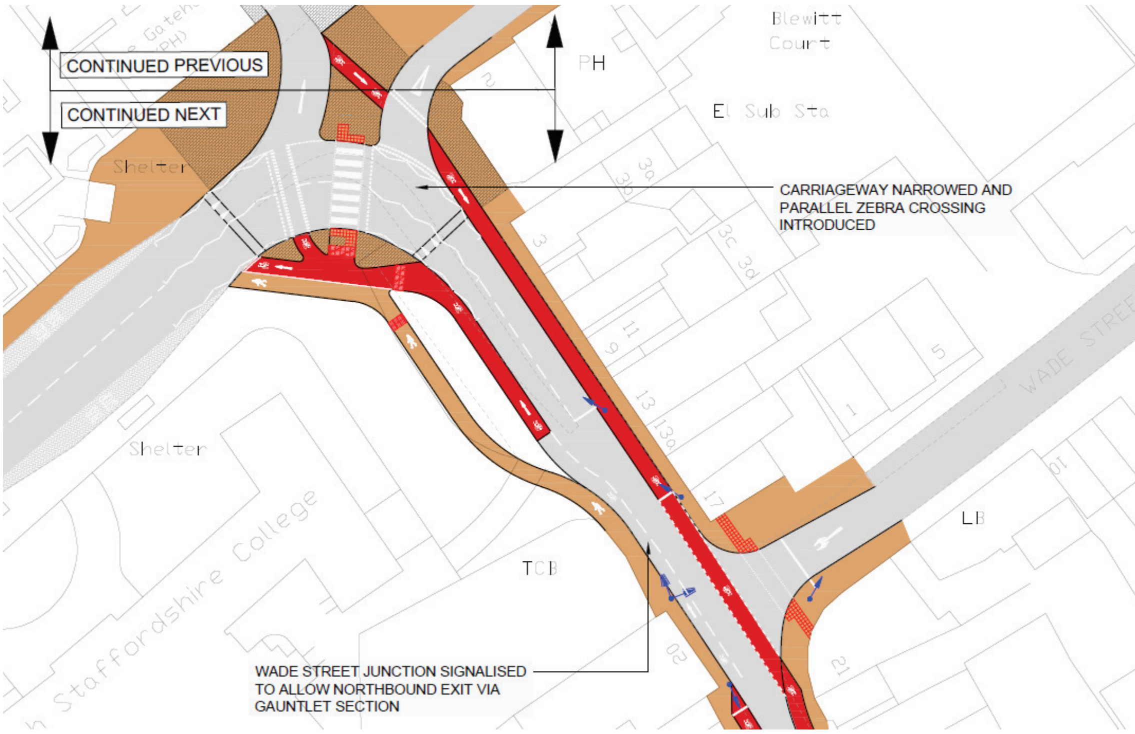
St John Street – Bird Street to Birmingham Road

5.8 The constrained nature of St John Street presents an environment that is largely hostile to cycling for the target audience of the National Cycleway: that is all abilities of cycling and "near market cyclists", the kind of people who are not presently cycling in great number in the current infrastructure provided but who would do so if offered a level of service that protects them from motor traffic that is fast or voluminous.

5.9 A drastic intervention would be to pedestrianise St John Street or restrict it to buses and cycles only. However, a more holistic approach would be to work with the prevailing flow of traffic. That is, retaining the convenient north-west to south-east through route for traffic, but by removing through traffic in the opposite direction, carriageway space can be reallocated to cycling and other functions. Through traffic passing from south-east to north-west along the A51 is less affected by the need to make a dog-leg manoeuvre as it is not required to make a right-turn at a signalised junction (Birmingham Road / St John Street).

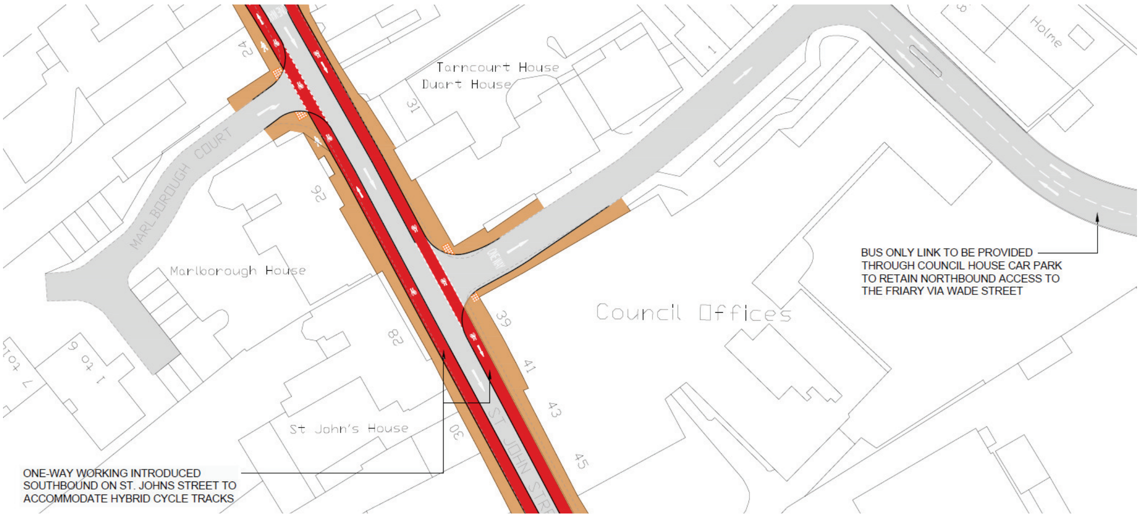
5.10 With one-way traffic in operation, the space no longer required for northbound traffic can be reallocated to provide a stepped cycle track either side of the remaining one-lane central carriageway. It is suggested that the one-way working of Wade Street and Frog Lane is reversed, as this can allow vehicles leaving the city centre to turn right into St. John Street to access The Friary. This can be achieved by signalising the junction of Wade Street and St. John Street, and thus the northernmost section of St John Street would remain two-way.





5.11 With lower traffic throughput, the existing signalised crossing and wide median around the bend at The Friary could be removed. A single-stage zebra crossing could be installed instead, which would also incorporate a parallel cycle crossing, which is due to be authorised in the next edition of the Traffic Signs Regulations and General Directions. Salvaged carriageway space would be repurposed to accommodate cycle tracks feeding into this crossing, and enhanced public realm outside South Staffordshire College.

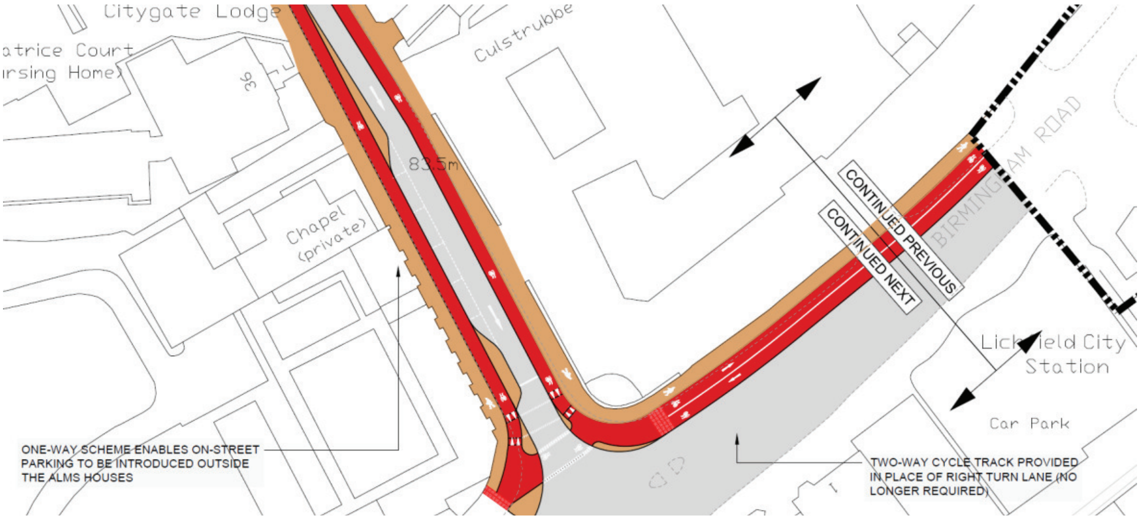
5.12 To ensure northbound buses can continue to serve stops on The Friary, a route through the city centre can be retained by creating a link between the Bus Station and Frog Lane via the Lichfield District Council offices car park site.



5.13 This has the advantage of being able to offer the opportunity of a new pick-up stop in the city centre near the Garrick Theatre, which would reduce walking distances for people returning home with shopping. It may also potentially offer journey time advantages over the current routing, which requires buses to make a right-turn at the Birmingham Road / St John Street signals.

5.14 A criticism which might be justifiably levelled at the St. John Street design is that the road space reallocated to cycling may be more usefully given over to pedestrians instead, as the existing footway width is poor and in some places well below desirable standards for an urban environment. The suggested use of “hybrid” or “stepped” tracks (as opposed to cycle lanes or tracks at carriageway level) could partially mitigate this, as the height of step could present the opportunity for pedestrians to comfortably make use of the cycle tracks when cycle volumes are low or absent.

5.15 Where St John Street widens out, close to its junction with Birmingham Road, the space becomes available to provide on-street parking bays outside the Alms Houses.



5.16 The removal of the right-turn from Birmingham Road into St John Street has the two principal advantages:

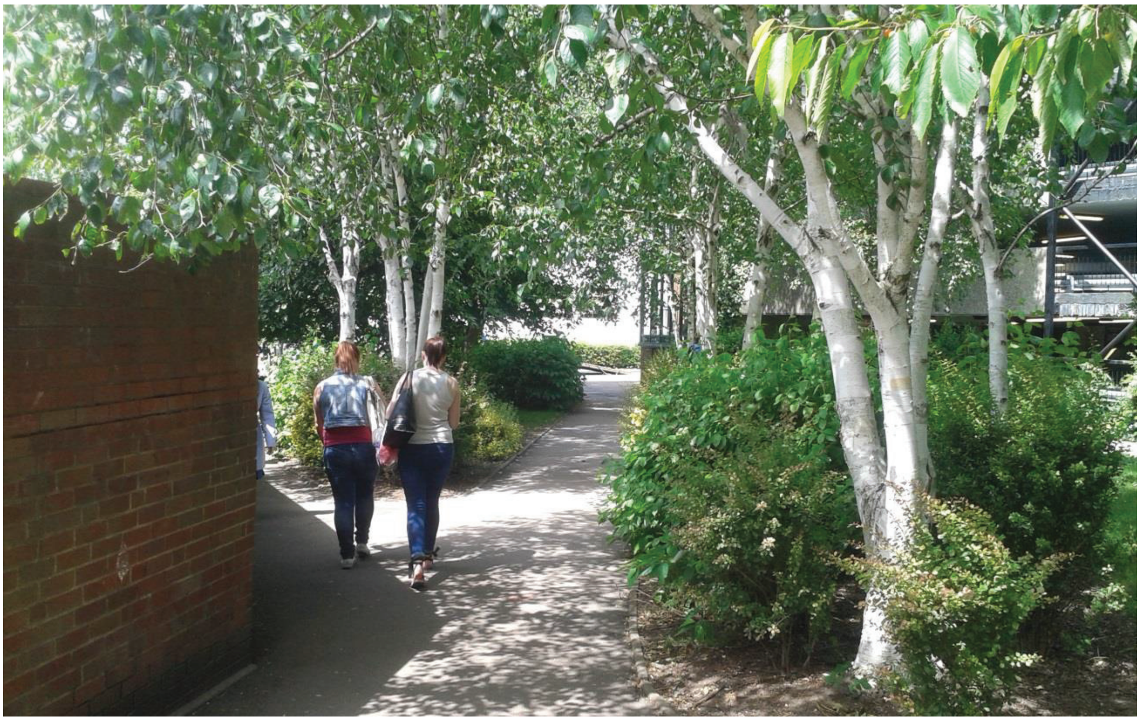
- With the right-turn storage lane no longer required, carriageway space on Birmingham Road can be reallocated to provide a 4m-wide dedicated two-way track between St. John Street and the railway station.

- A “walk with traffic” stage can allow pedestrians to cross St. John Street (north) while Birmingham Road is on green, as no traffic will be turning in. This can also provide access for cyclists to be able to turn right into the northbound cycle track on St John Street from Birmingham Road.

5.17 The two-way track along Birmingham Road feeds in to the area outside the City railway station, which is subject to the place-making element of the mini-study discussed in the next section.

6 Lichfield City Station place-making

6.1 The area around Lichfield City station is an important gateway for visitors to the city. The railway station and bus station are on opposite sides of Birmingham Road to each other so thus provide good inter-connectivity between different modes of transport. However, this area is somewhat cut off from the city centre, with the pedestrian route between the bus station and the city centre restricted to a very narrow path which runs beside blank walls. Nevertheless, there is some pleasant green space where this link widens out towards Frog Lane.

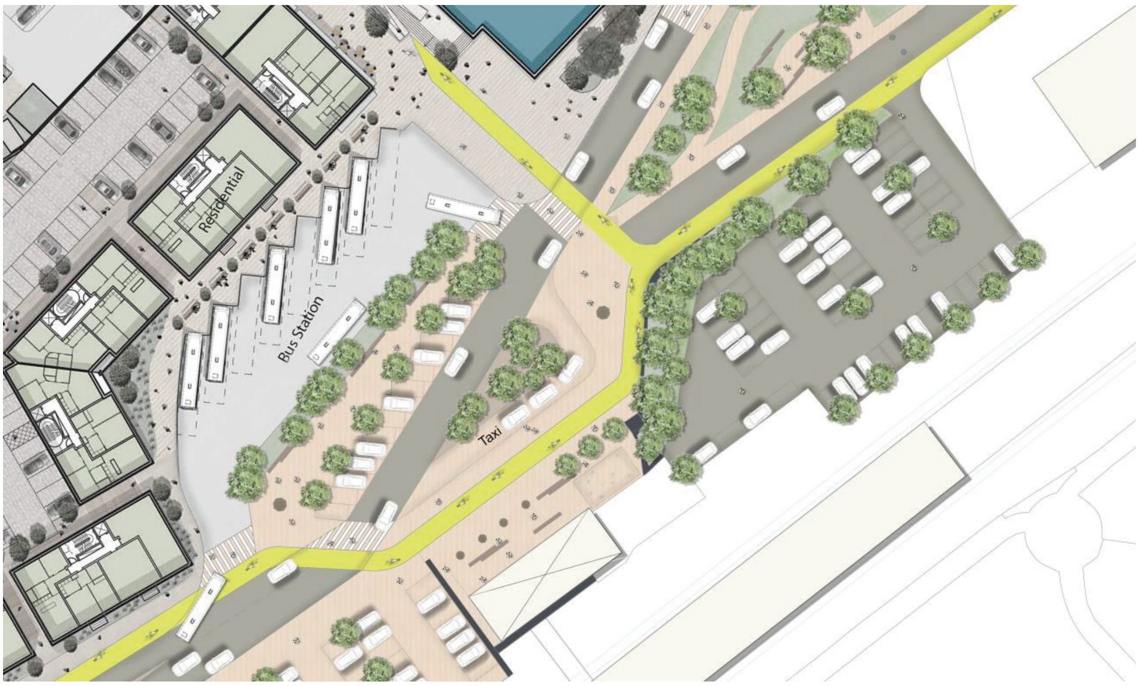


6.2 Birmingham Road and the station forecourt compound the isolation of the railway station by making the route for pedestrians quite tortuous, in addition to the requirement to walk around the bus station.

6.3 The immediate environment outside the station entrance is dominated by vehicles, with pedestrian movement restricted to a narrow peninsula which at least guides them to the signalised crossing on Birmingham Road. This environment can be described as functional. There is no feeling of "place" that one would expect upon arrival in a historic city.

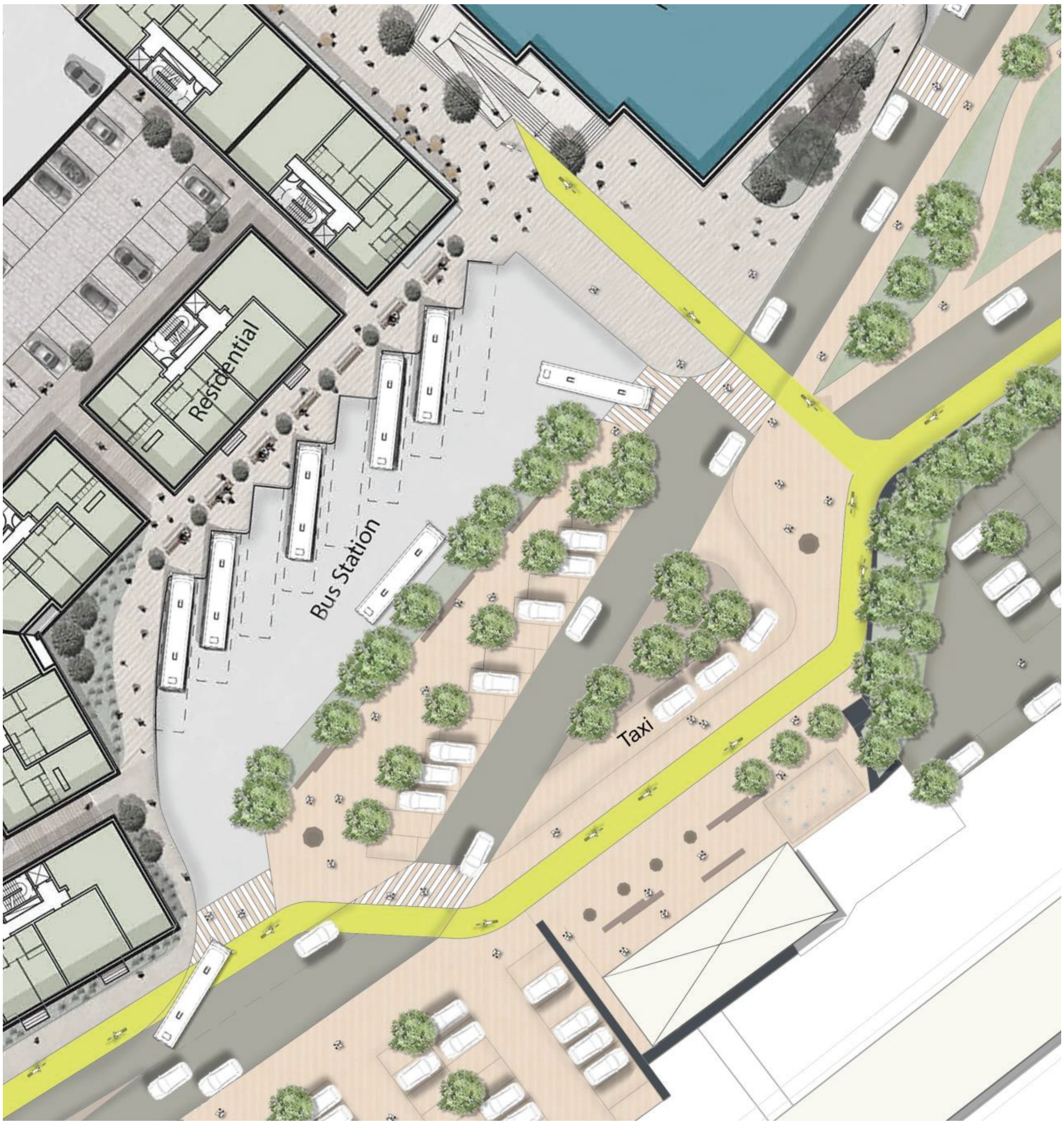
6.4 The place-making element of the mini-study was undertaken after a masterplan for the redevelopment of Lichfield Bus Station had been out to public consultation. This is essentially a proposal to provide a new shopping centre on the existing bus station site, and to move the bus station on to the existing car dealership site opposite the railway station. Pedestrian permeability would be improved as part of this masterplan. The scheme would also demolish the existing police station on Frog Lane, and provide new residential accommodation in its place and around the relocated bus station.

6.5 The clear response to this proposal is to concentrate on the immediate vicinity of the station. However, the masterplan proposed does restrict the ability to create a bus link between Birmingham Road and Frog Lane to avoid St John Street. This is discussed more in the next section, which summarises the discussions which took place with Lichfield District Council and Staffordshire County Council offices relating to the mini-study.



6.6 The place-making scheme does not propose to make wholesale changes to this important regeneration project, but does recommend proposals at the fringes that can add value. A principal aim will be to further improve pedestrian connectivity between the station and the city centre, and in a way that has significant place value consistent with the architectural quality of the city as a whole. Because of the clearly evident "red line" to the proposed masterplan, the station area is excluded from the improvements. This will further highlight the need for action to be taken to improve the city's welcome to passengers arriving at the station.

6.7 The mini-study achieves this by rationalising the layout of car parking and taxi ranks at the station entrance. Rather than guiding pedestrians to cross Birmingham Road to the middle of the Bus Station – where their route is blocked by the vehicle manoeuvring area – the layout of the station "square" places the taxi rank directly outside the station, and pedestrians can circulate around this in a natural movement around the perimeter.



6.8 To reaffirm the primacy of the pedestrian movements around the perimeter of the "station square", it is recommended that Station Road is severed at the Birmingham Road end. This could allow additional green space to be added to the triangular area between those two streets. Alternatively, it may be desirable to allow vehicles access to and from the northern station car park only. In such case, the point of severance would be north of the car park. In both cases, the entire length of Station Road would become two-way, which would work satisfactorily with the residual light volumes of traffic. A point closure on Station Road has the advantage of reducing through traffic such that segregation would not be required to meet National Cycleway desirable design outcomes.

7 Discussion with Local Authorities

7.1 Lichfield is served by three tiers of local government. Lichfield City Council is a parish-level jurisdiction. Lichfield District Council is Planning Authority and Staffordshire County Council is Highway Authority.

7.2 Following completion of the mini-study, a meeting was organised with the officers from the District and County in order to discuss the project and share the findings of the mini-study. This was an extremely useful process even if it became evident that the mini-study may not necessarily be practicable.

7.3 The key message taken from the meeting was that the St John Street route would not be feasible. This idea had been investigated previously, but the resultant loss in vehicular capacity would mean the network would be unable to meet future growth in motor traffic. However, in general the concept of the National Cycleway coming through Lichfield was well received, and one of the County officers present explained the work that had been progressed with the project team in identifying a link between Lichfield and Tamworth. Also, the redevelopment masterplan presented significant opportunities to help deliver the National Cycleway through Lichfield. Finally, it was explained that there was work currently being undertaken by Sustrans to develop feasibility proposals for a cycle link between Lichfield City station and Lichfield Trent Valley station.

Alternative to St John Street route

7.4 With the use of St John Street looking unlikely, another route across the city centre would need to be found. The ideal option would be to seek a route via the proposed Friarsgate development, given that it repairs the disrupted street grid. However, the issue with this was the differences in levels which result in steps and lifts being provided. Even if these were to be resolved, the route would still be indirect as it would have to use Wade Street to access St John Street as the route via Bakers Lane is not appropriate for cycling as previously discussed.

7.5 Therefore, the only practicable alternative to St John Street would be to use Dam Street, Conduit Street and Tamworth Street to cross the city centre. As previously stated, Tamworth

Street currently operates one-way westbound, and in that same direction runs steeply downhill. To minimise the distance along Tamworth Street (and gradient) the cycle contraflow would need to extend, the existing severed junction of Tamworth Street and Backcester Lane should be amended to permit passage by cycles as well as pedestrians.

7.6 To connect Backcester Lane to Birmingham Road, for onward access to the station via the proposed inter-station cycle route, a ramp could be created through the car park between Gresley Row and Birmingham Road. The link between Gresley Row and Birmingham Road would require the removal of eight parking spaces in order to obtain sufficient width for a link that would likely be used by both cyclists and pedestrians. This car park is currently leased to the Three Spires Shopping centre from the District Council, but the Friarsgate development presents the best opportunity for parking in the city centre to be reviewed. In fact, to that end the District council was able to offer some very encouraging input in respect of the improvements to continuity of the NCN54 route.

Alternative options for NCN54 improvements

7.7 Discussions revealed that the Bird Street Car Park was a target redevelopment site for the district council. Previously sale of this asset has been resisted because it is one of the most popular car parks in the city (despite it relatively low capacity). However, the Friarsgate development now presents an opportunity to this to be reconsidered because of the increase in parking capacity this will result in.

7.8 The redevelopment of the car park site thus presents the opportunity to create the cycle link at the same time. It need not be a dedicated cycle track, but could however be an access-only street in the same vein as the other adjacent city centre streets. Thus this need not be any additional cost to the developer as it is likely any development would require infrastructure for access, servicing and car parking.

7.9 Even more attractive, however, was the prospect of a path to the other side of Minster Pool. Currently, the rear gardens of buildings on the cathedral close lead all the way down to the water's edge. There have been negotiations with the Cathedral estate to obtain land adjacent to the pool so that a circular path can be created. There may, however, be concerns to overcome in terms of gaining access via or around the Garden of Remembrance.

7.10 If such a facility could be achieved, it would fulfil a direct link from Beacon Park to Reeve Lane, giving NCN54 a direct path in this location.

8 Conclusion

The mini-study has demonstrated the general principle of starting with ambitious proposals in the first instance, but also showing how the design approach can be flexible to best meet local objectives. Partnership working in this way can deliver mutually-beneficial outcomes: the National Cycleway can assist with local development objectives which in turn presents opportunities from which the National Cycleway can benefit.

Appendix C

Key Stakeholder Discussions

C SUMMARY OF STAKEHOLDER ENGAGEMENT

C.1 Initial Engagement

To consider options in detail, it was important to seek the thoughts and aspirations of the local representatives throughout the study area. We therefore arranged a series of seven workshops to consider a section of the study at a time. In addition to the local workshops, we hosted an Advisory Group workshop to discuss the overview of the project with various stakeholders including Sustrans, CTC, National Trust, HS2 Ltd, Living Streets, Design Council and a number of local authorities. A summary of the workshops that were carried out is provided below.

Workshop	Location	Date
Advisory Group Workshop	Birmingham City Council	26th February 2014
London	DfT, London	5th March 2014
Greater Manchester	TfGM, Manchester	7th March 2014
Yorkshire	Barnsley MBC	14th March 2014
East Midlands	Broxtowe Town Hall	21st March 2014
Staffordshire	Staffordshire County Council	1st April 2014
Buckinghamshire	Aylesbury Vale District Council	4th April 2014
West Midlands & Warwickshire	MADE, Birmingham	10th April 2014

Summary of Workshops

A range of local representatives were invited to each of the workshops including:

Local highway authorities	Sustrans
Local planning authorities	CTC
Highways Agency	Local cycle campaign groups
Canal & River Trust	National Trust
Ramblers	Peak District National Park Authority
Living Streets	

Each workshop consisted of a presentation by the project team that introduced the project and the team to the attendees. This was followed by an in depth workshop where large scale plans of the local area were provided and the delegates were invited to mark on:

- major employment and development sites
- existing cycle routes
- currently proposed routes
- aspirational routes
- connections that would benefit the local area

The workshops were broken down into sub sections of the area and facilitated by a member of the project team which allowed for plenty of in depth discussion about the opportunities and constraints within each area; and this provided the project team with a whole suite of invaluable information which was taken away and processed into the GIS system.

The final part of each workshop involved an element of questions and open discussion between the delegates and the project team. This provided some valuable insight into the difficulties that are faced with delivering cycling infrastructure at a local level as well as thoughts and ideas on the benefits and disbenefits of the potential HS2 Cycleway project being delivered at a national level.

A summary of the key messages that came out of the workshops is set out in Table 1.

Need for national leadership	To set out the vision and narrative, assemble land, to overcome parochial local interests and to ensure consistency of design quality. This is particularly important for smaller car dependent communities along the route.
Design for all	Ensure design works for walkers, access to people with disabilities, and where possible in rural areas, horse riders. All share the aspiration for traffic free, or mostly traffic free routes to make the offer compelling. This will then enable the transformational change in the amount of cycling and walking to secure a boost to local business, health and well-being.
Association with HS2	HS2 3 mile corridor provides a useful focus. However, it is important to consider places outside the corridor including Buckingham, Stratford Upon Avon, Warwick, Sheffield, Derby, Nottingham and major new housing developments around Banbury and Aylesbury, to leverage wider business and health benefits. Additionally HS2 could consider opportunities to cycle proof replaced links such as bridges, greenways, rights of way, and traffic free cycle access to the new HS2 stations.
Linear or local route?	It does not have to be one or the other. Preference to build a linear route from prioritising local level enhancements to networks first and where possible work closely with smaller car dependent local towns and villages to agree detailed route design. A Linear route provides the shared aspiration of a national cycling project comprised of aspired linked local ‘people friendly’ schemes which could join up over time to form a continuous north-south spine of linear parks and paths bringing a host of secondary benefits. A linear route has potential to encourage a wide range of tourism trips including more sustainable trips to nearby attractions, family rides to nearby towns and weekend rides between destinations along the route.

Creating space for cycling	Many who attended, irrespective of where on the route they were from, saw this as opportunity for reconnecting people and communities and reviving lost links between places and landscapes. All felt better, safer and more attractive routes would be welcomed locally and this project offered the opportunity to consider more ambitious possibilities. A nationally led route, rather than incremental schemes, that was convenient, continuous and inviting at all times in all seasons for all, is what participants understood by world class.

Table 1: Summary of Key Messages

The discussion element of the workshop enabled delegates to voice their opinions, and a selection of those that we consider to represent the general themes that we took away from the workshops are provided in Table 2.

"If done well, the cycleway will be as transformational to cycling as the HS2 itself is to the rail network"
"What do we want our country to look like in 50 years?"
"This project could make a huge difference to the north of England and help links to smaller communities that would normally miss out on adequate cycling provision"
"Gaps in the network ruin most cycle routes"
"A one off opportunity to achieve a national cycleway inviting the average person to cycle"
"The cycleway could bring something positive out of HS2 which most local people see as a decade of nuisance"
"It needs to be more than lots of local upgrades if it is to inspire and galvanise the nation"
"A kick start to creating a meaningful national infrastructure fit for health and happiness"
"It could become an emerald necklace of linear parks and paths joining communities along the HS2 corridor."

Table 2: Summary of Themes

The delegates were also asked to complete a questionnaire that asked for their views on specific questions about the project. A summary of the answers to the key questions are provided in Figures 1 and 2:

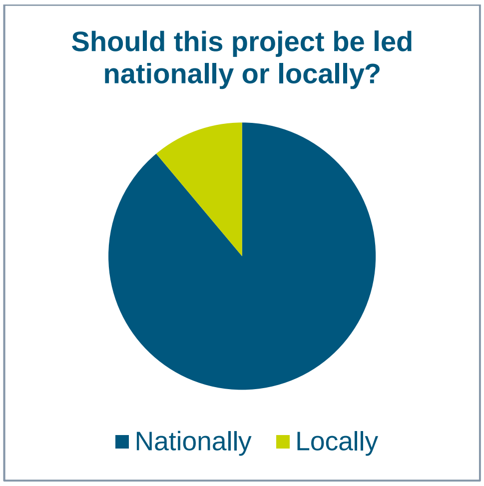


Figure 1: Graphs Summarising Answers to Key Questions

Why are you keen to make this project happen?
"There are a number of high profile desirable cycle links on this corridor which can be delivered as part of this linear route, benefitting a huge number of communities who otherwise would not benefit from the HS2 project" "There is a real need for high quality cycling facilities and this provides what is possibly a once in a life time opportunity to achieve some of this" "This project should re-connect the communities and provide a landmark piece of cycle infrastructure for the country" "The project offers great potential to send out a message to all that England cares about cycling on a national level. However it will also add lots of local value, helping the economy and helping to persuade people to travel sustainably. It will also put the Peak District at the heart of a fantastic cycling asset"
Do you think this project will make a difference to cycling in Britain? Why?
"Every piece of cycle infrastructure in the UK is massively compromised. This project should be driven from the top and provide examples of 'Dutch Standard' infrastructure. This will allow Councils elsewhere to copy these DfT approved techniques" "Yes. It would be an excellent marketing opportunity to encourage more people to start cycling and give the impetus for it to become a 'realistic' method of travel on a daily basis for many more people" "Yes. Shows ambition, engages politicians – will make Local Authorities build facilities to join in with the facility. Shows a national recognition of the fact more needs to be done for cycling" "Yes – if done properly and consistently it will provide a showcase piece to embed a cycling culture" "If it introduces Dutch methodology and thinking to cycling then yes it will create a difference"
Do you think this project could make a difference to the quality of your Borough?
"Yes. It would attract more visitors and bring employment opportunities by way of access. It should also help reduce congestion and make tourist attractions more accessible by bike/walking for families" "Yes definitely. The Chesterfield, Bolsover and NE Derbyshire area has suffered in the post-industrial era from isolation and lack of investment. Bringing a resource like this could connect the links Derbyshire CC have already built and create a dense network of safe routes to communities, tourist destinations etc" "Yes, it could bring people into the Peak District more sustainably (without car) from surrounding towns and cities" "Yes. There's some very isolated local communities which could benefit substantially from investment in high-quality sustainable transport routes / facilities"

Figure 2: Quotes Extracted from Responses to Key Questions

C.2 Key Stakeholder Discussions

Due to the scale and nature of the project, it is inevitable that large sections of the routes will either be located on or will interact with land in ownership of various bodies such as Network Rail and the Canal & River Trust. Whilst representatives of most stakeholders attended the workshops, a series of additional discussions were carried out in order to provide an update on the project and to explore strategic opportunities for the next stages of the project, should it progress. These discussions are summarised below.

C.2.1 Network Rail

The project team presented a range of typical interfaces with Network Rail land that the project will inevitably lead to. Using a number of examples from the identified route options, the typical interfaces are envisaged to be:

- Accommodating a cycle track adjacent to Network Rail land;
- Accommodating a cycle track on unused Network Rail land, e.g. where land was acquired for tracks that is no longer required for railway operations;
- Accommodating cycle tracks under existing railway bridges by utilising side arches that are currently inaccessible;
- Accommodating new structures to provide a cycleway crossing of the railway.

Each typical interface was discussed together with solutions and design options that we envisage would be required. The solutions were generally considered to be acceptable by Network Rail, subject to funding mechanisms.

The discussion explored how Network Rail might be best placed to support the project should it progress, and it was agreed that the preferred method would be for all cycleway requests to be managed and co-ordinated centrally within Network Rail.

C.2.2 National Trust

The project team met with senior managers of the National Trust to discuss the potential of using land in their control to serve as part of the cycleway and to provide access to properties as tourist destinations.

Whilst the overall reaction from the National Trust towards supporting the cycleway project was positive and supportive, there are a number of considerations the project would need to take into account during the next stage of the project. The considerations are summarised below:

The National Trust operates a devolved structure which would require significant consultation with each property;

There are differences between properties with respect to management and ownership. Some properties are owned and managed by the National Trust, whilst others are third-party owned and the National Trust only manage them;

Any proposals would need to take into account their business model and in particular its ‘pay boundary’ which again differs between properties. Some pay boundaries encompass just the building but others encompass the entire land holding. This would have implications on the accessibility of the route as some will need to reflect the operating times of the property;

A number of considerations that the National Trust would want to know at an early stage are to understand the timings, funding mechanisms, design standards and maintenance costs.

Route options that deliver enhancements to nature areas such as green corridors would best reflect their business activities.

Should the project progress, it will therefore be necessary to establish appropriate contacts with the various National Trust properties at an early stage as part of the consultation process.

C.2.3 HS2 Ltd

The project team met with senior engineers from HS2 to discuss the interaction that the cycleway could have with the proposed railway. The cycle route will typically be away from the HS2 alignment; however it will need to cross HS2 at some locations and run parallel with the route in others.

As set out in the Introduction, the cycleway project is separate to the HS2 railway project. The HS2 hybrid Bill has been developed for Phase One and is currently before the select committee. The Phase One design has been developed to sufficient detail to define the land requirements, define powers and identify the environmental impacts. The route is subject to petitions and the hybrid Bill powers may change as a result of these petitions. Phase Two has been out for consultation, with the next step being the announcement of the post-consultation route.

The Phase One design is constrained by the limits of the hybrid Bill. The bill includes Parliamentary Plans that show the Limits of Deviation (LoD) and Limits of Land to be Acquired and Used (LLAU). All overbridges and underbridges (including for Public Rights of Way (PRoW)) have LoD associated with them. This means that the hybrid Bill effectively ‘fixes’ the location of bridges (unless the location of these bridges is subject to a petition to the Select Committee).

HS2 has developed a set of design standards that are internally called ‘Deliverable Approach Statements’ (DASs). A DAS has been created for both roads and PRoW. The maximum gradient in the DAS for bridleways is 5%, and the absolute maximum gradient for roads with significant cyclist usage is also 5%.

Generally HS2 is happy to consider requests to amend the Phase One design and accommodate minor changes to the location of overbridges / underbridges to better align with the proposed cycle route, provided that:

- it is within hybrid Bill powers;
- the timing to amend the design fits in with the HS2 programme; and
- It isn’t costly (unless DfT has a separate budget for inclusion of cycle improvements).

If more significant changes to the design than that listed above are required, HS2 will need to receive an instruction from DfT for which there is an established procedure.

There may be an opportunity for a cycle route to be incorporated within the HS2 Phase Two scheme, as the hybrid Bill design for this has not yet commenced. HS2 would need to be instructed to incorporate the cycle route with Phase Two should the DfT wish to pursue that approach. The powers to build the cycle route could be incorporated as part of the HS2 Phase Two hybrid Bill (similar to how the A2 and M2 Improvement Works were included within the Channel Tunnel Rail Link hybrid Bill). However, with the initial straw-man route identifying only a small number of places where incorporating a cycleway within the railway design would be useful, it is unlikely that this would be required.

C.2.4 Canal & River Trust

The project team met with enterprise managers from the Canal & River Trust to discuss the opportunities for utilising the canal network on parts of the route. Whilst the canal network offers huge potential for flat, direct and traffic-free routes; they typically suffer from poor access, narrow towpaths, inconsistent surfacing and bridges and tunnels with restricted widths and heights; all of which create difficulties for cycling. The meeting therefore focussed on the potential for overcoming these difficulties in order to create cycling routes of sufficient standard that could form part of this project.

The principle of the project was generally well received both at the meeting and by the C&RT representatives who attended the local workshops earlier in the project; and the role that the canal network has to offer for this project was generally well supported.

However, there are a number of key principles that any improvements for the project need to take into consideration:

- The canal network must always balance the needs of all of its users, particularly between walkers and cyclists on the towpaths
- Any improvements must be visually attractive for all users
- The overall user experience must be maintained
- The canal's assets, both historical and new, must be safeguarded

A presentation was given to highlight and discuss the typical difficulties that cyclists face when using the canal network. These are summarised below:

Towpath Widths

Wider towpaths are recognised as a necessity to create high quality routes in order to reduce the level of conflict between users, and the C&RT are generally in favour of providing them subject to local conditions.

Where the towpath is alongside a hedgerow, the hedge could be relocated to provide additional width which could also bring maintenance and drainage benefits. The C&RT are already considering such measures in certain locations.

Where land isn't available on the outer edge of the towpath, piling into the canal in order to widen the towpath is a possibility is some locations. This is always subject to the navigable channel width of the canal rather than the surface water width which needs to be assessed in each location. This type of improvement work is particularly acceptable when it encompasses enhancements or protection to embankments.

Opening up the boundaries of the canal towpaths, particularly in rural sections has the potential to offer visual enhancements by creating views of the surrounding countryside.

Physical barriers and railings between the towpath and canal edge are generally avoided throughout the canal network.

Towpath Surfacing

Improved surfacing is generally acceptable but must be complementary to existing conditions.

At locations where heritage materials such as historic paving are present, there is a need to complement and/or include this. In some places, half heritage and half new surfacing could be provided, but with consideration on the impact that this may have on the actions of the various users.

Bridge Holes

The canal structures that form the various types of bridges and tunnels that are commonplace on the canal network are often listed structures and very difficult to modify. The preferred solution is to provide an alternative route around them where land is available.

Whilst the C&RT are positive about delivering the various engineering solutions to the typical difficulties that are faced on the canal network, there are three primary considerations that they are keen for the project to take into account should the project progress:

There are various sections of the canal network not currently identified that could perform additional satellite functions to various destinations.

It is important for the C&RT that the high quality sections of the network that form part of the cycleway do not result in fragmented sections elsewhere and that connecting routes should be considered as well as the primary route.

The single biggest challenge for the project will be to ensure that all of the C&RT stakeholders accept and support the proposals.

C.2.5 Tourism Bodies

A meeting was held with a number of key tourism bodies to explore the potential opportunities specifically on the leisure and tourism aspect of the project. The meeting was held with:

- Visit England
- Natural England
- National Trust
- Marketing Birmingham
- Warwickshire County Council (Tourism Officer)

One of the objectives of the meeting was to identify the key destinations between London and Birmingham that a long distance cycle route should serve regardless of any focus of its alignment. The delegates were therefore asked to identify the destinations that they considered to be key without first seeing any proposed route alignments in order to prevent any biased choices. Destinations such as Waddesdon Manor, Stowe and Kingsbury Waterpark and places including Coventry, Stratford-upon-Avon, Bicester and Kenilworth were identified. A review of the identified places against the initial route alignments was carried out which demonstrated that the initial route alignments served all of the key destinations and that no additional destinations were considered necessary.

A review of how the national cycleway project would fit within the current strategies of the tourism bodies was carried out, and it was determined that it would complement those strategies with the following key points being raised:

- The national awareness of attractive areas is generally low, particularly between London and Birmingham;

- Similarly, the attractiveness of the UK countryside is low on the agenda of international visitors;
- London typically dominates the international tourism market, resulting in a need to encourage visitors to stay outside of London, not just visit on day trips.
- Tourists are increasingly looking for more active and experience-based breaks rather than simply viewing the environment.

A national cycleway would therefore complement the strategies that are being developed to promote higher levels of interest in tourism in these areas. A range of key considerations regarding the detail of such a route were identified including:

- Branding and identity will be important for the route;
- Need high quality links with the public transport networks to facilitate day trips from without the need to drive;
- Certainty is needed for the 'last mile' so bike availability is key;
- Consideration should also be given for bike accommodation on buses;
- Signage is vital and needs to be designed appropriately.

These considerations complement the overall design principles of the project well and are considered to be fundamental elements of high quality cycling infrastructure. The potential to provide an overall narrative of such a national cycleway in terms of tourism was discussed, with the following ideas and possibilities being raised:

- The potential to position the route as an iconic brand, e.g. 'The Shakespeare Trail', 'A Trail of Two Cities' (London to Birmingham or London to Lichfield);
- The route could include a range of themes that are relevant to the communities that it passes through, such as local food and drink or arts and crafts, local churches or a history of transport;
- The attraction of 'slow tourism' which contrasts the HS2 high speed railway could be developed. This encourages tourists to explore the surroundings rather than just travel through it;
- Whilst the local narratives would be important, it would still be key for the route to be seen as a single entity in order to attract tourists nationally.

Two additional factors that were considered to be important by the delegates in terms of the demand and benefits of the tourism element of the route were:

- People would use the route simply because it exists; this is evident from other rural routes such as the Bristol to Bath route. As such, the potential demand could be higher than expected;
- Tourism/leisure trips deliver tangible economic benefits for local businesses due to the spend by people during their activity. This offers real 'money in the bank' benefits rather than typical urban benefits such as journey time and congestion savings.

The objectives of the national cycleway are therefore considered to complement closely the strategies and aspirations of the leisure and tourism bodies and that the initial route alignment serves the key destinations and would offer the potential to support the leisure and tourism industries.

C.3 Cycle Rail Working Group

The project team met with representatives of the Cycle Rail Working Group (CRWG) and the Association of Train Operating Companies (ATOC) to discuss the principles of delivering the required improvements in and around the existing rail stations that the cycleway has the potential to link to.

The overall objectives of the project are complementary of some of the work that the CRWG is involved with and as such, ATOC are very supportive in principle. However, there are a number of practicalities that would need to be overcome at each location, which have historically been the basis of difficulties on previous projects. Whilst each station will have its own possibilities and difficulties, the general practicalities to consider at each one will be:

- Land Ownership – the complexity of land ownership and control will differ between each station so all proposals will need to involve Network Rail, the respective Train Operating Company (TOC) and any other land owners such as the local authority;
- Car Parking Spaces – the removal of car parking spaces will be a significant issue as they are considered to be revenue earners for the TOCs which will lead to concerns by the respective Franchise Managers;
- Funding – the mechanism to fund, deliver and maintain the proposed infrastructure will need to be considered and agreed with the relevant parties.

Whilst these practicalities need to be considered, the cycleway project could bring the benefit of helping to facilitate wider discussions between the CRWG and respective parties in order to ensure that better links that deliver genuine door-to-door journeys are implemented. As such, the following recommendations should be considered should the cycleway project be progressed:

A review of the National Stations Improvement Programme (NSIP) and the current CRWG proposals is carried out in order to align any commentary proposals;

Ensure that ATOC has an active role with the cycleway project, including HS2 stations, to help overcome the potentially difficult practicalities and deliver the required standard of cycling infrastructure.

C.4 Wheels for Wellbeing

Wheels for Wellbeing (WfW) is a charity that aims to enhance disabled people's lives by ensuring that anyone can access the physical, emotional, practical and social benefits of cycling. The project team has worked closely with WfW to ensure that the design principles reflect the need for disabled users so that the cycleway would be fully accessible to everyone.

Appendix D

Policy Context

D POLICY CONTEXT

D.1 Background

A national cycling infrastructure designed to attract new cyclists and its associated benefits aligns with a wide range of current Government policies and agendas. These are summarised below.

D.2 The National Cycling Agenda

Get Britain Cycling Inquiry

The 2013 Get Britain Cycling inquiry was an initiative of the All Party Parliamentary Cycling Group (APPCG), a cross party body with members in both the House of Commons and the House of Lords. The APPCG report outlined some strong messages that came from the enquiry including:

- the need for vision, ambition and strong political leadership, including a national Cycling Champion.
- We need transformation of our towns, streets and communities, and to the way we think about cycling, whether as drivers or as people who might take up cycling ourselves.
- Our (APCGG) vision is for a dramatic increase in the number and diversity of people who cycle, because they see it as a safe and normal activity.
- We (APCGG) suggest that the long-term ambition should be to increase cycle use from less than 2% of journeys in 2011, to 10% of all journeys in 2025, and 25% by 2050.

"To Get Britain Cycling we need vision and leadership from the very heart of government".

APPCG (2013)

Cycle Delivery Plan

In October 2014 the DfT published its draft Cycling Delivery Plan which is a 10 year plan for England that sets out the specific actions that need to be taken in order to achieve the Government's Vision to (by 2025):

- double cycling, where cycling activity is measured as the estimated total number of bicycle stages made each year, from 0.8 billion stages in 2013 to 1.6 billion stages; and
- increase the percentage of children aged 5 to 10 that usually walk to school from 48% in 2013 to 55%.

The plan makes a number of statements and commitments including:

"The government is committed to giving people a realistic choice to cycle so that anyone, of any age, gender, fitness level and income can make the choice to get on a bike. The case for cycling as the natural choice for shorter journeys is strong, and the resulting benefits are wide reaching - to the economy, to the environment, to the health of individuals and communities."

"In order to achieve the ambitions set out above, strong leadership is critical at both a national and local level. The Prime Minister and Deputy Prime Minister, supported by their Ministers, are committed to creating a step change in walking and cycling in England".

Infrastructure Act 2015

Section 21 of the Infrastructure Act 2015 places into law a commitment on the Government to produce a Cycling and Walking Investment Strategy (CWIS). The section stipulates that the strategy must specify the objectives to be achieved during the period to which it relates, and the financial resources to be made available by the Secretary of State for the purpose of achieving those objectives. The Department for Transport is currently in the process of developing a long-term investment programme for cycling and walking, drawing upon expert advice from cycling and walking stakeholders including the Active Travel Consortium, and research being carried out to identify areas of the country with the greatest propensity to cycle.

D.3 Planning Context and Housing Growth

- HS2 is the largest ever infrastructure project in the UK. It brings with it an opportunity to create traffic free access to the new high speed stations and surrounding development sites. Additionally, it brings opportunities for better access with landscape remodelling such as around Aylesbury, Chilterns.
- Chronic housing shortage in the South East. There are major housing developments already under construction at Aylesbury and Banbury and other numerous redevelopment areas along the route.
- There is a need to overcome the twentieth century planning approach of zoning, suburban sprawl and busy ring roads that has led to car dependency in a number of settlements along the route.

D.4 Social Context

- The cycleway provides opportunities to benefit communities that suffer disruptions particularly during the construction of HS2.
- New correlations are being made between a person's commuting time and their well-being. The daily commute is often the most stressful part of the day for many motorists and public transit users but a way of securing daily exercise needs for those who cycle.
- Safer, higher quality cycling infrastructure will lead to a reduction in accident rates for cyclists.

D.5 Health Context

- There are declining levels of physical activity across most demographics leading to rising levels of diseases of inactivity across the population.
- Physical activity is typically designed out of much new infrastructure. Towns such as Bolsover with lowest rates of physical activity in UK could benefit from new cycling infrastructure.
- Reduce stress of commuting and improve mental well-being.
- A more active, healthier population will ease the burden on the NHS.
- The NICE guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children in England and Wales recognises the role that walking and cycling can play in healthy lifestyles and recommends Local Authorities to provide more.

D.6 Economic Context

- Competitive advantage to cities stemming from reputation with high value business sectors as cycle friendly with traffic free routes in and out for commuting and leisure.
- Dense agglomerations as engines of innovation demanding a sophisticated view of street users which maximise wealth creation through 'connecting' space for work and play and which invite cycling and walking as forms of mass transit
- There are a number of employment growth sites along the route identified in the Strategic Economic Plans. The cycleway could provide Dutch-style cycle access to employment growth hotspots in and around the major cities, around planned airport developments in Birmingham, Manchester and East Midlands, and new housing in Aylesbury and Banbury.
- It is becoming more common for commercial property developers in high value sectors to demand traffic free cycle access for journeys to work.
- Similarly, high value business centres are demanding cycle parking and changing facilities in office buildings.
- Accessible high streets with high quality public space between buildings that are inviting for cycling and walking have high repeat visits and increased footfall.

D.7 Cultural and Historic Context

- Showcase diverse city and townscapes providing traffic free links from centres to major rail stations. Most visited tourist attractions are in city centres.
- There are opportunities, perhaps through design competitions, to encourage good design features close to where people live, such as old viaducts, Roman roads, or canals to create inviting new linear parks, as with the High Line in New York City.

- New cycleways can revitalise and enhance historic transport infrastructure such as old railway paths on the Yorkshire/Nottinghamshire coal field, canals across the Midlands, and parts of the ancient rights of way network, with innovations to allow more use throughout the year.
- HS2 route surrounds the UK's most visited national park – The Peak District. The cycleway could provide traffic-free links with the park from surrounding settlements. It also traverses the Chiltern AONB and the National Forest.
- A linear route could link some of the most highly visited National Trust properties such as Waddesdon Manor, Calke Abbey, Hardwick Hall and Tatton Park.
- A 40km green gateway with minimal hills from Aylesbury to London could be created through the Chiltern AONB along the Misbourne Valley and through the Colne Valley linking stations and communities.

D.8 Cross Departmental Agendas

Various departments within the Government have their own specific agendas towards which cycling can contribute.

- Department for Work & Pensions (DWP): Help people to work by improving access to jobs and services for people on low incomes. Cycling can transform mobility for the poorest segments.
- Department for Transport (DfT): Enable better door to door journeys with more access to rail by bike, and ensure more efficient use of the overall transport system. Encourage local authorities to invest in high quality infrastructure on local roads so cycling is safer and feels safer. More cycling takes the strain off busy public transit systems and can make streets safer for all.
- Department of Health: promote physical activity and improve air quality to help people live well for longer. Reducing the stress of commuting and improving mental well-being. Cycling improves psychological well-being for all groups.
- Department for Environment, Food & Rural Affairs (DEFRA): access to nature and green space, reduced air pollution and noise.
- HM Treasury: to promote economic growth and job opportunities.
- Department for Culture Media & Sport (DCMS): ensure the cultural, tourism, sport and leisure economies have the framework to grow and have real impact on people's lives.
- Department for Communities and Local Government (DCLG): Meet people's aspirations for more liveable and pleasant towns and cities by actively managing patterns of growth to make the fullest possible use walking and cycling. Investing in cycling can support local growth on high streets.
- Department for Education (DfE): Address poverty by helping people transform their lives through improvement in mental and physical health. Cycling promotes independence in youth and older age.

D.9 Policy Summary

The principle of the cycleway could meet the objectives of a wide range of government departments that cover the health, economics, culture and social agendas as well as transport. It is clear therefore that the cycleway project could prove to be a lot more than just a transport scheme, if it also leads to a focus on how public space in communities is improved to work for all street users.

The policies identify safety and perceptions of safety as the biggest barrier to cycling. In considering the design of the infrastructure schemes identified in this study, the standards set out within the Design Manual for Bicycle Traffic prepared by CROW, the national information and technology platform for infrastructure, traffic, transport and public space in the Netherlands, have been applied. Only when cycle infrastructure is designed to these standards will people who currently only consider cycling on traffic-free routes at weekends, shift to consider cycling as offering a viable option for day-to-day journeys.

Appendix E

Project Governance Technical Note

Technical Note

Project: National Cycleway, associated with HS2

Subject: Project Governance

Client:	Department for Transport	**Version:**	3
Code:	1377	**Author:**	P Jones
Date:		**Approved:**	P Jones

Introduction

1 Introduction

1.1 PJA, in consortium with Royal Haskoning DHV and John Grimshaw Associates, has been commissioned by the Department for Transport to prepare a second stage feasibility study for the National Cycleway, a long distance cycling and walking route linking London with Leeds and Manchester, via Birmingham. It is expected that the complete route would result from the linking together of a large number of local cycle facilities through urban areas, and which would facilitate trips for everyday purposes.

1.2 As part of this current study, consideration has been given in this note to how the project should be planned (including land assembly), designed, constructed and maintained. It has been based on discussions with a number of interested parties including Sustrans, the European Cyclists' Federation (as managers of the EuroVelo network) the Department for Transport (including legal advice) and local highway authorities.

2 The Project

2.1 An initial study for the National Cycleway, completed in December 2014, concluded that worthwhile options existed for the project, which would consist of a large number of schemes passing through the centres of settlements along the HS2 corridor, linked together with suburban and rural links to create a long distance route.

2.2 The project was originally conceived as a means of 'cycle proofing' the HS2 Railway, and therefore generally lies within a 3 mile corridor either side of the HS2 route. The draft alignment of the National Cycleway only makes use of HS2 land and works over relatively short sections, however, and it would now be promoted by the Department for Transport as a project in its own right.

2.3 Some 30% of the route would be within existing highways, and would therefore be within the control of the local highway authority (or Highways England for Trunk Roads). In legal terms these sections would either be cycle track; or on-carriageway along quiet routes or on busier roads where there is adequate protection from motor traffic.

2.4 Considerable sections of route pass through land in other ownerships, including the HS2 Railway, Canal and River Trust, National Rail, the National Trust, private developers and non-highway departments of local authorities, eg leisure services. In these places the route could become highway maintained at the public expense, and with traffic limited to cyclists and pedestrians; or would be designated as a public right of way/permissive path for cycling and walking but with maintenance responsibilities remaining with the original landowner.

3 Background

3.1 There are four broad options for the governance of the project:

- Option 1 – Grant funding is given directly to local highway authorities by the Department for Transport against agreed standards, but with no control over the quality of the schemes. Any underspend is returned to DfT
- Option 2 – As with Option 1, but with central control over the quality of scheme design and implementation
- Option 3 – As with Option 2, but with local authorities being supported by a central body to manage the project, provide expert advice including land negotiations and to take over scheme design and implementation where a local authority is not able or willing to do so.
- Option 4 – the project is delivered centrally with no involvement by local authorities.

3.2 In the past cycling infrastructure, other than facilities constructed as part of Trunk Road schemes by the Highways Agency (now Highways England, and before 1994 by the Department for Transport), has generally been delivered by local highway authorities or when off road, by local authorities' leisure services departments, a variety if agencies, Sustrans and others, and to varying levels of quality – generally following Option 1 above.

3.3 Grants have been made by DfT for cycling infrastructure under several programmes (Cycling Demonstration Towns, Cycle City Ambition Grants etc) but following the initial submissions there has normally been no requirement for authorities to demonstrate that their schemes have met minimum design standards. DfT has assumed that local highway authorities are able and competent to design and deliver cycling infrastructure and has mainly been concerned with administering funding.

3.4 In the case of the National Cycle Network, which was launched in 1995 with a Millennium Grant to Sustrans, they took on a coordinating role for the whole Network, working closely with local authorities as well as delivering numerous sections (mainly off road) on their own account.

3.5 On some occasions Sustrans has also acted for the Department for Transport in administering Government grant funding to local highway authorities, ie following the Option 2 approach.

3.6 For example, in the case of the Cycle Safety Fund Sustrans had authority to deny funding to local authorities where schemes were not considered to be of a sufficient standard. Similarly in Scotland Sustrans administers the Community Links Programme on behalf of the Scottish Government, operating a selection process for schemes, monitoring progress and ensuring quality of design/delivery.

3.7 Although the efforts of local authorities and Sustrans have led to many successful schemes, the overall quality of cycling infrastructure is highly variable and the network is incomplete in many places. It is understood that Sustrans is currently auditing the National Cycle Network and may decide to abandon some sections where the standard is poor and/or where cycling levels are low. The National Cycleway needs to be delivered to a much higher standard in order to demonstrate how world-class provision will lead to an increased take-up of cycling.

3.8 During the initial feasibility study local authorities expressed the view that the Department for Transport would need to move beyond providing a simple check on local authorities and take a stronger political and technical lead through the establishment of a dedicated project team (referred to below as the 'National Body'), thus moving to an Option 3 model. Ministers would declare the route it to be of national importance, paving the way to the use of the Secretary of State's Trunk Road powers for land assembly and delivery, as discussed below.

3.9 It was felt that this approach would help to overcome any local political difficulties over the possible use of compulsory purchase powers to acquire land and the reallocation of road space, particularly car parking.

3.10 Local government is under considerable financial pressure, and ring-fenced funding from the centre for construction and maintenance was also considered to be essential.

3.11 In terms of the design and delivery of individual sections of route, local authorities clearly have a significant contribution to make in achieving local political support and making sure that the route is well integrated with existing and future cycling networks. The project would also enable technical capacity in designing for cycling to be built within local authorities.

3.12 For these reasons we would not favour moving to Option 4, which would bypass local highway authorities completely.

3.13 The National Body would still need to exercise quality control over the design of the route, ensuring that it met (as far as practicable) minimum technical standards throughout, possibly expressed in terms of a minimum Level of Service. The Department for Transport has recently awarded a study to WSP and Phil Jones Associates for the preparation of a Level of Service Tool and Directory of Recommended Design Guidance which we envisage that the National Body would make reference to.

3.14 Where a number of local authorities are working together under a regional structure, for example under Transport for Greater Manchester and WestTrans in London, the National Body would engage with the regional body.

3.15 Discussions with the European Cyclists' Federation confirmed that although the role of national governments in delivering long distance cycle routes varies between countries, there is generally a need for a controlling or coordinating body with responsibility for the overall project. In the absence of this, there is the strong likelihood that sections of the route will fail to be completed, and thus the overall integrity of the scheme will be compromised.

3.16 In more centralised states such as Hungary, central government plays a large role, with around 80-100% of the funding made through Government grants. In Germany, as a federal state, regional government is important; for example Nord Rhine Westphalia has been instrumental in developing the Rhine Cycle Route (EuroVelo 15). In the Netherlands, the long distance high speed cycle routes (fietssnelweg) are being delivered by a working group under the supervision of the regional authorities, to which all of the local authorities belong. Each municipality has to undersign an agreement to finance and construct the route before the scheme proceeds.

3.17 In terms of funding, ECF advised that some contribution to the project from the European Union may be possible from both the EuroVelo and European TEN-T streams, and this is discussed further in Section ** below.

3.18 Given the views of local authorities and the ECF, we conclude that Option 3 is the most suitable model, where a National Body would provide support and leadership to local highway authorities in delivering the National Cycleway.

3.19 Following on from this, the following issues have been considered:

- The functions of the National Body and local highway authorities in terms of:
  - Leading the Project
  - Capital Funding
  - Planning, designing and constructing the route
  - Land assembly
  - Maintenance
- How the National Body should operate:

- Establishment
- Anticipated Staffing Structure

4 Functions of the National Body, Local Highway Authorities and Other Landowners

Leading the Project

4.1 The National Body would have the overall task of leading the project on behalf of Government. This would be a high profile venture and the body would need to be public-facing, making the case for the scheme in terms of economic, environmental and health benefits. Assuming that the project is at least partly justified on cycle-proofing HS2 there will need to be a common position between the National Body and HS2 Ltd over its purpose and outcomes.

4.2 As individual sections of route begin to be designed and delivered, the National Body would collate before and data on usage (generally collected by local highway authorities) so that the success of the scheme in achieving more people cycling can be demonstrated.

Over time the National Body would begin to act as a centre for good practice on cycling infrastructure planning, design and delivery, providing leadership to authorities along the route and potentially by extension throughout England. **Capital Funding**

4.3 Although there are some cases where local and other Government funds have been used to deliver cycling infrastructure schemes most projects in recent years have been funded through ring-fenced grants from the Department for Transport, often awarded to local authorities following a bidding process. Such grants have included the Local Sustainable Transport Fund (LSTF), Cycle Safety Fund and Cycle City Ambition Grants (CCAG).

4.4 In order to ensure that local authorities give high priority to this scheme of national importance, we recommend that the Department for Transport is generally responsible for the bulk of the capital funding, which would be in addition to existing grant regimes (LSTF, CCAG etc). One exception to this would be where a section of route coincides with a scheme that is already within a local authority's (or possibly another landowner's) construction programme – for example where an improvement is already committed and funded under CCAG, and it would become part of the National Cycleway.

4.5 Similarly part of the route may be provided through a private development, and we would anticipate that local authorities would use their best endeavours and policies to incorporate the National Cycleway throughout these areas. Even then, it may be the case that in order for the route section to be branded as National Cycleway it would need to be constructed to a higher standard, in which case the project would need to bear the uplift costs.As noted earlier, some funding may also be possible from the EU. A contribution from the EuroVelo project may be possible if the route were to link to another EU member state. This could be achieved say by including a spur to Liverpool, which would achieve a connection to Dublin by ferry. It should be noted that a long distance cycle route is planned across Ireland from Dublin to Galway, which would thus link to the (UK) National Cycleway.

4.6 In addition, HS2 is part of the European TEN-T network, and wording changes have been made at EU level so that funding can be given to cycle facilities that form part of these routes. ECF advised that the original brief of 'cycle proofing HS2', the need to link to each HS2 station and the overall 3 mile corridor constraint means that EU funding may be a possibility

4.7 A further potential source of funding would be through Social Impact Bonds (SIBs). SIBs involve the use of private sector capital investment to achieve social benefits, with the return on capital being delivered through 'Payments by Results' from the public sector. The 'results' would be the increase in cycling along the route. The potential use of SIBs to fund cycling infrastructure was included in the Department for Transport's draft Cycling and Walking Delivery Plan.

4.8 Further work would be necessary to determine the feasibility of this option, but the high level of monetary benefits achieved through increased levels of cycling, particularly through improved public health, means that this should be looked at as a serious option.

4.9 Regardless of the source of the funding, we envisage that the National Body would act as the agent of the Department for Transport in administering the capital funding allocated to the project, controlling and accounting for all expenditure.

Planning, designing and constructing the route

4.10 Table 4-1 below shows the key steps and responsibilities that would typically be required to deliver schemes on highway land, private land and as part of new developments.

Table 4-1: Key Steps and Responsibilities

	Context		
	Existing Adopted Highway	**Private Land**	**New Development**
Commitment to support and deliver	LHA	LHA (and landowner if possible)	LHA and LPA
		Gateway 1	
Preliminary Design	LHA	LHA	Developer/LHA
		Gateway 2	
Public Consultation	LHA	LHA	Developer/LHA/LPA
Land – acquire freehold or rights	-	LHA with support of NB by negotiation or CPO	-
Obtain consents (including planning permission, TROs etc)	LHA	LHA	Developer/LHA/LPA
Detailed Design	LHA	LHA	Developer/LHA
		Gateway 3	
Construction	LHA	LHA	Developer
Final Status of Route	Adopted Highway	Permissive Path, Unadopted Highway or Adopted Highway	Adopted Highway
Maintenance Funding	NB Grant to LHA	NB Grant to LHA or Landowner	NB Grant to LHA; Possible Commuted Sum from developer

LHA – local highway authority
LPA – local planning authority
NB – National Body

4.11 Table 4-1 assumes that where local highway authorities have the necessary skills, resources and commitment to deliver the route through their area, or wish to instruct experienced consultants, they would be responsible for planning, designing and implementing individual schemes. In many cases this would also include sections of route that pass through private land and the landowner would have no particular interest in the scheme – Network Rail for example.

4.12 For new developments it is expected that the developer would usually construct the section of route as a new cycle track or road, which would then be adopted by the local highway authority under Section 38 of the Highways Act 1980. Alternatively the local highway authority may acquire the land and then proceed as for other private land.

4.13 In all cases the National Body would ensure that individual schemes are delivered to meet time, cost and quality objectives.

4.14 In particular we see an important role for the National Body in ensuring that the route achieves a consistently high quality throughout its length. To do this, we envisage a series of 'gateways', as follows:

> <u>Gateway 1</u> – Local highway authority signs a high-level agreement to support and deliver the section of route. Where the route passes through private land, the in principle support of the landowner would also be obtained wherever possible.
>
> Where the route would be provided by a developer, confirmation will be sought from the local highway and local planning authorities that they will ensure that the route is shown in the masterplan, and place appropriate conditions or other controls on the development to deliver a route of the required standard.
>
> Following the confirmation of support the National Body would release funds for further route studies where necessary, prepare preliminary designs and cost estimates,
>
> <u>Gateway 2</u> – National Body reviews the preliminary designs against LoS/standards. The local highway authority would be responsible for justifying any departures from these standards and/or level of service requirements, which the National Body would need to authorise.
>
> On approval, the National Body would release further funds to carry out public consultation, obtain any necessary consents or approvals (eg Planning Consent, Traffic Regulation Orders) or acquire land and to prepare detailed design and cost estimates.
>
> <u>Gateway 3</u> – National Body reviews the construction drawings, again with the National Body considering any departures from LoS/standards. It may be that for sections of route on land away from the highway the Gateway 2 stage is bypassed??

On approval, the National Body would release funds for construction, the local authority would invite tenders for the works and subject to costs being within budget the scheme would go forward to construction. Where costs exceed budget the local highway authority would need to look for savings and/or seek additional funding.

Final payment would be against completion of work to agreed LoS/standards.

4.15 In some cases, particularly where a scheme is relatively straightforward and/or the highway authority has already carried out considerable design work on a section of route, it will be possible to combine Gateways 2 and 3 into a single approval stage. This will enable construction work to proceed as quickly as possible with the minimum of bureaucracy.

4.16 There would be some risk that a highway authority's elected members would not be willing to take the steps necessary – in particular the reallocation of road space from parked vehicles or motor traffic – to enable minimum standards to be met.

4.17 The initial step of obtaining high level support for the scheme should help to minimise this risk, and the National Body would use its influence to encourage the necessary choices to be made, including through its control of funding. Ultimately, however, the National Body could only "force" a section of route through if it were able to designate it as a Trunk Road in the name of the Secretary of State. This option is discussed further below under 'land acquisition'.

4.18 New routes away from existing highways would need planning consent, which would normally be sought by the highway authority. The National Body would be able to support this process, drawing on Government policy statements to justify the overall scheme.

4.19 As noted above, in some locations the route would be delivered by the private sector as part of new areas of housing or commercial development. Here the National Body would assist the local planning and highway authorities in setting the design requirements for the route, which would be given force through planning conditions and/or design codes. It is envisaged that in this situation the works would be funded by the developer, but it may be necessary for top-up funding to be provided to the local highway authority by the National Body if there is any shortfall.

Direct Delivery by the National Body

4.20 In some places it may be that the local highway authority does not wish to take responsibility for the delivery of a section, due to a lack of resources or for some other reason.

4.21 In this situation the National Body would be able to take on responsibility for design and delivery, acting as the agent for the local highway authority. We envisage that there would be a panel of consultants that it could draw on for this work, which would be managed by the in-house team.

Land Assembly

4.22 Many of the shortcomings of the existing National Cycle Network are due to the difficulties in obtaining sufficient private land. Sustrans was only able to acquire land through negotiation, and local authorities were generally unwilling to use Compulsory Purchase Orders (CPOs) for cycle schemes.

4.23 There are 200 or so privately owned sections of land required to form the route and although they will mostly be acquired through amicable negotiation and mutual agreement. When voluntary agreements are not forthcoming then the landowners need to know that either the appropriate statutory processes will be pursued. Provided these processes are established from the beginning then only in a few instances will it be necessary to resort to these powers.

4.24 Where land is adjacent to an existing highway, and/or would become public highway maintainable at public expense (adopted) the local highway authority would be able to exercise its functions under Section 239 of the Highways Act 1980.

4.25 As with any CPO, it would be necessary to be able to demonstrate to an Inspector at public inquiry that the scheme was of importance; and that the land in question was essential for it to be delivered.

4.26 The National Body would provide support to the local highway authority in this process, again drawing on Government policy statements to demonstrate need. These could be through the inclusion of the National Cycleway in the Cycling and Walking Investment Strategy (and the supporting National Cycling and Walking Infrastructure Plan), for example. The justification for the land itself being necessary would usually be made by reference to the National Body's LoS/standards for the scheme.

4.27 It may be that the local authority is unwilling to use CPO powers, and in this situation the National Body may need to exercise (by recommendation to DfT) the Secretary of State's land assembly powers, again under Section 239 of the Highways Act 1980. The Secretary of State is only able to do this in order to construct a Trunk Road, and so in order for this to happen this part of the route would need to be designated as such.

4.28 Although this would be an unusual use of these sections of the Highways Act 1980, we were advised by DfT lawyers (see Appendix A) that it would be possible to do this as a fall-back option. The expectation would be that on its completion the section of National Cycleway would be detrunked and handed to the local highway authority. As their agreement will be needed to this step, we would expect that the local highway authority would need to agree to this procedure at the outset.

4.29 In the case of lands associated with HS2, some of the elements of the proposed route are already incorporated into the HS2 Phase I project. We anticipate that these will be constructed to the best standard by way of exemplars. Other sections under discussion could be incorporated into the evolving details of the HS2 scheme. In other instances, it may be necessary for other parties, e.g. local authorities, to acquire the necessary planning consents for modifications on HS2 lands which HS2 can then incorporate if separate funds. Yet further details may have to be carried out by the Project as separate works in parallel with HS2 works.

4.30 It is envisaged that the National Cycleway Project will develop a detailed "workbook" which will set out how each interface with HS2 is to be achieved, and that both the National Cycleway and HS2 will work within that framework.

4.31 Another special case is the schedule of fragments of Network Rail Lands. Again it is envisaged that a detailed "workbook" detailing each interface will be agreed and signed off by both parties.

Maintenance

4.32 It is vital that the National Cycleway is maintained to a high standard if it is to be successful in attracting users for both regular short utility journeys and longer leisure trips. Many of the sections of poor quality on the existing National Cycle Network have occurred due to a lack of maintenance. Local authority highway maintenance budgets are constrained and tend to be directed towards more strategic roads, while Sustrans finds it difficult to obtain revenue funding for off-road paths and has to make use of volunteers.

4.33 Throughout our engagement, concerns were expressed by local authority staff over the additional maintenance burden that the National Cycleway could bring.

4.34 Local authority highways maintenance is funded by the Department for Transport through block funding, which from 2018/19 will include an allowance for the total length of cycleways and footways within an authority's area. The National Cycleway would add to this and therefore in theory local authorities would be funded to maintain the route through the normal process.

4.35 However, local authorities would be free to use the block funds as they see fit and it is therefore possible that they would not maintain the route to the desired standard. It is therefore recommended that, at least for an initial period following construction, separate ring-fenced grants for maintenance of the National Cycleway are made to local authorities, administered by the National Body. Similar arrangements would need to apply where the route passes through non-highway land, unless these sections of the cycleway became highway maintainable at public expense.

5 The National Body

Establishment

5.1 The following options have been considered for establishing the new National Body to lead and manage the delivery of the scheme.

- A new section within the Department for Transport
- A new Quango
- A department within Highways England
- Sustrans
- A new dedicated subsidiary charity of Sustrans
- A subsidiary of 'CWIS Ltd'

New Section within Department for Transport

5.2 A new section within DfT staffed by civil servants would build upon the existing cycling team, which is mainly concerned with setting policy and administering funding to local authorities.

5.3 Fulfilling the duties of the National Body would require staff with skills in the planning, design and construction of cycling infrastructure, which would mean expanding the existing team considerably. This is likely to prove difficult in a time when there is pressure on civil servant numbers.

5.4 Adding the delivery of the National Cycleway to the existing tasks of DfT may also make for a less-focused team. As a piece of infrastructure of national importance, it is highly desirable that the National Body is fully devoted to its delivery.

A new Quango

5.5 A new ‘Quango’ (quasi-autonomous non-governmental organisation) could be established with the purpose of leading the delivery of the scheme. It would then be able to operate in a more focused and flexible manner, reporting to DfT but separate from it. Cycling England, which existed between 2005 and 2011, was constituted in this way.

5.6 The principal difficulties with this option are firstly that the previous Government had a policy of reducing the number of quangos – a significant number were abolished during the period 2010 to 2015 – and creating a new body, even with a clear and potentially time-limited purpose, would run counter to this. It is assumed that the current administration has a similar attitude to setting up new Governmental bodies.

5.7 Secondly establishing a wholly new body, including producing its terms of reference and setting up administrative arrangements etc, will take some time and delay the project.

Highways England

5.8 Highways England was converted from a government agency (quango) to government-owned company in April 2015, with responsibility for managing the Strategic Highway Network in England.

5.9 Under this scenario the National Body would be set up as a section within Highways England, whose remit would need to be expanded to include the delivery of the National Cycleway.

5.10 Highways England is in the process of developing its Cycling Strategy. We understand that one of its recommendations may be that it sets up a centre of excellence to disseminate best practice throughout the organisation. This would sit well with the role of the National Body.

5.11 The body could be established quickly and efficiently and without the need to set up separate administrative functions. It would be a relatively small addition to what is a well-funded and well-organised government company. Highways England is a highway authority and is able to act in the name of the Secretary of State under statutory legislation, including the Highways Act 1980. There are clear lines of authority and accountability between DfT and Highways England.

5.12 The concept of the National Cycleway being a ‘trunk road’ for cycling (literally if it is necessary to invoke the Secretary of State’s powers) would sit well with it being delivered by Highways England.

5.13 Highways England is the primary standards-making body for highways in the UK and the development of new standards for cycling would sit well within this. Work is also underway on the preparation of an Interim Advice Note on cycling infrastructure which is planned to be published in the near future.

5.14 However, there are disadvantages in that:

- Highways England has little experience in the planning, design and delivery of cycle routes, nor the acquisition of land for them.

- The delivery of the National Cycleway could distract the organisation from its main function, which is to deliver the Roads Investment Strategy.

5.15 For these reasons, following initial discussions with DfT, this option is not favoured.

<u>Sustrans</u>

5.16 Sustrans is a charity with the overall aim of enabling people to choose to travel in ways that benefit their health and the environment.

5.17 Sustrans has a well-established track record in delivering cycling infrastructure and in administering DfT funding with a quality-control function, and has staff with the necessary skills including route planning and design and land assembly. It produces cycle design standards and guidance, based largely on its practical experience.

5.18 It is therefore feasible that it be given the role of acting as the National Body for the delivery of the National Cycleway. Involving Sustrans in the project would also maximise integration with the existing National Cycle Network.

5.19 Sustrans is not a highway authority and has no legal powers in this regard, including land assembly. It would therefore not be able to act directly in the name of the Secretary of State, but it would be possible for a Civil Servant within DfT to do so, at the request of Sustrans.

5.20 While this then is a feasible option, simply appointing Sustrans to undertake the role of the National Body amongst its many other functions would not provide the clarity of purpose that is required to deliver such a high profile scheme. We have therefore considered how a separate charity, linked to Sustrans, could undertake this role.

<u>A new dedicated subsidiary charity of Sustrans</u>

5.21 Sustrans have already set up a parallel charity (Railway Paths Ltd) which focuses on acquiring and managing a package of disused railways transferred by the Property Board along with a dowry for maintaining viaducts etc. Railway Paths Ltd is directed by a separate Board but draws on staff and resources from Sustrans for effective working.

5.22 A similar new charity could be set up – with the working title of National Cycleway Ltd - for the express purpose of delivering the HS2 Cycleway. It would host the central management of the project; it would be responsible for driving it forward; it would acquire land by lease or purchase either for local authority partners or on its own account; it would provide design services to back up local authorities and if necessary would manage construction. It would be respected as the champion of the project working to support the DfT transport policy for cycling.

A subsidiary of 'CWIS Ltd'

5.23 We understand from discussions with Civil Servants that Government is considering the establishment of a new not-for-profit company – here referred to as 'CWIS Ltd' – to take responsibility for the delivery of the Cycling and Walking Investment Strategy (CWIS).

5.24 If this is to be the case then it may not be sensible for the delivery of the National Cycleway, which is expected to form a significant part of the CWIS, to be the responsibility of a wholly separate organisation.

5.25 In these circumstances there would therefore be merit in National Cycleway Limited to be formed as a subsidiary company of CWIS Ltd so that there is a clear focus on the delivery of the national scheme but within the overall framework of governance for cycling investment.

Organisation Structure

5.26 We envisage that the organisation would directed by a Board, selected to be as representative and committed as possible. It would need to have a senior politician with a particular in transport issues, a representative from HS2 Rail and Network Rail, and ideally a major private landowner from somewhere along the route. It would have one board member from the Sustrans Board or CWIS Ltd for the connection with the parent organisation, as well as a senior representative from the DfT and representatives of the local authorities along the route.

5.27 The number of staff required would depend on the overall programme but our initial thoughts are that there would be a Management Team to carry out central functions, with one or more technical team(s) to advise local highway authorities and review schemes.

5.28 Based on the number of staff at the former Cycling England, we envisage the following being required to undertake the roles given:

Management Team

5 staff, including the overall Project Director. Their responsibilities would include the overall direction and management of the project (including high level public engagement), secretariat, land negotiations, administrative liaison with local authorities including grant awards, collation and dissemination of good practice and evidence of increased cycling along the route.

It will be invaluable if the Company has its own in-house Solicitor to overcome delays involved in using local authority legal departments.

Technical Team(s)

4 staff per team. Responsibilities would include interface with local authorities (and other landowners if necessary) to review and approve designs and to provide technical guidance

and support (eg with planning applications); collection of good practice; management of consultants to design/deliver sections brought in-house.

6 Summary and Conclusions

6.1 We have considered a number of broad options for the governance of the project. Our preferred model is that local authorities will in the main be responsible for the delivery of the scheme, supported by a National Body. In some cases parts of the route may be delivered by private developers or other landowners.

6.2 This National Body will lead and manage the project, dispense and control capital funding, provide expert advice to local authorities on planning, design and land negotiations, and be able to take over the design and implementation of sections of the route when the local authority is unwilling or unable to do so.

6.3 This will enable decisions on the planning and design of the project to be taken at local level with the involvement of local stakeholders, but also provide the necessary assurance that the scheme will be completed as an end-to-end facility and to an acceptable quality.

6.4 We propose that a clear system of Project Gateways would be established, whereby local authorities (or other delivery agents where appropriate) would receive funds to proceed to the next step following approval by the National Body. These steps are:

1. Commitment to support the project and deliver the route section
2. Preliminary design approval
3. Detailed design approval
4. On return of tenders within budget

6.5 In some cases particularly where a scheme is relatively straightforward and/or the highway authority has already carried out considerable design work on a section of route, it will be possible to combine Gateways 2 and 3 into a single approval stage. This will enable construction work to proceed as quickly as possible with the minimum of bureaucracy.

6.6 There are 200 or so privately owned sections of land required to form the route, and they would be acquired by negotiation where possible. However, local authorities may need to use CPO powers if necessary, and the National Body would provide support to the local highway authority in this process, drawing on Government policy statements to demonstrate need.

6.7 If the local authority is unwilling to use CPO powers, the National Body may need to exercise (by recommendation to DfT) the Secretary of State for Transport's powers to acquire land for Trunk Roads. This would mean that this section of the route would need to be a trunk road, which would then be detrunked following completion.

6.8 We have considered a number of options for establishing the National Body:

- A new section within the Department for Transport
- A new Quango
- A department within Highways England
- Sustrans
- A new subsidiary charity of Sustrans
- <u>A subsidiary of 'CWIS Ltd'</u>

6.9 Our preferred options are the last two: either establishing a single purpose charitable company as a subsidiary of Sustrans, or a not-for-profit subsidiary of 'CWIS Ltd', to be responsible to Government for the project.

6.10 The advantages of these options are that:

- The body would be able to focus solely on the task in hand
- The company can be established quickly
- Experienced staff could be transferred from Sustrans at short notice; while this would clearly be simpler if the body were a direct subsidiary, we envisage that staff could also be transferred across to a new subsidiary of CWIS Ltd

6.11 We propose that the charity would be directed by a Board, including a senior politician, representatives from HS2 and Network Rail and a major landowner from along the route. It would also have a board member from the parent organisation, a senior representative from DfT and representatives from local authorities.

6.12 There would be a management team of 5 staff, including a Project Director and technical teams of 4 staff per team to provide the technical link with the authorities along the route. The number of teams required would depend on the pace of delivery and the number of sections being progressed at any one time.

Appendix A – Advice from DfT Lawyers

Linear cycleway – note on legal powers to create a cycleway

Introduction

A cycleway is a way consisting or comprised in a highway being a way over which the public have a right of way on pedal cycles with or without a right of way on foot and over which there are no other rights of way. A "cycleway" has no separate legal status and no generally used technical definition. When the term is used, it will usually refer to that part of the highway which has been marked out for use by cyclists but it is also used as a generic term for any cycle route.

The paragraphs below set out what powers are available both to create a new cycleway and to convert existing highway/footpaths to a cycleway.

Creating new highway

Section 24 of the Highways Act 1980 gives the Minister (and local highway authorities) the power to create new highways. This would be useful for those elements of the cycleway that are situated on "greenfield" land. We could use section 24 to create a new highway regardless of whether the highway is to be regarded as part of the trunk road network or not.

The procedure is straightforward. All that is needed is dedication and acceptance of the highway. Firstly, the land would need to be dedicated as highway by the landowner. We would need to demonstrate an intention to dedicate which could be done by a simple dedication statement accompanied by a map/plan of the cycleway. The highway would then need to be accepted. Acceptance is implied from use and so the cycleway would formally become a highway once it is opened for first use.

We would also need to give notice of our proposal to, and consider any representations by, every Council through whose area the highway will pass.

We would either acquire the land by agreement or by using compulsory purchase powers. The Secretary of State has wide compulsory purchase powers in section 239 of the Highways Act 1980 to acquire land required for the construction of a highway which is going to be highway maintainable at the public expense. There is a detailed statutory procedure to be adhered to (including a potential public inquiry) before a compulsory purchase order can be made.

Local highway authorities could also make use of section 24, so this is something that we might ask them to do.

Converting existing highway to a cycleway

Section 65 of the Highways Act 1980 empowers a highway authority by the side of a highway maintainable at the public expense by them (which consists of or comprises a made-up carriageway) to construct a cycle track as part of the highway.

This power would enable a local highway authority to convert existing highway for which they are the highway authority into a cycle track.

However, the Secretary of State would only be able to use the power in respect of the SRN, he could not use the power for those roads for which he is not the highway authority. Therefore, we would be reliant on highway authorities using this power.

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Converting existing footpath to a cycleway

Section 3 of the Cycle Tracks Act 1984 empowers a highway authority to convert existing footpaths into cycle tracks. This would be done by way of an Order which would either be made by the local highway authority (if unopposed) or by the Secretary of State (if opposed).

If the proposed cycleway passes through agricultural land, then an order cannot be made without the consent of every person who has a legal interest in the agricultural land.

The power may only be used by the local highway authority who has responsibility for the footpath. Therefore, we would need to persuade a local highway authority to use the power.

Appendix F

Project Risk Log

Theme	Risk	Potential Mitigation	Residual Risk
Political	Delivery of interventions blocked or 'watered down' due to local 'hot topics' (e.g. parking)	National team to promote best practices and to provide support to delivery teams.	More certainty of schemes being progressed and high quality standards being retained.
	Differing/competing objectives and priorities of various organisations	Commitment to deliver as a national project to provide each route section with a higher status.	Higher status of the national project leads to inclusion of the route options at earlier stages in policies and strategies.
	HS2 opposition a barrier to National Cycleway	Create a clear disconnect between the two projects.	Reduced association with HS2 reduces any conflict so cycleway project is judged on its own merits.
Economic	Accuracy of budget costs, given the unique and extensive scale of the project.	Delivery costs for each route section to be determined at indicative design stage and refined at detailed design stage.	Continuous analysis of costs will provide a higher degree of certainty as the project develops.
	Extent of unknown costs e.g. utility diversions	To be considered as part of the indicative design stage and calculated accurately at detailed design stage.	
	Variation in costs relating to extent of public realm works demanded by local authorities	To be fully considered as part of the indicative design stage.	
	Availability of funding	Flexibility in programme delivery to allow for a range of funding scenarios.	Scheme options can be developed and progressed relative to available funding.
Social	Social safety	Important aspect in the design of each route section.	Early consideration of the needs of all users a fundamental part of the design process. Engaging with all key stakeholders early on will ensure the respective needs are designed for.
	Competing demands by users i.e. equestrians	Fundamental design consideration to ensure access to all necessary users.	

Theme	Risk	Potential Mitigation	Residual Risk
	Compromised designs to accommodate all users	Comprising on standards only acceptable as a last resort and only to facilitate a route where otherwise no provision would be possible.	
	Coordination needed across multiple organisations	Early and continued engagement with all stakeholders required.	
Technological	Quality of route designs: suitability of routes for all users, of all ages	International best practices to be promoted by the national team and innovative solutions to be shared with delivery teams.	Little scope to move away from the design standards, ensuring highest quality.
	Definition of 'World Class' may be a moving goal post.	Adaptability is a key part of world class standards and will form a fundamental part of each route design.	Standards not to remain fixed so proposals always remain current in terms of quality standards.
	Adaptability of schemes to accommodate growth	Future levels of cycling to be a key consideration of each design.	
	Availability of design and delivery skills with organisations (planning, design, legal etc.)	National team to provide expert advice and support where required.	Flexible delivery options provide reduced reliance on expertise in specific areas, so best expertise is made available to all.
Legal	Land assembly and CPO powers	Land acquisition powers to be provided within the national team.	More certainty provided for scheme sections that require land acquisition.
	Planning permission	Comprehensive scheme delivery programming to ensure the planning process is undertaken effectively.	Efficient programme planning leads to certainty on planning process and securing relevant permissions.
	Cycle Track Orders etc.		

Theme	Risk	Potential Mitigation	Residual Risk
	Ensuring project is built in to planning policy / local plans etc. in order to benefit from S106/CIL funding	Early and continued engagement with local authorities a key part of the project planning.	More certainty on support and deliverability of route sections.
Environmental	Impact of statutory designations e.g. SSSI's etc.	Early and continued engagement with environmental bodies is essential, particularly in rural areas.	Early identification of sensitivities, requirements and mitigation measures in the design process to ensure an efficient planning process and deliverability of routes through sensitive areas.
	Requirement for an EIA in some locations		
	Need for sensitive designs in sensitive areas including lighting.		
	Construction impacts		

Appendix G

Route Option Annexes

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