

RESPONSE TO DEREK WILLIAMS, NORWICH CYCLING CAMPAIGN

On 9 March 2021 Derek Williams of the Norwich Cycle Campaign made the following comments by email regarding the NWL scheme as a follow up to the Sustainable Transport Strategy (STS) Workshop 4 held by NCC on 2 March 2021. The workshop provided an update to relevant group representatives on the changes to the Non-Motorised User design, shortlisting of Cycle Friendly Route Options and Bus Strategy elements in response to feedback from the Local Access Consultation in July 2020. This note responds to the points raised.

1: The viaduct cycle track

Norwich Cycle Campaign Commented:

I really do struggle to understand the reluctance to add a cycle track to the proposed viaduct. The bridge will stand for well in excess of 100 years, during which time patterns of movement and indeed modes of transport can be expected to change greatly. Therefore designing it down to the minimum required based on present day modelling is short sighted in the extreme. Adding the cycle track now would cost very little, doing it later would be very expensive.

Is it true that Norfolk County Council have in fact applied a condition on the bridge designers and on the consultants working on the sustainable transport options that there is to be no provision for cycleways on the bridge? If so, why? There would seem to be no restriction in legislation, regulations, or "best practice" which prevents a cycleway being provided, indeed will there not be a 1.5m shoulder in any case?

We would argue that the lack of cycleways on this bridge results in the whole scheme failing to meet the requirements set out in LTN 1/20, 4.2 Core Design principles: it is not Coherent 4.2.4, Safe 4.2.9, or Direct 4.2.7.

NCC Response:

There is currently no cycleway proposed along the route of the viaduct. The reasons for this are:

- Traffic relief as a result of the Norwich Western Link would make existing routes more attractive for cycling, with low traffic volumes and speed management measures. Reducing traffic flows through existing communities is a key objective of the NWL scheme. This is intended to increase potential for active travel and offers scope to improve local connectivity.
- The scheme is looking to improve non-motorised user connectivity and active travel between communities which are located generally to the east and west of the proposed NWL. The viaduct is orientated broadly on a northeast to southwest alignment which is not coincident with the predominant east-west movements which cross the new link. New underpasses and bridges are included in the scheme design to cater for this as part of the Non-Motorised User Strategy.
- Initial stakeholder workshops in October 2019 which informed the WCHAR process and Sustainable Transport Strategy development sought feedback from groups including Norwich Cycle Campaign

on network gaps and existing routes that could be improved as part of the scheme. The feedback indicated that improving east-west routes towards central Norwich was likely to offer more benefit than routes along the viaduct.

- There are very few desire lines for cycle trips between origins and destinations in reach of the viaduct which are coincident with the line of route. Please see Figures 1 to 3 below.
- The main highway alignment will form part of the MRN (Major Road Network) and will provide a direct connection to the long-distance SRN (Strategic Road Network). It is designed to have no intermediate junctions or connections for cyclists, and we would not wish to attract vulnerable users to a high-speed dual carriageway environment in the interests of highway safety. The Sustainable Transport Strategy has therefore been developed to focus on improving existing routes and enhancing local connectivity.
- With high volumes of traffic using the NWL, it would not be attractive or comfortable for cyclists to cycle next to a dual carriageway road due to noise and speed of traffic in close proximity. It is expected that many users would find this intimidating, so achieving a suitable cycle route that is attractive would require substantial mitigation, would increase the scheme footprint over the River Wensum SAC and would add substantial cost with low cycle use expected for the reasons set out above and below.

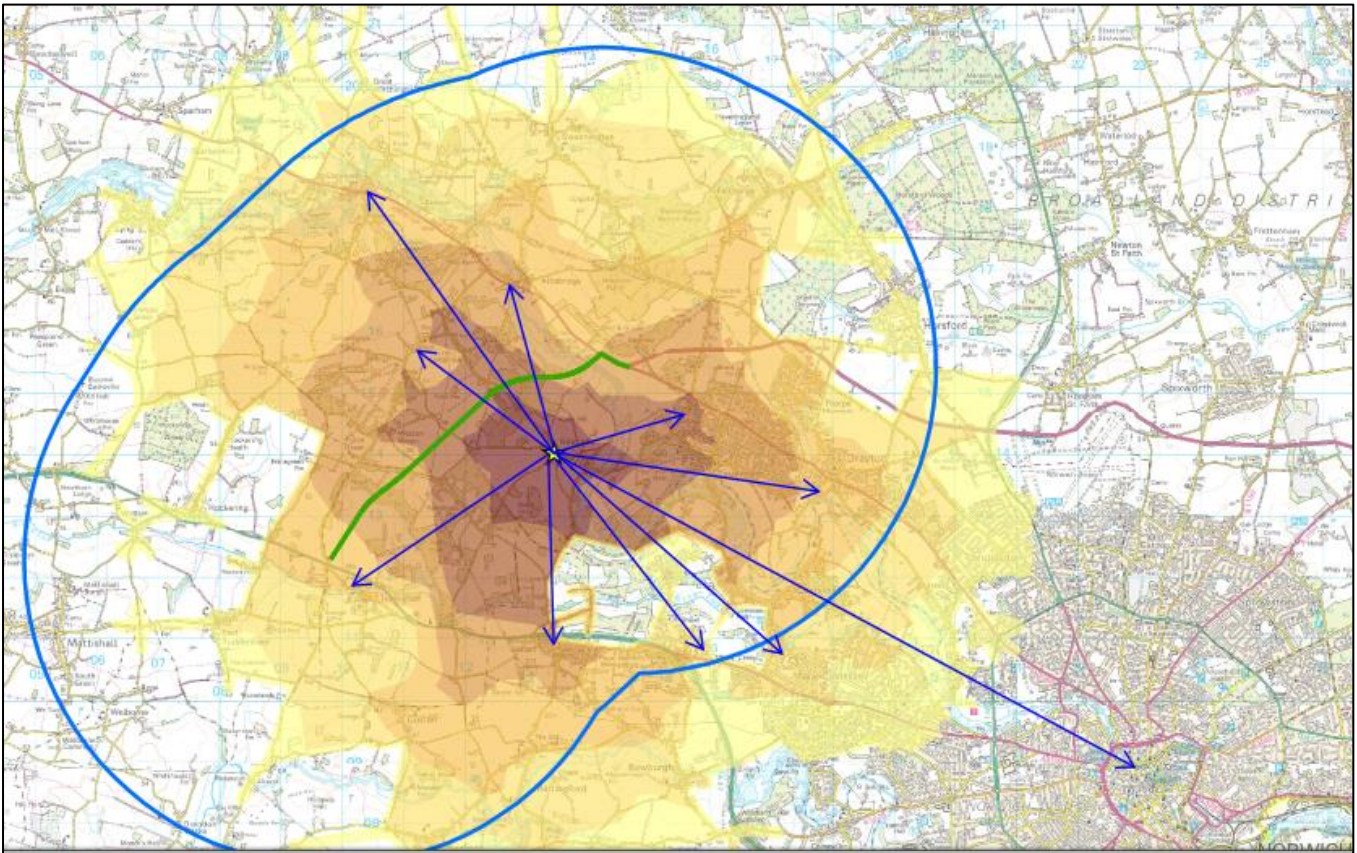
Desire Line Analysis

There are very few desire lines for Non-Motorised Users currently passing through the study area which are aligned with the proposed route of the viaduct. Hence a cycleway added to the viaduct would not serve a significant catchment that would generate a good benefit for consideration as part of an Active Modes assessment. The surrounding areas are sparsely populated with the nearest settlements in small hamlets located east and west of the NWL at Ringland and Weston Longville, and to a lesser extent Honingham to the south.

Desire lines are shown below for the nearest settlements at Ringland (Figure 1), Weston Longville (Figure 2) and Honingham (Figure 3) overlaid on cycle isochrones in 5-minute distance bands for up to a 30-minute journey time at a typical cycle speed of 200m per minute.

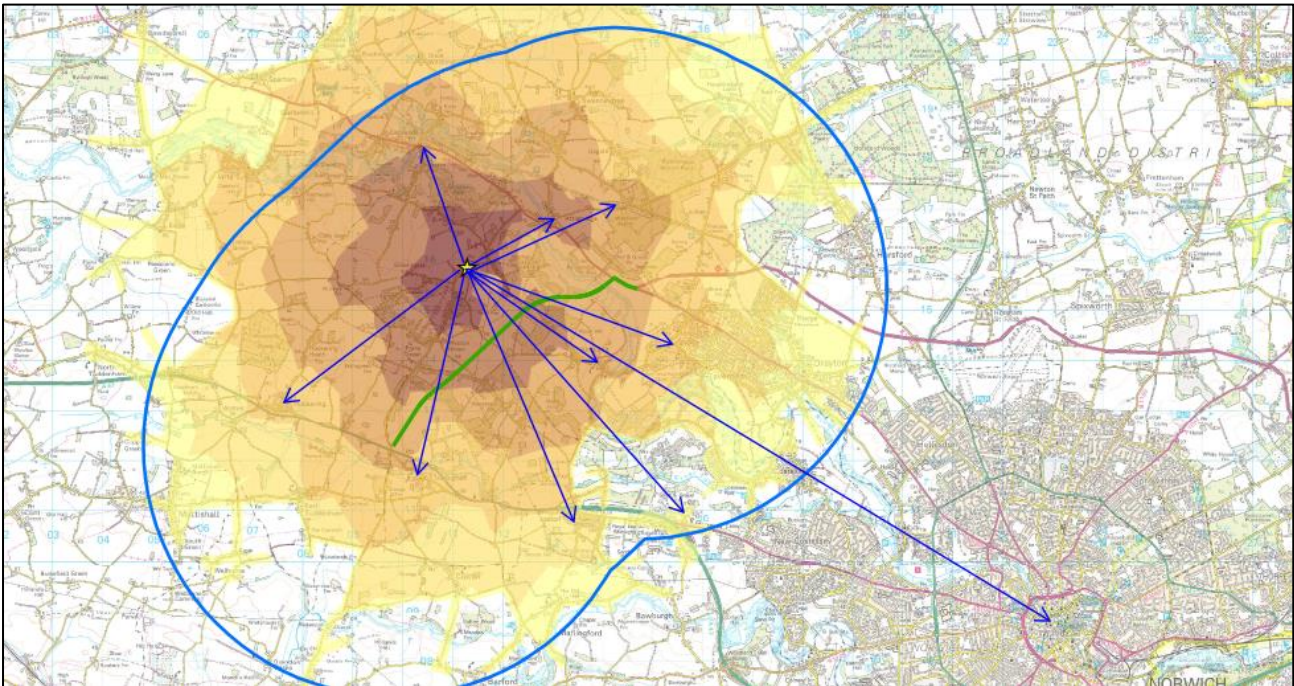
For Ringland (as shown in Figure 1), key desire lines would be towards Taverham and Drayton to access nearby schools and Weston Longville for access to the village hall, Costessey for medical facilities or central Norwich for employment and Longwater for retail as well as potentially the Food Hub or Easton College. None of the desire lines follow the route of the NWL alignment over the viaduct.

Figure 1 Ringland Desire Lines within 5km



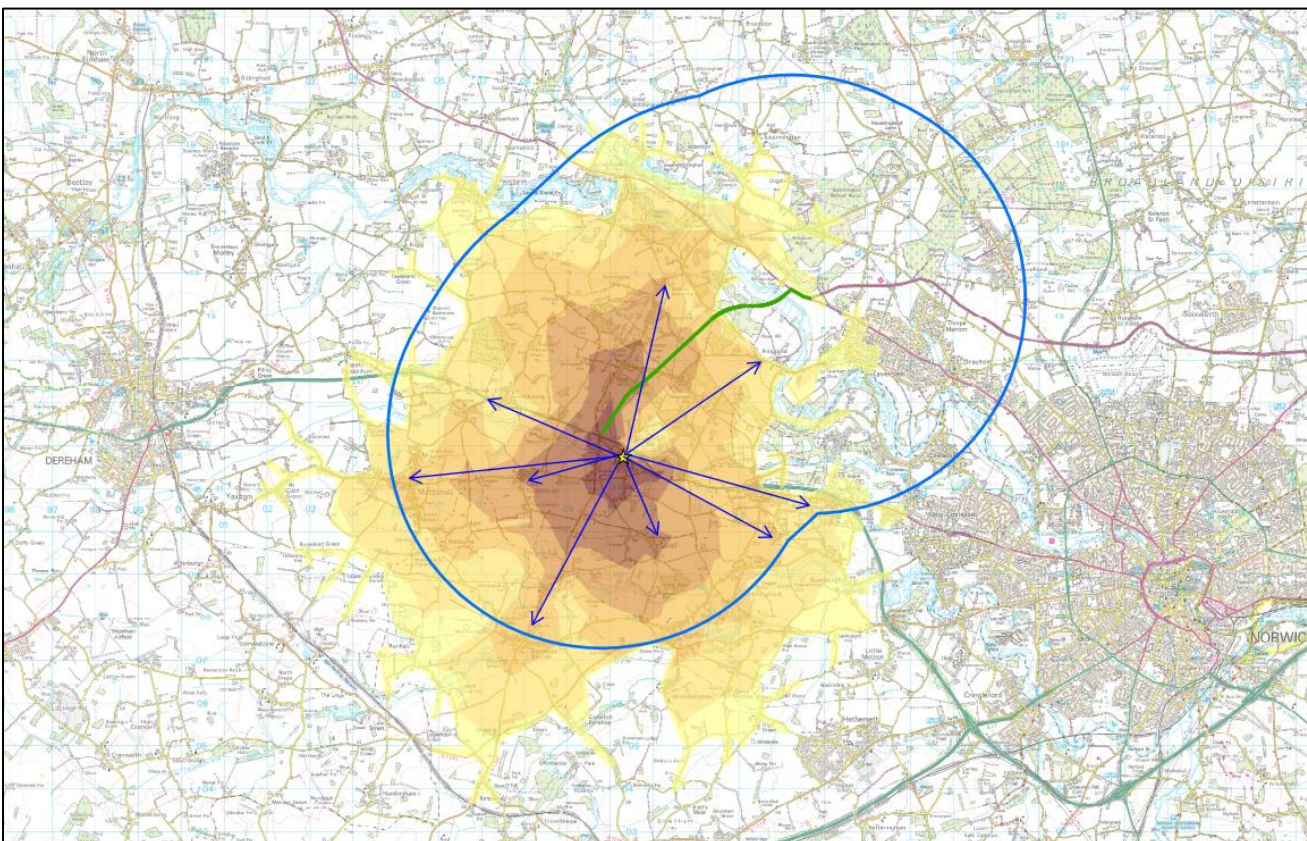
For Weston Longville (as shown in Figure 2 below) we expect that the closest desire lines within a 5km radius (typical 25 minute cycle distance for commuting), would be towards Ringland for access to the neighbouring community, towards Attlebridge for access to the Marriott’s Way and towards Taverham and Drayton to access schools and other key facilities or central Norwich for employment and retail. For users accessing the Marriott’s Way, there would be improved provision available via Marl Hill Road, as part of the wider Cycle Friendly Routes proposed with the Norwich Western Link scheme.

Figure 2 Weston Longville Desire Lines within 5km



For Honingham, as shown in Figure 3 below, key desire lines within 5km link to Ringland, Weston Longville, Easton, Hockering, Colton and Mattishall. These journeys would not make use of a cycle route along the viaduct.

Figure 3 Honingham Key Desire Lines within 5km



LTN 1/20 – Core Design Principles

The Reference Design used to specify the design requirements was developed and issued prior to the introduction of LTN 1/20. However, Chapter 4 of the guidance advocates applying the following approach:

“There are five fundamental design principles for all cycle infrastructure that will ensure it is accessible to all: Coherent; Direct; Safe; Comfortable; and Attractive. The relative importance of each attribute, and how each is delivered, will depend on the situation in which design is being applied. For example, safety for cyclists is largely determined by achieving separation from busy and fast motor traffic, but this can be achieved in several ways, by provision of separate infrastructure, through removal of traffic from an existing street, or a reduction in traffic speed or volume. When designing new highways and improvement schemes, planning for cycling from the outset can ensure that sufficient land is acquired to accommodate the optimum design”.

In relation to achieving a ‘Coherent’ solution LTN 1/20 states the following:

4.2.4 Cycle networks should be planned and designed to allow people to reach their day to day destinations easily, along routes that connect, are simple to navigate and are of a consistently high quality. Abrupt reductions in the quality of provision for cyclists – such as a busy high-speed roundabout without facilities – will mean that an otherwise serviceable route becomes unusable by most potential users. Sections that do not meet accessibility standards, such as steps on a cycle route, will render a whole journey inaccessible for some people.

4.2.5 Main roads are often the only direct, coherent route available to move between places, but these are usually the roads where people most fear the danger from motor vehicles. Consequently, the provision of adequately safe, attractive and comfortable facilities along these roads is crucial to creating a coherent cycling network.

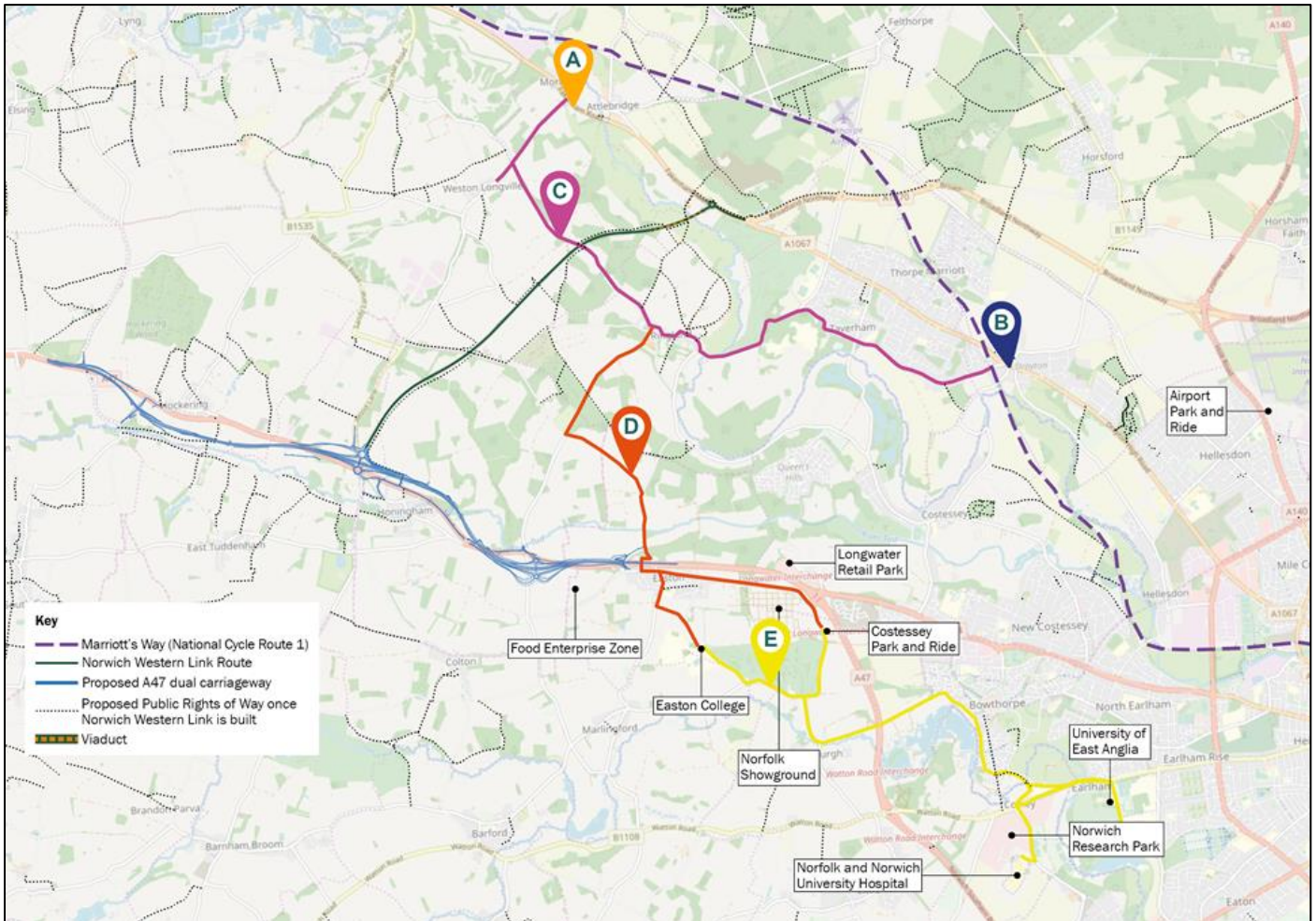
4.2.6 A cycle route may vary in nature along its length, for example a signed route along a quiet street may continue as a motor traffic free route through a green space, but the connection between successive sections should be obvious. Similarly, a route through a complex junction should be clear to all road users. Direction signs, road markings and coloured surfacing in combination with physical design features can all help to provide coherence.

Paragraph 4.2.4 clearly expresses the need to connect key origins and destinations on key desire lines. However, the viaduct route is not aligned with the desire lines in cycle distance as set out above.

Paragraph 4.2.5 indicates that main roads can incite fear and intimidation from danger of motor traffic. Hence it is not considered ideal to attract vulnerable users such as pedestrians and cyclists to a busy dual carriageway route such as the NWL – the strategy therefore instead seeks to make best use of existing minor roads, many of which have, or will have, low traffic volumes.

When considered in the wider context of the prioritised Cycle Friendly Route options and NMU strategy the NWL scheme can be considered to offer a coherent approach with a joined-up network of walking and cycling provision that is aligned with evident key desire lines between residential trip origins in the west of Norwich and key facilities. The STS map below shows the proposed supporting Cycle Friendly Route Options being taken forward.

Figure 4 Shortlisted Cycle Friendly Route Options to Support NWL Scheme



- Route C connects Ringland, Attlebridge, Weston Longville, with Taverham and Drayton and offers enhanced connectivity to The Marriott’s Way.
- Route D connects Ringland to Easton via Lower Easton with onward routes to Easton College and Costessey Park and Ride site.
- Route E connects Easton with Bowthorpe, NNUH and UEA. The routes proposed also join up with Transport for Norwich schemes in Norwich city.

In relation to achieving a ‘Direct’ solution LTN 1/20 states:

4.2.7 Directness is measured in both distance and time, and so routes should provide the shortest and fastest way of travelling from place to place. This includes providing facilities at junctions that minimise delay and the need to stop. Minimising the effort required to cycle, by enabling cyclists to maintain momentum, is an important aspect of directness. An indirect designated route involving extra distance or more stopping and starting will result in some cyclists choosing the most direct, faster option, even if it is less safe.

4.2.8 To make cycling an attractive alternative to driving short distances, cycle routes should be at least as direct – and preferably more direct – than those available for private motor vehicles. Permitting cyclists to

make movements prohibited to motor traffic, allowing contraflow cycling, and creating links between cul-de-sacs to enable cyclists to take the shortest route, should be the default approach in traffic management schemes and new road networks. Area-wide schemes and new developments can enable filtered permeability, allowing cyclists and pedestrians to take more direct routes than motorised traffic.

Again paragraph 4.2.7 suggests alignment with origins and destinations to provide a direct link on key desire lines which are direct and easy to navigate. The STS is aligned with this and connects people with places they want to get to. Directing cyclists to the NWL viaduct would actually take people on a longer journey than is necessary as it is away from the majority of desire lines and it is unlikely that users would choose this route for convenience. Speed calming measures can be implemented on the existing roads to deter through traffic and make them more attractive for cycling.

In relation to achieving a 'Safe' solution LTN 1/20 states the following:

4.2.9 Not only must cycle infrastructure be safe, it should also be perceived to be safe so that more people feel able to cycle.

4.2.10 Safety and environmental improvements for all road users can be achieved by reducing motor traffic volumes and speeds, for example by introducing filtered permeability or traffic calming. Reducing motor traffic may also release space to enable the construction of separate facilities for cyclists on links and at junctions.

4.2.11 On busy strategic roads where a significant reduction in traffic speeds and volumes is not appropriate, safety will need to be achieved by providing dedicated and protected space for cycling, which may involve reallocating existing space within the highway (or providing a parallel route). Reallocation will typically involve moving kerb lines and street furniture, and providing well-designed crossings and facilities at junctions where most casualties occur. The potential for conflict between pedestrians and cyclists should be minimised by keeping them separate except in low speed, low traffic environments. Where pedestrians and cyclists share surfaces, sufficient width should be provided to enable users to feel safe by allowing them to see other users and to avoid each other when passing.

In accordance with the above, the STS proposals for the NWL scheme involve directing cyclists to low traffic rural roads and deterring through traffic and reducing vehicle speeds to make a safer environment through traffic calming. Speed calming measures to control vehicle speeds would be included and this would also help to deter through traffic by increasing journey times for cars.

In relation to achieving a 'Comfortable' solution LTN 1/20 states the following:

4.2.14 routes with good quality, well-maintained smooth surfaces, adequate width for the volume of users, minimal stopping and starting, avoiding steep gradients, excessive or uneven crossfall and adverse camber. The need to interact with high speed or high-volume motor traffic also decreases user comfort by increasing the level of stress and the mental effort required to cycle.

4.2.15 Adequate width is important for comfort. Cycling is a sociable activity and many people will want to cycle side by side, and to overtake another cyclist safely. It is important that cyclists can choose their own speed so that they can make comfortable progress commensurate with the amount of effort they wish to put in.

4.2.16 Designers should consider comfort for all users including children, families, older and disabled people using three or four-wheeled cycles. Families are more likely to use off-carriageway facilities. Young children may need additional space to wobble or for an accompanying parent to ride alongside.

A route crossing over the viaduct in close confines with a dual carriageway carrying 20,000-30,000 vehicles per day would be unlikely to be considered comfortable for many users without substantial widening of the structure over the River Wensum SAC.

There are existing low-level river crossings available at Attlebridge and Ringland which are more closely aligned with existing evident desire lines, and access to these can be improved by new crossing facilities on A1067 and cycle priority at the Ringland bridge. The STS for the NWL scheme focusses on creating a safer and more comfortable environment for cycling on existing minor roads. The transport model predicts that the Ringland Bridge route would have less than 2,500 vehicles per day in the NWL opening year of 2025 and speeds can be reduced using a variety of traffic calming features along the routes. The STS includes a link following Marl Hill Road to connect with Attlebridge which runs parallel with the NWL but is more closely aligned with evident desire lines than the viaduct (e.g. from Weston Longville to the Marriott's Way).

In relation to achieving an 'Attractive' solution, LTN 1/20 states the following:

4.2.17 Cycling and walking provide a more sensory experience than driving. People are more directly exposed to the environment they are moving through and value attractive routes through parks, waterfront locations, and well-designed streets and squares. Cycling is a pleasurable activity, in part because it involves such close contact with the surroundings, but this also intensifies concerns about personal security and traffic danger. The attractiveness of the route will therefore affect whether users choose cycling as a means of transport.

4.2.18 The environment should be attractive, stimulating and free from litter or broken glass. The ability for people to window shop, walk or cycle two abreast, converse or stop to rest or look at a view, makes for a more pleasant experience.

4.2.19 Cycle infrastructure should help to deliver public spaces that are well designed and finished in attractive materials and be places that people want to spend time using. The surfaces, landscaping and street furniture should be well maintained and in keeping with the surrounding area. Planting in parks and rural areas should consider the aesthetic and sensory qualities that create attractive vistas and fragrances as well as practical considerations about maintenance.

As set out above, the STS directs cyclists to existing river crossings at Attlebridge and Ringland which are expected to be more aligned with desire lines and attractive to cyclists. The existing roads are highways maintainable at public expenses so will be regularly inspected and cleaned. There is overlooking of houses through the villages and some street lighting in places. There are also opportunities to stop and rest in the rural network. The sensory experience on the viaduct would be more sterile as it is elevated above the river and is a high-speed dual carriageway with tall parapets across the viaduct.

Future proofing

“The bridge will stand for well in excess of 100 years, during which time patterns of movement and indeed modes of transport can be expected to change greatly.”

This is acknowledged and the modelling work for the project looks forward in time to a design year of 2040, based on planned developments which are certain or near certain to be taken forward in that timescale. The notable planned developments include strategic site allocations as part of the emerging GNLP (Greater Norwich Local Plan). However, the Sustainable Transport Strategy provides the necessary provisions for cycle connectivity taking account of current developments and potential future growth locations. The majority of these journeys would be expected to head east into central Norwich – the shortlisted routes within the STS are aligned with this. Those travelling west would be expected to make use of the dedicated Marriott’s Way route (for example from Taverham to Lenwade).

2: Wood Lane cycle track toward Norwich across the NWL junction with the A47

Norwich Cycle Campaign Commented:

Again, this is an obvious gap in the cycle track network. The proposed crossing via a green bridge would seem to involve a lot more hills than already exists via Wood lane and cyclists heading toward Norwich on the old A47 would expect to be able to connect with the route east. As is this clearly fails the connectivity requirement.

NCC response:

The need for crossing the NWL at the Wood Lane junction was considered within the design process, working with Highways England. HE’s original (February 2020) proposal to take vulnerable users through the roundabouts in a deep cutting via a confined underpass alongside high volumes of traffic was considered to be intimidating for cyclists, pedestrians and equestrians. However, a review of observed survey data in this location indicated that there was no evidence of existing use of the junction by cyclists.

A manual classified turning count was carried out at the existing A47 junction with Wood Lane and Berry’s Lane on Wednesday 16 October 2019 from 7am to 7pm and no cycle movements were observed during the survey. A similar survey was also carried out on 8 October 2020 from 7am-10am and 4pm-7pm and again no cyclists were recorded using the junction. Both surveys also included east-west and west-east movements on the A47 single carriageway in this location. Hence there does not seem to be a substantial demand for east-west travel by cycles crossing the NWL at Wood Lane.

It is acknowledged that there is a potential desire line between the villages of Hockering and Honingham which crosses the A47 to the west of the Wood Lane junction. This is dealt with via the Highways England proposal to install a new underpass at Mattishall Lane, Hockering to the west of Wood Lane. There is also an existing Restricted Byway (Honingham RB1) which crosses the NWL about 600m north of the existing A47. As part of the NWL scheme, RB1 is proposed to be diverted to the east side of the NWL, with users diverted to a green bridge at The Broadway which will connect with a new underpass at Honingham.

For longer distance east-west journeys by cycle, the old A47 around Honingham will be retained for all users and new NMU routes are to be provided by HE connecting to St Andrew's Church via an underpass and heading east towards Easton where a new bridge will be installed by HE crossing the A47. Alternatively, the NWL green bridge at The Broadway also gives onward access to Weston Road which will be a low traffic route connecting towards Ringland via Honingham Lane which has the potential to be closed to motorised vehicles as part of the HE scheme and NWL cycle friendly route option D. From Weston Road there is also onward access to the south via the HE proposed bridge at Easton.

3. Creating Cycle Friendly Routes Shared with Traffic

Norwich cycle Campaign Commented:

We are concerned that most of the cycle routes will in fact be on trafficked roads with no segregated provision. We also note that you intend to ask Sustrans for input, which is to be welcomed, but this should not be instead of input from the Norwich Cycling Campaign.

NCC Response:

As set out above, the Cycle Friendly Route Options are intended to make best use of existing roads which will benefit from low traffic volumes once the NWL highway scheme is in place. This should minimise the cost and environmental impact of creating segregated infrastructure and enable users, in particular cyclists to enjoy the rural network and surrounding countryside in relative tranquillity.

We do acknowledge that the detail of the design does need to be considered carefully in the context of LTN 1/20 guidance and we are seeking input from a variety of stakeholders such as Sustrans and affected Parish Councils to assist with this. We are happy to also include Norwich Cycle Campaign in the process. However, the LTN 1/20 guidance has a focus on urban environments, and it does not seem appropriate to apply urban design principles to a rural network across a wide area. Although it is noted that Chapter 7 refers to rural routes and quiet lanes also. The introduction to Chapter 7 states the following:

On existing streets where the principal function is access to local properties, and on rural lanes where traffic flows are light, there is less need for separate cycle facilities. Achieving lower traffic flows or speeds might require physical and legal measures to control access and motor vehicle speeds. As well as enabling cycling, such measures can bring wider environmental benefits by reducing noise, air pollution and traffic danger. In urban areas the measures may include Home Zones and Vehicle Restricted Areas. In rural areas, Quiet Lanes designation can help drivers to anticipate the presence of cyclists, walkers and equestrians within the carriageway.

Whilst we do not propose to designate any new 'Quiet Lane' areas, initial traffic modelling indicates that the majority of the cycle friendly routes proposed will have relatively low traffic volumes below 2,500 vehicles per day in the 2025 NWL opening year and many of the routes will have less than 1,000 vehicles per day, which LTN 1/20 considers to be suitable for use as a 'Quiet Lane'. Where traffic volumes are expected to be higher than 2,500 vehicles per day, segregated provision will be considered or measures to reduce the vehicle flow volume will be put in place.

WCHAR process and working with HE

Norwich Cycle Campaign Commented:

It has come to my attention that the WCHR review of the NWL overlaps significantly with the WCHR review of the new A47. Have these two reviews been conducted together and have they both taken into account the changes made by both major road projects?

NCC Response:

The Walking Cycling and Horse Riding Assessment Report was produced in parallel with HE's work on their A47 North Tuddenham to Easton dualling scheme. The two teams are working closely and have regular meetings to discuss and co-ordinate the designs.

As set out above, we have jointly considered the NMU design of the two schemes and jointly considered NMU provision where the NWL Cycle Friendly Route options connect with HE's proposals. We have jointly worked towards minimising severance issues and sought to create a future network that is well connected to existing and proposed routes for cycling.