

Review - Durham City Strategic Cycle Routes



For: *Durham County
Council*



By: Transport Initiatives LLP



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Report

Review - Durham City Strategic Cycle Routes

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Review of Proposed Durham City Cycle Route Network

Contents

1. Summary	3
1.1 Introduction	3
1.2 Methodology	4
2. Discussion	5
2.1 Cycle Route Network Principles	5
2.2 Route Designations	6
3. Recommendations	7
3.1 Route Designations	7
3.2 Super Routes	8
3.3 Secondary Routes	9
3.4 Regional Routes	10
3.5 Other Recommendations	10
4. Site Issues and Recommendations	11
4.1 Summary of Recommendations	11
4.2 Draft local plan cycle route proposals	13

1. Summary

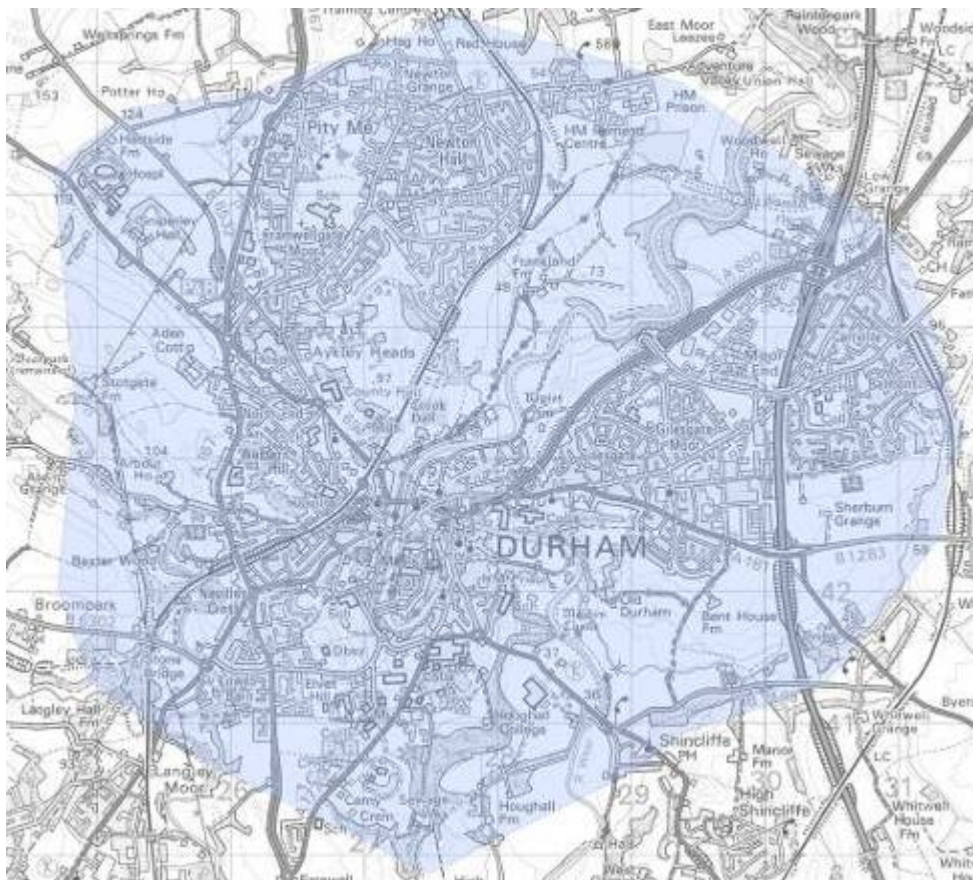
1.1 Introduction

Durham County Council has commissioned Transport Initiatives (TI) to provide detailed advice on its proposed network of strategic Cycle Super Routes and Secondary Cycle Routes in and around Durham City. This will enable the County Council to safeguard the proposed network, to develop it further and ultimately to deliver it.

The key outputs for the work, which are provided in this report, are:

1. An updated plan, using the existing data sets for Cycle Super Routes and Secondary Cycle Routes, that ties in with the strategic housing and employment sites and major transport schemes in and around Durham City.
2. Outline engineering/design solutions to problems that may be encountered (i.e. road crossings). A series of locations have been identified where specific solutions and advice were specifically requested.
3. Rough cost estimates for engineering/design solutions for identified sites based on comparable engineering and design solutions delivered elsewhere in the UK and these are represented through categories Low (Up to £20,000) Medium (£20-100,000) and High (Over £100,000). All costs are estimates and liable to change following feasibility and design.

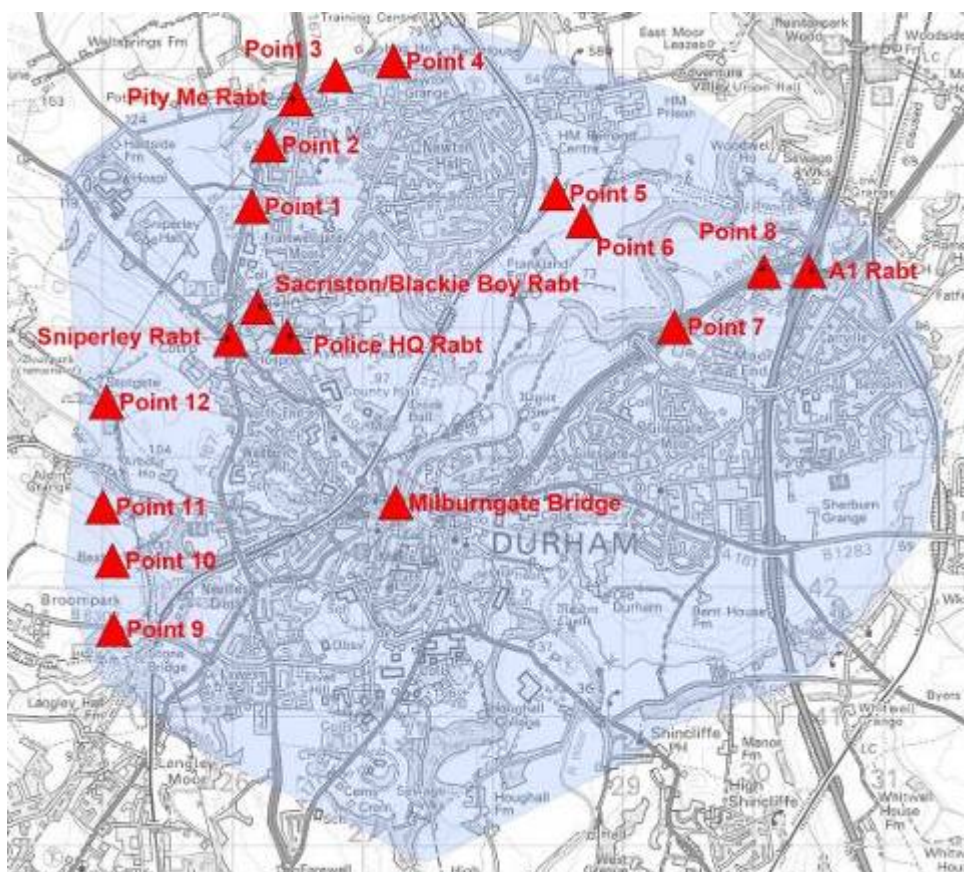
The first draft of the report was delivered in September 2014 with the final version completed in October 2014. Plan 1 below shows the area covered by the review.



Plan 1

Plan 2 below shows the sites for which specific design solutions and advice were sought. Each of these sites represents locations where there is current or proposed

provision of cycle infrastructure.



Plan 2

1.2 Methodology

TI was supplied with digital mapping layers showing existing cycle infrastructure in the review area, current proposals for super and secondary routes to be safeguarded in the Local Plan and locations where specific solutions or advice was sought. TI staff visited all the identified sites and also cycled the proposed routes and other roads where alternatives might be appropriate.

Discussions with Council officers also enabled us to clarify any questions about the Council's intentions and needs.

2. Discussion

2.1 Cycle Route Network Principles

The development of cycle route networks plays an essential role in cementing cycling as a core travel mode. Apart from benefits to health and personal fitness, getting more people to cycle can reduce congestion and demands on public transport.

However, while cyclists have access to the majority of the road network, only those who are very confident will feel able to use this as it has, in most cases, been designed for motor vehicles and without adequate consideration for cycling needs. Cyclists are a little different to other road users in what they require from a network. There are five core factors that routes forming part of an effective network must exhibit. They should be:

- **Coherent** There should be no gaps in the route and design and signing should be consistent throughout.
- **Direct** Cyclists, like other road users, usually wish to take the most direct route to their destination. Cycle infrastructure that reduces delay and can even give advantage to cyclists is the most likely to encourage more cycling.
- **Safe** A key factor for encouraging new cyclists, the importance of safety cannot be over stressed. Routes that feel safe to cycle are the ones that new or returning cyclists will want to use. Safety from motor traffic and personal safety on off road routes are both critical.
- **Comfortable** The surface of cycle lanes should be smooth and well drained so that cyclists enjoy a comfortable ride at all times of the year and in all types of weather. Smooth masticated asphalt should be the standard on road routes and where possible on paths.
- **Attractive** Where possible, routes should be attractive, offering cyclists a pleasant environment in which to ride.

The recently published Draft London Cycle Design Standards add a sixth factor of **Adaptability**. This looks at building infrastructure that has the capacity to be adapted if and when cycle demand increases.

These key factors should govern how a network is developed, but there are additional principles that apply to creating a coherent and comprehensive urban cycle network. In a city the cycle route network will normally mirror the road network with primary routes radiating out from the centre or to major employment sites. Secondary routes will link into the primary routes and quieter routes feed into both. In addition there may be primary orbital routes and regional routes that pass through or near the urban area.

In planning its cycle route network Durham has followed these principles and this report will further define how we recommend these are implemented and selected.

All roads where cyclists are permitted could be considered cycle routes. However, by identifying and defining specific routes within the road and path network the council can show where it will prioritise spending to improve cycle provision on these routes.

A cycle network plan should be used to guide council planners and private developers on the council's strategic vision, how new developments can be designed to link with the network and where funding from planning gain can be directed.

2.2 Route Designation

In the Local Plan documents Durham has currently identified two types of cycle routes that it wishes to prioritise. These are:

1. **Super Routes.** Primary routes linking to the city centre and also between major residential and employment sites. They are likely to be major traffic routes and the most direct to their destinations, the routes that cyclists would logically choose to travel on if they had an adequate level of service. These will be the main focus for funding. In addition to being major transport arteries, it must be feasible to implement high quality cycle infrastructure on these routes that the majority of cyclists will feel comfortable using.
2. **Secondary routes.** Quieter routes that link to the Super Routes or which link secondary destinations. These may require some new cycling infrastructure e.g. at major junctions, but on the whole will be currently accessible to most cyclists. Signing of sections of these routes may be sufficient to confirm their secondary status.

Routes that the council has identified for classification as Super or Secondary may already have some cycle infrastructure on them, some of which is perfectly adequate.

Durham also has a reasonable amount of cycle infrastructure and routes which have not been classified as Super or Secondary, or are unlikely to be classified as such. These are primarily off-road recreational routes, or isolated infrastructure that has been implemented as and when opportunity has presented itself.

While any good cycle infrastructure is to be welcomed, having a designated route network should enable future funding opportunities to be targeted more effectively and coherently.

3. Recommendations

3.1 Route Designation

In assessing the existing draft network plan Transport Initiatives cycled each of the proposed Super and Secondary routes, plus other parallel routes, to assess the coherence of the proposed network. In carrying out this work we were mindful of Dutch cycle planning grid principles. In the Netherlands parallel cycle routes are ideally implemented at intervals of 250 metres, with the maximum spacing being 400 metres apart.

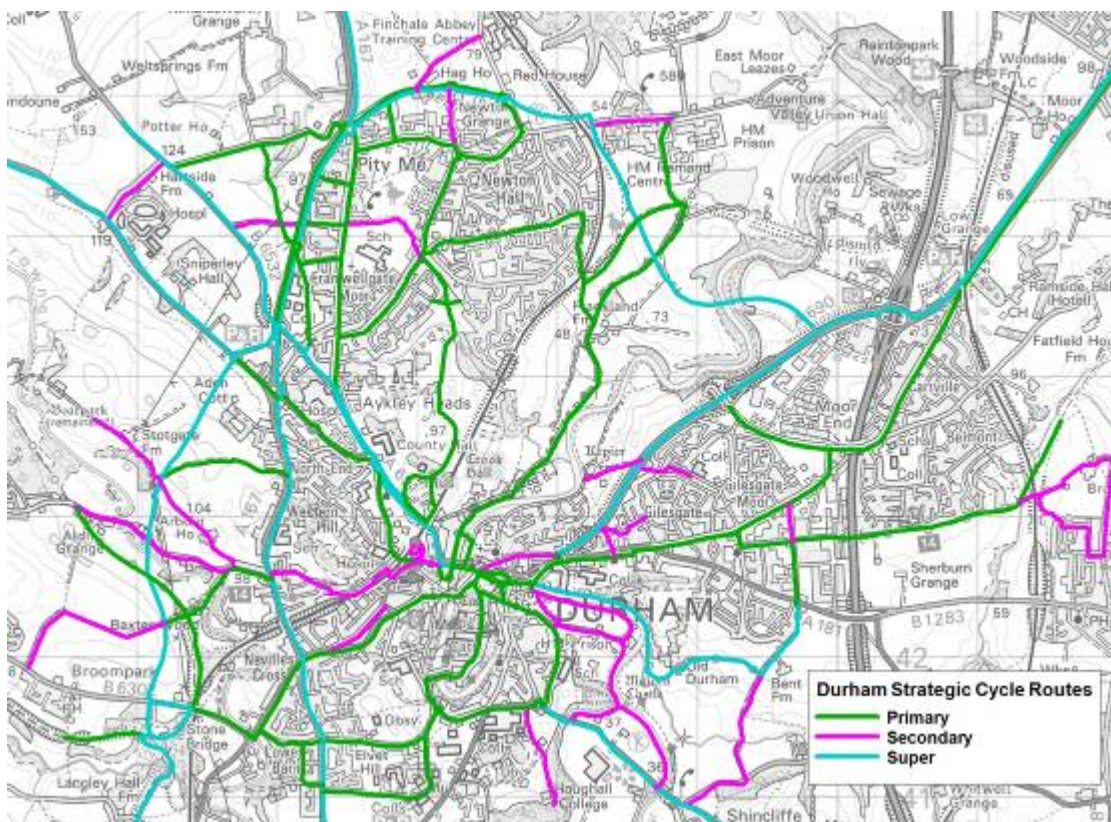
The recently published draft “London Cycle Design Standards” (LCDS) includes the same grid aspiration for the development of cycle networks in London. Of course demographics and geography ultimately determine how these grid measurements might be applied, and this is particularly so with Durham where essentially rural conditions exist very close to the city centre.

We felt that there was some lack of clarity in the route definitions and those preliminarily designated in each of the two main classes. As a result the County Council developed this work further and an additional category was added to address the potential gap between CSR and Secondary, the new category is Primary Safeguarded Route.

Following legal advice council officers clarified that it was not possible at this time to make any further changes to the route network in the Local Plan as it has already been submitted to the Government for its examination. However, Council officers advised that any advice on the route designation from TI would still feed into future work, in particular the review of County Durham’s Cycling Strategy and Action Plan 2012-2015 in 2015. In addition in the long term, further work on route designation and an updated Countywide route network could be taken into account and reflected through future work to review the County Durham Plan. On the basis of this advice TI have taken the opportunity to propose that in the medium to long term the Council should consider a more developed route categorisation based upon three types of route. These are:

1. **Super Route.** High quality route that will be an off-road or well defined and protected on road route. These will predominantly be along inter-urban corridors linking the County’s main towns along existing key travel corridors, but should be included in all new major developments – in particular strategic housing and employment sites. There would be minimal disruption to flow along this route, with priority for cyclists at the majority of junctions or high quality facilities at others. It will be the aspiration to, where possible, introduce this level of route where high levels of cycling are present, or likely to be in the future
2. **Primary Safeguarded Route.** Providing feeder routes to the Super Routes and also along key routes between town centres, main residential areas and major employment locations.
3. **Secondary Safeguarded Route.** Linking routes at a more local level, connecting to smaller settlements and other cycle routes.

For example the implications of such a categorisation for Durham City is set out overleaf:



Plan 3

The key changes for each category are set out below. These changes if accepted would need to be reflected initially within a review of the existing County Durham Cycling Strategy and Action Plan.

3.2 Super Routes

- **Great North Cycle Route.** For the whole of its passage through the area.
- **W2W.** Some sections are now in urban area and would, using the changed route designation, be categorised as Primary Safeguarded.
- **Along proposed Western Relief Road.** This route, if implemented, will, for the foreseeable future have mainly regional purpose. However, when new infrastructure is introduced the opportunity should be taken to include high service levels for cyclists.
- **Dryburn Road between St Cuthberts Avenue and Front Street junctions.** This section was a proposed Secondary route between two sections of Super route which was inconsistent.

3.3 Primary Safeguarded Routes

Some of the above routes which we have proposed be designated as super routes had been designated as secondary. We suggest additional Primary routes in the following locations:

- **Finchale Road, Pit Lane through to Rotary Way.** Designated Secondary but a key route between retail and employment site, residential areas and routes to the city centre.
- **Neville's Cross Bank, Crossgate Peth, Crossgate, Framwelgate Bridge to Saddler Street.** Another main route to the city centre where wide traffic lanes

and an absence of parking allow space for a good level of service. Access across Framwelgate Bridge may be controversial. However, this is a significant missing link that would offer an alternative to the highly unsatisfactory Milburngate Bridge. A limited lifting of current restrictions on cycling to allow access in peak hours e.g. prior to 10am and after 4pm could be a satisfactory compromise to reduce opposition to this logical route option.

- **Whinney Hill, Old Elvet, Elvet Bridge – also spur over New Elvet Bridge and up slip to Saddler Street.** There was no designated route from the south east into the city centre. While not the most direct, this route is the most feasible given space and traffic levels. As with the proposal for Framwelgate Bridge a limited access over Elvet Bridge would be logical prior to 10am and after 4pm. Between these hours the suggested spur over New Elvet Bridge would be an alternative to complete this link.
- **Sunderland Road with spurs on Dragon’s Lane and Mill Lane/Renny’s Lane.** Designated as a Secondary route, this is currently the only available route to the east. There is potential to deliver a good level of service needed for a Primary route.
- **Route through new housing development to west of A167.** This was proposed as a Secondary route, however, it is logical that the route should be given Primary status. This will also influence the developers to give greater status to the route and the quality of its delivery.
- **Continuation of previous route to east of A167 linking to Front Street and also link through college to Dryburn Road.** These are both logical extensions.
- **Route along Front Street.** This is a direct route and there is good width and potential to deliver to the high quality required of a Primary route.
- **A177 Shincliffe to Potter’s Bank.** A key route linking university sites and therefore likely to have reasonable cycling demand
- **Existing link between “Point 3” (site discussed in Section 4 below) and Abbey Road.** This completes a link.

3.4 Secondary Safeguarded Routes

These are mainly existing National Cycle Network (NCN) routes. We suggest the following additional routes:

- **Carr House Drive.** The Newton Hall area has no designated routes which leaves an obvious gap in the grid of provision. Carr House Drive is relatively quiet and therefore little would need to be done to raise it to Secondary route status. The area of Newton Hall also has numerous paths, which allow considerable permeability for non-motorised modes. These will be discussed in Section 3.5 on other recommendations below.
- **Existing path heading north east from Rotary Way.** This path may be rerouted when the proposed housing development is built on this land. Other routes should also be implemented to link to proposed and existing infrastructure.
- **Existing route south from Stockton Road to Great High Wood.** Possible link into university campus.
- **Wakenshaw Road and Heathside Place.** A link into the residential area to the north of Sunderland Road.

3.5 Other Recommendations

The recommendations above still leave some gaps in the network when the good practice grid principles suggested in Section 2 are applied.

These are most obvious in the east of the City where it would be desirable to develop routes along Broomside Lane and Sherburn Road/Front Street. Church Street/New Elvet is another logical route, but in all these instances the existing road conditions make it very difficult to envisage development of sufficient levels of service for cycling routes.

Elsewhere there are large residential areas where there are no current designated routes. This is not such an issue as traffic conditions on streets in these areas are relatively benign and therefore all can be considered suitable for cycling. In these areas there are also paths that will already be used informally for cycling as they give advantage, albeit not legally. We therefore recommend that:

- **Durham should review existing paths and seek to convert these to shared use where these have adequate width so as not to inconvenience pedestrians and where this would give advantage to cyclists.**

Finally there is considerable infrastructure already within Durham, much of which is not clearly signed. Good signing not only tells both local people and visitors where they can cycle, but also sends a message to users of all modes that cycling is catered and cared for. We therefore recommend that:

- **Durham should adopt and implement a clear cycle signing strategy.**

4. Site Issues & Recommendations

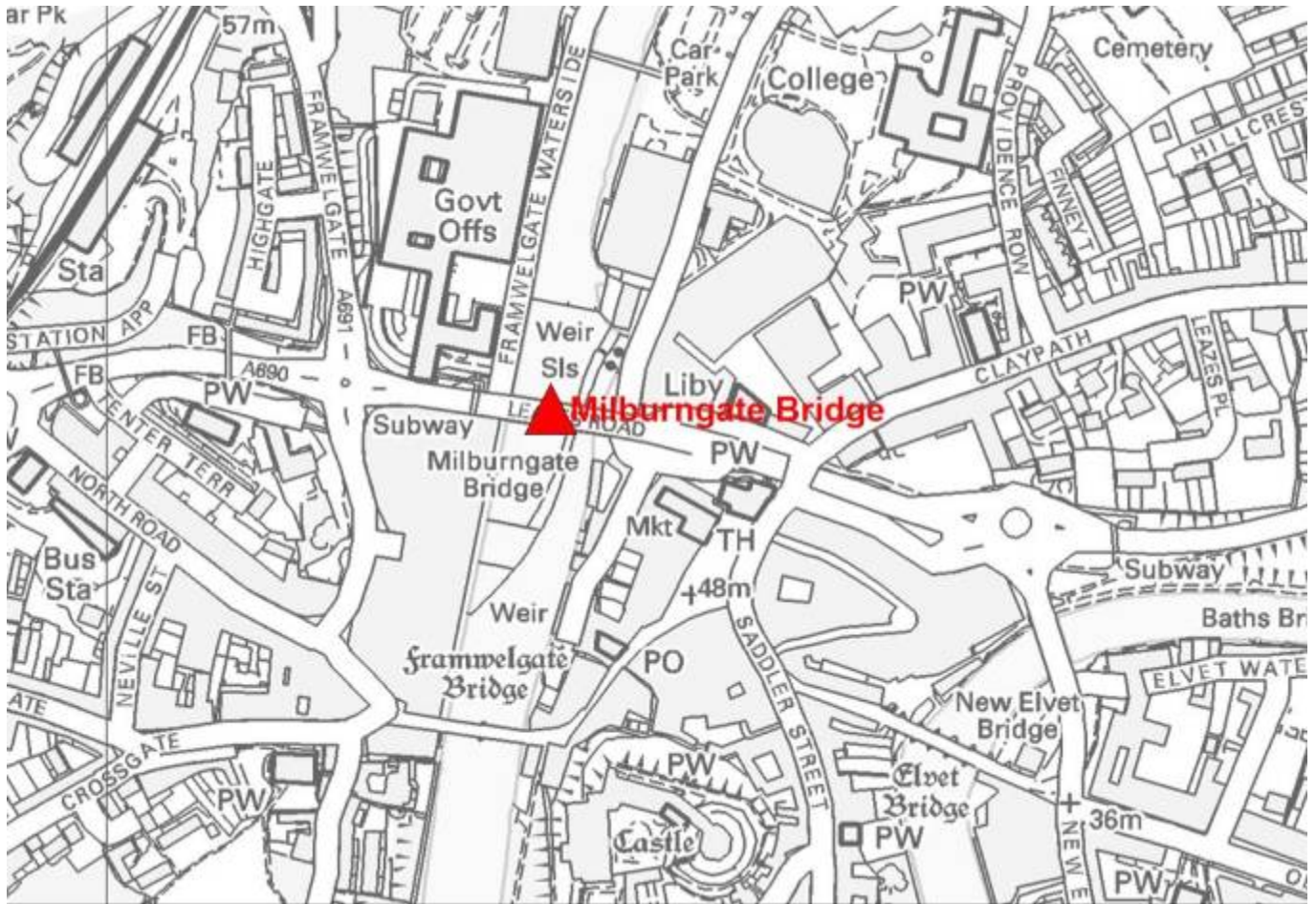
4.1 Summary of recommendations

Number & Name	Recommendation	Cost Estimate
1. Milburngate Bridge	Reinstate cycle use on Framwellgate Bridge. An experimental TRO is suggested.	£15k
2. Police HQ Roundabout	Provide a 'Dutch style' cycle-friendly roundabout.	£400k
3. Sniperley Roundabout	Signalise the roundabout and provide advance detected crossing links over the splitter islands.	£450k
4. Sacriston / Blackie Boy Roundabout	Provide a 'Dutch style' cycle-friendly roundabout.	£400k
5. Pity Me Roundabout	Signalise the roundabout and provide advance detected crossing links over the splitter islands.	£500k
6. A690/A1 Roundabout and Point 8	<ol style="list-style-type: none"> 1. Provide a cycle track on the city side of the NRR. 2. Provide traffic-free pedestrian/cycle links at the NRR/A690 junction. 3. Investigate and safeguard alternative pedestrian/cycle links to/from the city, south of A690. 	Should be included NRR
7. Point 1, Framwellgate Moor	Confirm use and improvement of this traffic-free crossing opportunity.	£200k
8. Point 2, Framwellgate Moor	Confirm use and improvement of this traffic-free crossing opportunity.	£1-1.5 million
9. Point 3, Rotary Way	Provide an at-grade Toucan crossing with associated links into the proposed new development.	£80k
10. Point 4, Rotary Way, Arnison	Provide a 'Dutch style' cycle-friendly roundabout and links.	£400k
11. Point 5, Low Newton	<ol style="list-style-type: none"> 1. Provide a formal off-road cycle track link from Finchale Road to the existing LNNR path. 2. Provide an underpass crossing of the existing LNNR main path. 	£150k £500k
12. Point 6, Frankland Lane	Provide an underpass for this existing bridleway.	£500k

Number & Name	Recommendation	Cost Estimate
13. Point 7, Belmont FP No 7	Existing riverside footpath and link to Carrville should be provided with underpasses incorporated in the associated river bridge and A690 elevated junction structures.	Should be included NRR
14. Point 9, Broom Lane	Provide a pedestrian/cycle link from the WRR/Broom Lane junction to the Deerness Valley Walk.	£50k
15. Point 10, Baxter Wood	Provide an underpass for Bridleway No 82.	£500k
16. Point 11, Lanchester Valley Walk	Provide an underpass for the LVW.	£500k
17. Point 12, Stotgate	Provide an underpass at the convergence point of the WRR with the farm track to Stotgate and the converging PRow routes.	£500k

4.2 Draft Local Plan (2013) cycle route proposals in and around City of Durham

1. MILBURNGATE BRIDGE



City centre all-traffic river bridge, with no measures for cyclists.

To lawfully cross here cyclists must use the carriageway – comprising 4 narrow traffic lanes (about 2.25m wide). Footways to each side are 2.2m wide between high side railings. Confident cyclists observed using the traffic lanes. There are high capacity roundabout junctions at each end, which are cycle-unfriendly.

Alternative bridges are available north and south of this heavily trafficked vehicular crossing point.

Possible solutions

1. Convert nearside traffic lane to cycle lane – low cost but unlikely to be agreed due to motorised traffic priorities and strategic importance as a traffic route/crossing.



Milburngate Bridge – narrow traffic lanes and footways preclude use by cyclists

2. Convert footways to shared use – cheap, but will be substandard and introduces pedestrian/cycle conflict.
3. Use adjacent Pennyferry Bridge – detour away from city centre too far, indirect route.
4. Use adjacent Framwellgate Bridge – existing pedestrian-only bridge. Cycling is currently banned. Can provide a useful route through the city centre.

Discussion

There is presently no direct, safe, convenient cycle route through the city centre and across the river. The busy, all-traffic Milburngate Bridge can only be used on road by experienced, determined cyclists, prepared to access the large roundabouts at each end.

The best (most direct and practical) route is afforded via Framwellgate Bridge. Currently there is a ban on cycle use. This bridge has had cycle use 'designed-out' (cobbled surface and use of space-hungry 'decorative' planters restricts the width). To reinstate cycle use would create a useful, attractive city centre route, making use of Elvet Bridge and linking to cycle routes from the east. This would also improve access for pedestrians with limited mobility, including people with disabilities.

Permitting cycling before 10am and after 4pm would be a feasible compromise solution.

Other busy pedestrian streets in the city centre (e.g. Saddler St) allow use by motorised traffic and are therefore deemed safe and acceptable. Not to allow cycle use on Framwellgate Bridge would therefore appear to be illogical.

Recommendation

Reinstate cycle use on Framwellgate Bridge. An experimental TRO is suggested.

Cost estimate LOW: £15K



Saddler Street – current lawful use by motorised vehicles in busy pedestrian-dominated thoroughfare



Framwellgate Bridge – cyclists are banned from using this convenient route.

2. POLICE HQ ROUNDABOUT



B6532 Dryburn Road. Multi-lane high-capacity roundabout junction with no existing cycling measures.

There appears to be a designated cycle route (shown on the 2012 Cycle Route Map) south from the junction along the footway and around the east side across the multi-lane arm to the Police HQ. This route is not evident from on-highway signing or markings. There are dropped kerbs across the splitter islands.

The junction is on a hill: downhill (after a long, uphill climb) from the south and uphill from the Front St/Aykley Vale road. The NW main route arm to Dryburn Rd is relatively level. There is considerable circulating space for traffic, which allows fast entry/exit speeds. Uncontrolled, high-speed roundabouts like this are hazardous and intimidating for cyclists.



Police HQ Roundabout – large circulating space allows for high entry/exit speeds; a hostile environment for cyclists

Proposed designated cycle routes converging on this junction will require a more cycle-friendly design.

Possible solutions

1. Re-route cyclists to avoid the roundabout.
2. Signalise the roundabout and provide ASLs and good width feeder lanes.
3. Redesign to provide a 'Dutch style' roundabout to cater for all cycle movements.

Discussion

There is presently no direct, safe, convenient cycle route through this junction. Existing and future cycle routes are proposed through here. Option 1 is not considered to be a suitable alternative. Option 2 is a compromise and would give little convenience or priority, especially if cyclists lose momentum due to stopping at traffic lights on the uphill approaches.

However, there appears to be space for a 'Dutch style' design (see Design Note). If this is within the current and anticipated flows then this is a clear best practice solution, where cycling by both experienced cyclists and those with less confidence can be given greater safety, priority and convenience.

Pedestrians too would benefit. Retention of two traffic lane approaches should only be considered for the busiest arms. At peak times, the slowly moving traffic should be unaffected by the design.

Recommendation

Provide a 'Dutch style' cycle-friendly roundabout.

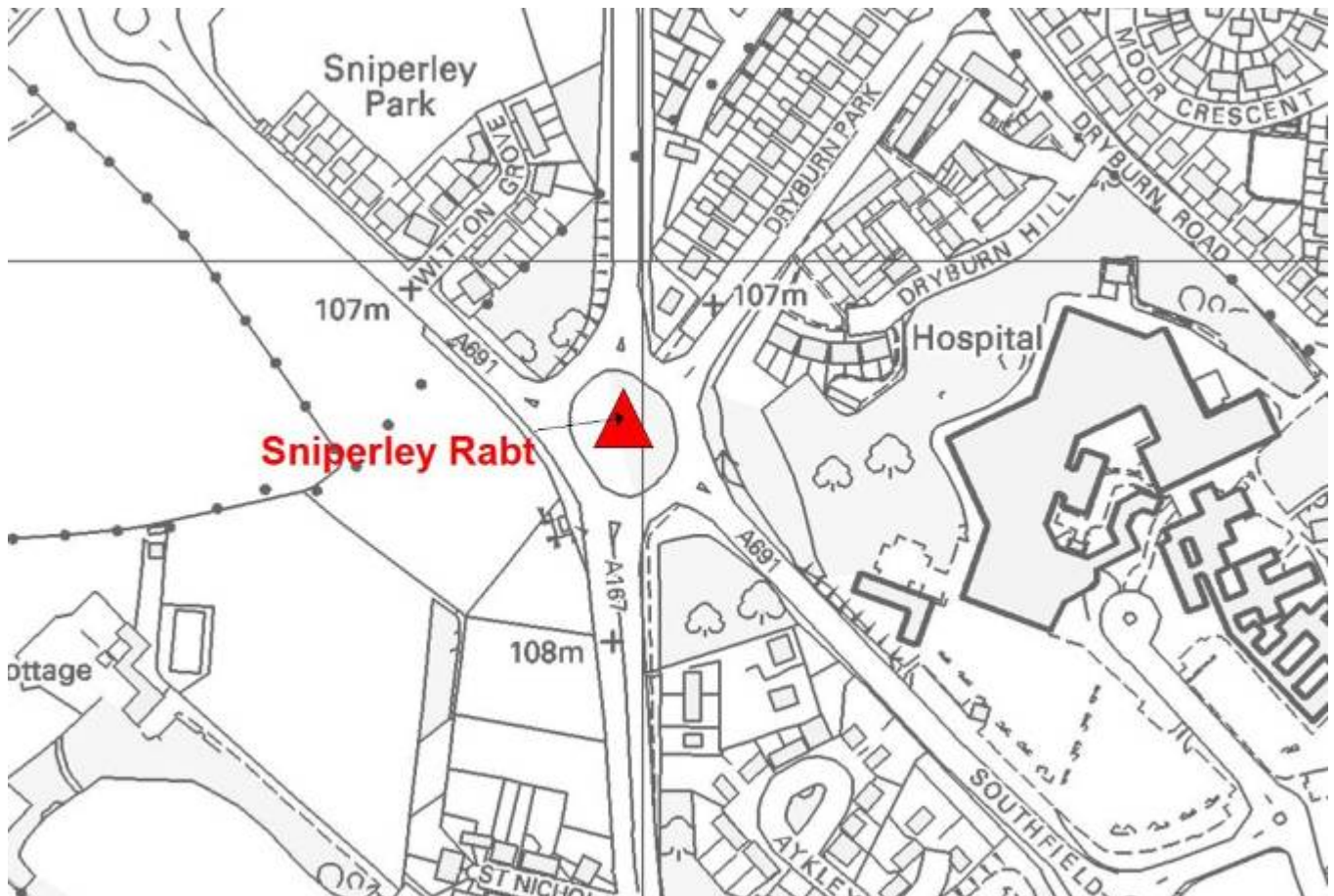
Based on designs trialled at TRL.

Cost estimate High £400K



Multi-lane roundabout arms are difficult and hazardous to cross, particularly during peak traffic flows

3. SNIPERLEY ROUNDABOUT



A167/A691 junction, NW of Durham.

This is a high-capacity, 5 arm, roundabout junction on the busy, existing western bypass route. The wide entry/exit roads and large circulating space allows for fast traffic speeds. Uncontrolled, high-speed roundabouts like this are hazardous and intimidating for cyclists.

The existing designated cycle routes converging on this junction require a more cycle-friendly design. There are existing off-road cycle routes: along the A167 (east side, shared use footway) north-south through the junction; and along A691 NW to Sniperley Hall (east side shared use footway). There are inadequate un-signalised crossing opportunities using dropped kerbs and narrow links across the splitter islands. Cyclists and pedestrians are expected to cross two lanes of relatively high speed traffic. There are currently no signals to assist them.



Sniperley roundabout – high-capacity, 5 arm junction with multi-lane approaches, allows for fast entry/exit vehicle speeds.

Possible solutions

1. Re-route cyclists to avoid the roundabout.
2. Signalise the roundabout and provide wider protected crossing opportunities with advance detection.
3. Redesign to provide a 'Dutch style' roundabout to cater for all cycle movements.

Discussion

There are existing designated cycle routes that converge on this junction. There are no alternative routes. Option 1 is therefore dismissed. A Dutch style roundabout is feasible but the 'out of town' setting, approach speeds and flows are likely to make its use unjustified. Signalising the roundabout arms and providing wider crossing routes over the splitter islands is likely to be the most practical and useful facility on what is currently a relatively 'rural' roundabout. Adding some form of advance detection to the cycle approaches should increase convenience for cyclists and reduce delays to traffic when not triggered. It is further suggested that speed limits are reduced to a maximum of 40mph on all arms.

Recommendation

Signalise the roundabout and provide advance detected crossing links over the splitter islands.

Cost estimate HIGH: £450K



The use of surface hatching at this junction suggests that there is excessive carriageway space which could be used to create safer crossing opportunities and conditions for all road users.

4. SACRISTON/BLACKIE BOY ROUNDABOUT



B6532 junction of Dryburn Rd, Dryburn Park and Finchale Rd/Front St.

This is a 4 arm urban roundabout junction, some of the approach arms are multi-lane with design geometry that allows for fast vehicle speeds. The uphill approach from the southwest adds further problems for cyclists. The junction has two proposed cycle routes: north-south along Dryburn Road; and on the northeast arm to/from Front St via New College and the extensive residential development (H1 Map 15) in the Draft Local Plan.

Existing narrow splitter island refuges, with dropped kerbs, provide for pedestrians and (informally) for the less confident cyclist. Uncontrolled, high-speed roundabouts like this are hazardous and intimidating for cyclists. Proposed designated cycle routes converging on this junction will require a more cycle-friendly design.



Sacriston Roundabout – uphill, multi-lane approach from southwest (Dryburn Rd) is hazardous for cyclists

Possible solutions

1. Re-route cyclists to avoid the roundabout.
2. Signalise the roundabout and provide ASLs and good width feeder lanes.
3. Redesign to provide a 'Dutch style' roundabout to cater for all cycle movements.

Discussion

There is presently no direct, safe, convenient cycle route through this junction. Existing and future cycle routes are proposed through here. Option 1 is therefore dismissed. Option 2 is a compromise and will give little convenience or priority, especially if cyclists lose momentum due to stopping at traffic lights on the uphill approach from the southeast.

There appears to be space for a 'Dutch style' design. Dutch roundabouts (see Design Note 1) with peripheral priority cycle tracks have a capacity of about 25,000 motor-vehicles per day (and 1500/hour conflicts at any crossing). If this is within the current and anticipated flows then this is a clear best practice solution, where both on-road and off-road cyclists can be given greater safety, priority and convenience. Pedestrians too will benefit. Retention of two traffic lane approaches should only be considered for the busiest arms. At peak times, the slowly moving traffic should be unaffected by the design.

Recommendation: provide a 'Dutch style' cycle-friendly roundabout. Based on designs trialled at TRL.

Cost estimate HIGH: £400K



Wide circulating area and entry/exit geometry allows fast vehicle speeds

5. PITY ME ROUNDABOUT



Large, high-capacity, 5-arm roundabout junction NW of the city on the A167.

Future Local Plan proposals mean that this junction will serve a significant future residential development with corresponding traffic generation. The wide entry/exit roads and large circulating space allows for fast traffic speeds. Uncontrolled, high-speed roundabouts like this are hazardous and intimidating for cyclists.

The existing designated cycle routes converging on this junction require a more cycle-friendly design. There are existing off-road cycle routes: along the A167 (east side, shared use footway) north-south through the junction; and an on-road route along Front Street. There are basic, un-signalled crossing opportunities using dropped kerbs and narrow links across the splitter islands to serve these cycle routes. Cyclists and pedestrians are expected to



Pity Me Roundabout is a busy, high-capacity junction.

cross two lanes of relatively high speed traffic. There are currently no signals to assist them.

Possible solutions

1. Re-route cyclists to avoid the roundabout.
2. Signalise the roundabout and provide wider protected crossing opportunities with advance detection.
3. Redesign to provide a 'Dutch style' roundabout to cater for all cycle movements.

Discussion

There are existing designated cycle routes that converge on this junction. Additional cycle desire-lines will result from future development proposals. There are no alternative routes. Option 1 is therefore dismissed. A 'Dutch style' roundabout is feasible but the 'out of town' setting, approach speeds and likely flows make its use less feasible.

Signalising the roundabout arms and providing wider, at-grade, 'Toucanised' crossing routes over the splitter islands is likely to be the most practical and useful approach to what is a relatively 'rural' roundabout on a major traffic route. Adding some form of advance detection to the cycle approaches should increase convenience for cyclists and reduce delays to traffic when not triggered. Subways could be considered but the gradients involved would add to user inconvenience unless the roundabout level is raised. It is further suggested that speed limits are reduced to a maximum of 40mph on all arms.

Recommendation: signalise roundabout and provide advance detected crossing links over the splitter islands.

Cost estimate HIGH: £500K



One of the existing, uncontrolled, cycle crossing facilities (Front Street arm).

6. A690/A1 ROUNDABOUT & 'POINT 8'



Point 8 (the junction of the NRR/A690) and the A1/A690 junction

These are interlinked and are considered together. The A1/A690 roads meet at a grade-separated, high capacity roundabout with multi-lane exit and entry slip roads on a gyratory over the A1, itself in cutting under the junction. There is traffic light control at the top of the two up-slips from the A1 where traffic joins the roundabout. On the gyratory itself there are 3 traffic lanes.

FP No.7 (west of the junction) and FP No.12 (east of the junction) are connected by footways across the southern side of the gyratory. Dropped kerbs are provided between the footways. There is no provision for path users during the existing traffic light cycle. The wide entry/exit slip roads and large circulating space allows for fast traffic speeds. Uncontrolled, high-speed roundabouts like this are hazardous and intimidating for cyclists and pedestrians. At the A690, path users from FP No.7 are expected to cross 2 x 3 traffic lanes (includes a slip lane) on this dual carriageway close to the junction to the Grange Caravan Club site. This crossing manoeuvre is potentially extremely hazardous.

Discussion

The A690 and A1 multi-lane roads and the roundabout junction present a considerable barrier to walking and cycling. Future development plans and the proposed Northern Relief Road (NRR) could ameliorate this. The rudimentary footways and unassisted crossing points around the south side of the roundabout junction can be improved with traffic light control.

Toucan crossing arrangements and footway conversion/widening would allow and provide for lawful cycle use. To make this improvement useful, however, traffic-free links to the west to/from the city and northwest would need to be provided. Routes based on



Westbound slip road from gyratory to A690. Note narrow footway in verge.



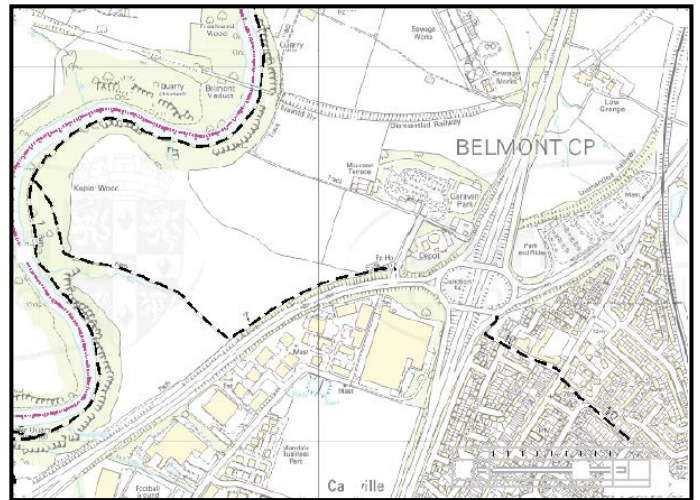
Traffic light control on southern bridge - the up-slip road from the A1 is to the left. There are good wide footways over the bridge sections.

utilising/improving the existing river valley PRoW have serious gradient issues which will deter all but the most able, determined cyclists and pedestrians. This represents limited value for money.

Alternative routes to/from the city (e.g. based on Sunderland Road and Carrville High Street) are likely to be more practical and useful and should be further investigated. A well-designed, segregated cycle track along the proposed NRR could provide a useful orbital link with connections to existing routes (e.g. Frankland Lane and Low Newton) and new links. A pedestrian/cycle bridge or underpass, associated with the future NRR/A690 junction, can replace the hazardous existing route across the A690 and negate the need for improvements to the A1 roundabout.

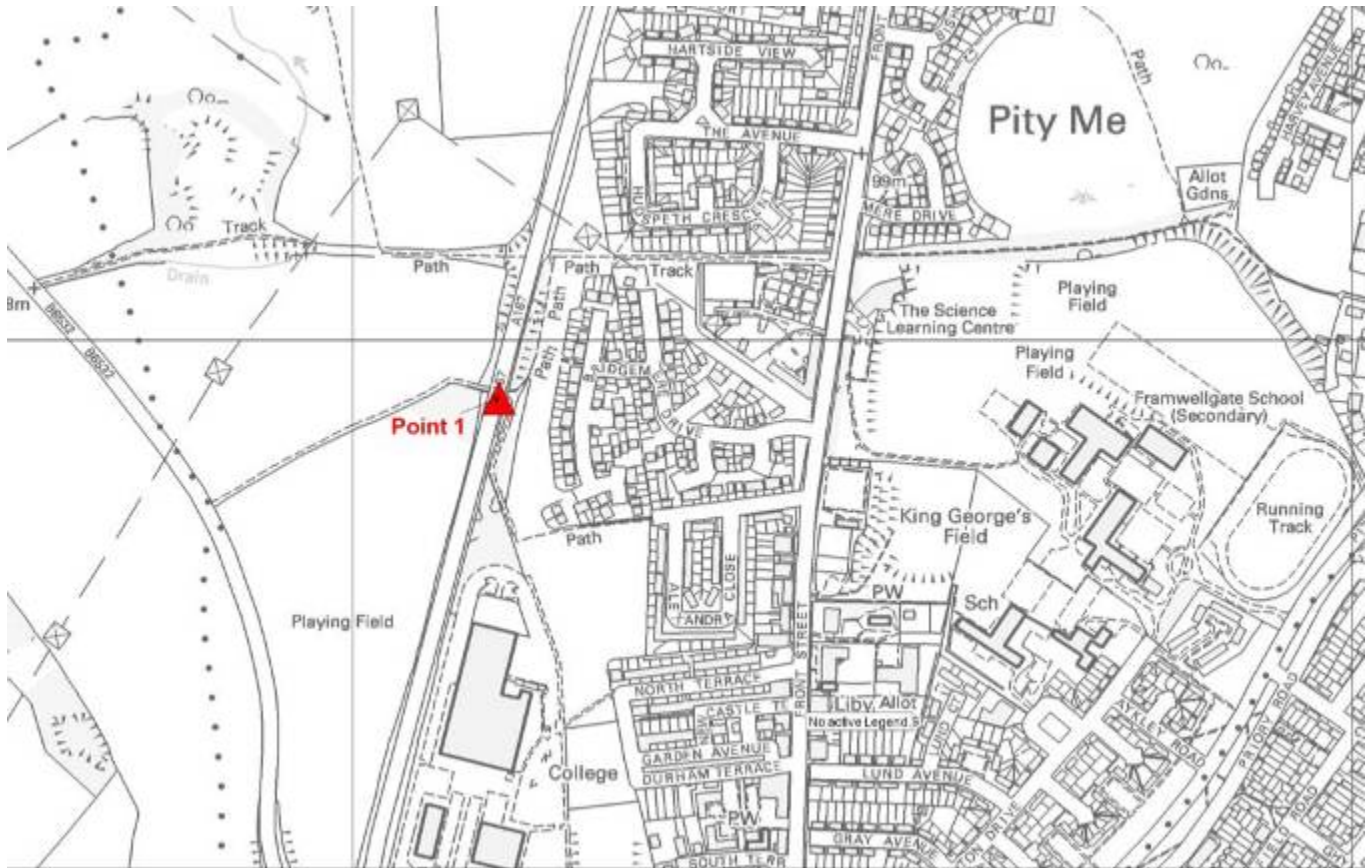
Recommendations:

- 1. provide a cycle track on the city side of the NRR;**
- 2. provide traffic-free pedestrian/cycle links at the NRR/A690 junction;**
- 3. investigate and safeguard alternative pedestrian/cycle links to/from the city, south of A690**



PRoWs shown as dotted black lines.

7. 'POINT 1' FRAMWELLGATE MOOR



Currently a Bridleway (PN4) crossing point on the A167, facilitated by an existing underpass.

Current link paths are unsurfaced and inadequate for shared-use. The underpass is of good height clearance (for horse riders), but it is unlit and floods. 'Informal links' (gaps in hedges) from the A167 were evident. Future development will mean that link and underpass improvements will make this a vital, very useful, direct, traffic-free link to/from the city and local schools.

Improvements for path users should include: wide (ideally 5m) shared-use all-weather surfaced link paths; reduce the ramp gradients to max 1:20; provide underpass lighting; flooding problem rectification.

Ensure that the pedestrian/cycle links and improvements are scheduled and completed before the main vehicular network in the construction phase.

Recommendation

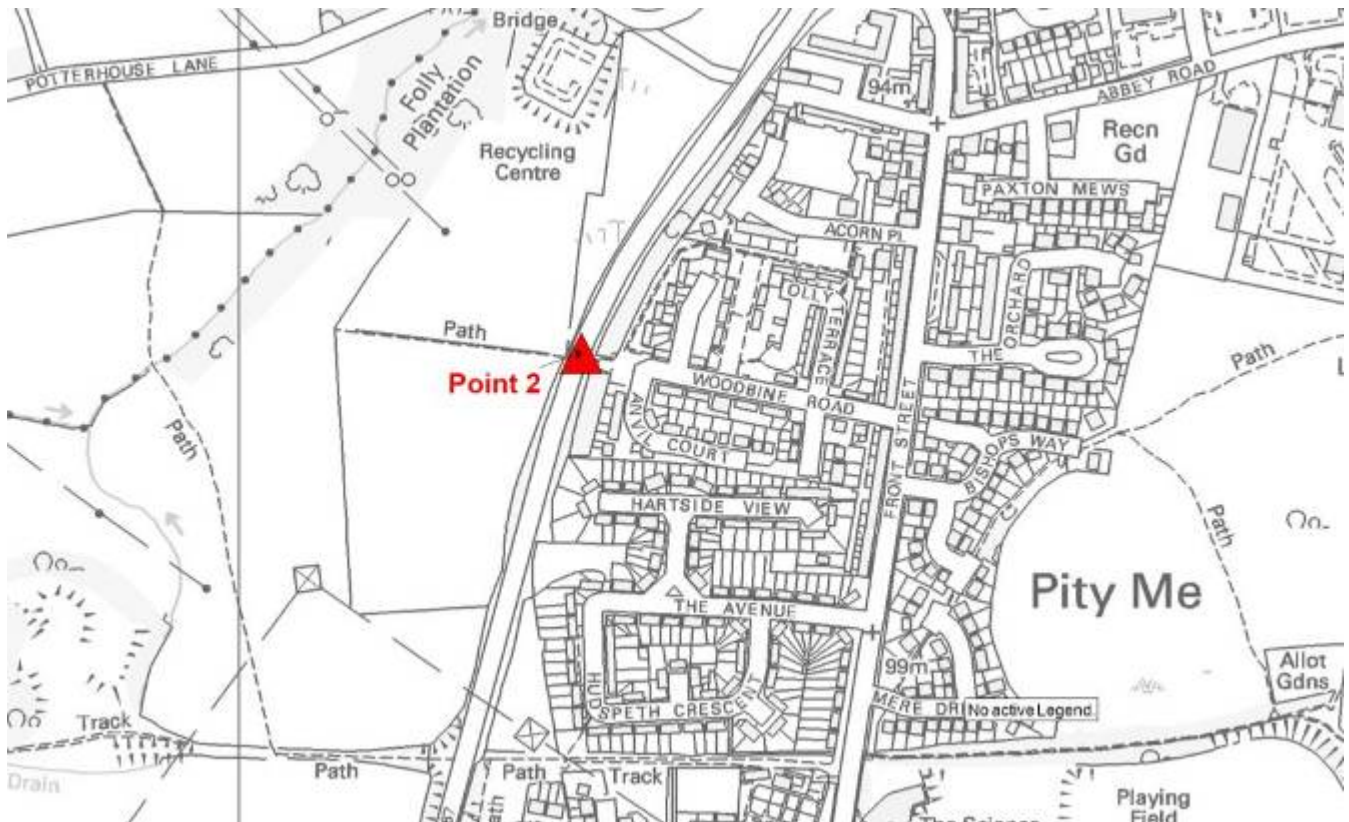
Confirm use and improvement of this traffic-free crossing opportunity.

Cost estimate HIGH: £200K (to include link improvements)



Existing A167 bridleway underpass near Framwellgate Moor. Clearly, the facility floods after heavy rainfall. Underpass and link improvements will provide a convenient, safe crossing point here.

8. 'POINT 2' FRAMWELLGATE MOOR



Footway (PN5) crossing point on the A167, with no formal crossing facilities.

This provides a convenient link to/from Folly Plantation via Woodbine Road/Bishops Way and the PRoW beyond. The unsurfaced link path drops down steeply from the east side of the A167. Providing convenient, direct, traffic-free links is vital in any walking and cycling network, hence this crossing point and link connections should be retained and improved. A bridge may be feasible here, given the topography, but access ramps must be less than 1-in-20. If the bridge is not well-designed and convenient, people are likely to continue crossing the A167 at-grade, with all the associated dangers.

Improvements for path users should include: conversion of footpath to a shared-use, un-segregated cycle track (ideally 5m); all-weather surfaces and associated links.

Ensure that the pedestrian/cycle links and improvements are scheduled and completed before the main vehicular network in the construction phase.

Recommendation

Confirm use and improvement of this traffic-free crossing opportunity. Consider a bridge.

Cost estimate HIGH: £1 – 1.5 million (if bridge, with links)



Existing footway crossing point over the A167 to/from Folly Plantation and the Pity Me suburb. The photo shows the steep ramp down from the east and the safety barrier arrangement. A gently ramped bridge will provide a convenient, direct link here.

9. 'POINT 3' ROTARY WAY



Junction of Bridleway (PN7) from Abbey Road and Rotary Way

There are no extant formal crossing facilities. The Bridleway travels eastwards on the south side of Rotary Way where it crosses to use the minor road to Hag House and the Bridleway beyond to The Finchale Abbey Training Centre. The link connects directly to the employment area southwards on Abbey Road, as well as a link into the Arnison Centre. The proposed Local Plan residential development north of Rotary Way will generate more local walking and cycling trips. Providing convenient, direct, traffic-free links is vital in any walking and cycling network, hence this crossing point and link connections should be retained and improved. A Toucan crossing with a speed reduction (to at most 40mph, observed traffic speeds suggest 85%ile speed around this or less already) on Rotary Way should work well here.

Ensure that the pedestrian/cycle links and improvements are scheduled and completed before the main vehicular network in the construction phase.

Recommendation

Provide an at-grade Toucan crossing with associated links into the proposed new development.

Cost estimate MEDIUM: £80K



Bridleway from Abbey Road joins Rotary Way from the south (beyond the bollards in the photo). A Toucan crossing point here will provide a convenient, direct link. Main road speed limit reduction is also required.

10 'POINT 4' ROTARY WAY, ARNISON



It is presumed that the Local Plan development north of Rotary Way will be accessed from this point – currently a 3 arm, relatively compact, roundabout junction. In addition to motorised traffic, this junction is on a direct desire-line for pedestrians & cyclists to/from the Arnison Centre, Newton Grange, Newton Hall and beyond to/from the city.

Any junction proposals should provide for these modes and movements. It is noted that a vacant 'green corridor' exists on the west side of the southern arm from this junction. Providing convenient, direct, traffic-free links is vital in any walking and cycling network, hence this potential crossing point and link connections should be included in any development proposals.

A 'Dutch style' compact roundabout should be considered if the traffic volumes are less than 25,000 vehicles per day. Higher volumes would require Toucanised combined crossings.

Recommendation

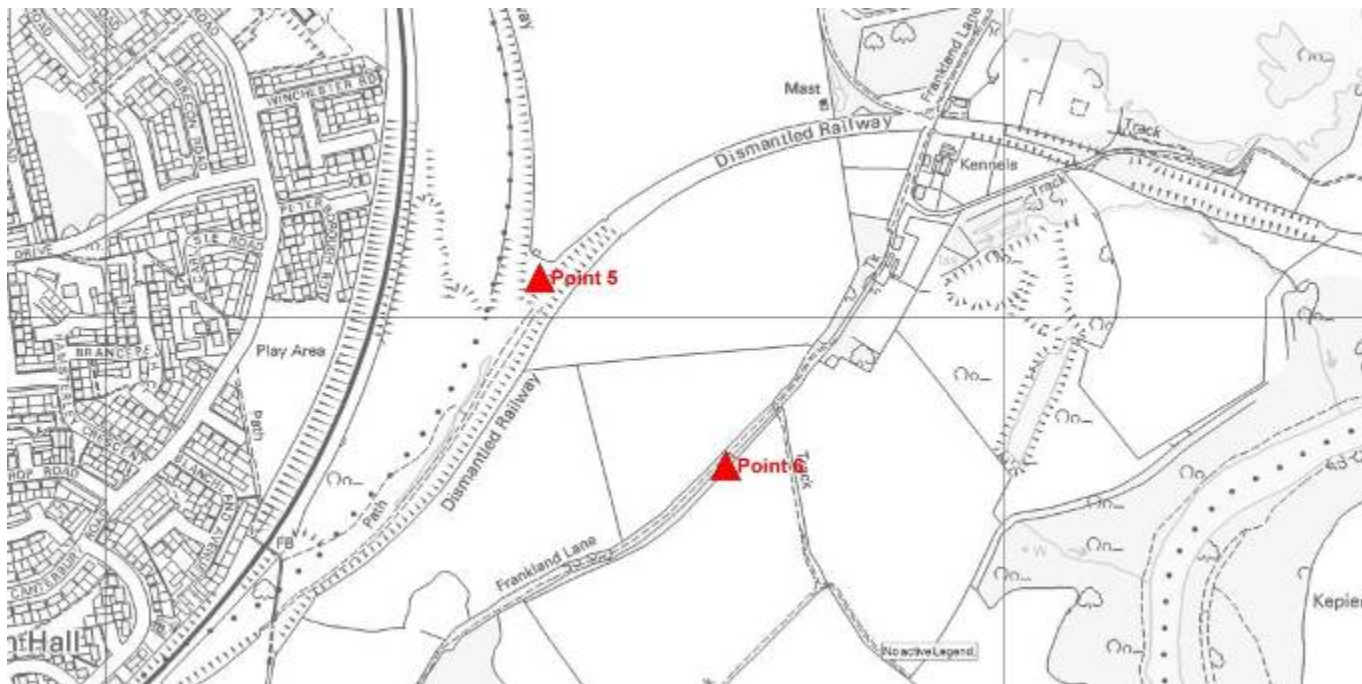
Provide a 'Dutch style' cycle-friendly roundabout and links. Based on design trialled at TRL.

Cost estimate HIGH: £400K



Rotary Way/Arnison Centre roundabout junction. The northern 'stub' will provide a link into the proposed development north of this junction. Routes for pedestrians and cyclists should be provided.

11. 'POINT 5' LOW NEWTON



The proposed Northern Relief Road (NRR) is included in the Draft Local Plan. This will have an impact on a number of walking and cycling paths which it would sever.

The photo (right) shows the approximate location where the proposed NRR may coincide with an existing walking route – along the former railway line south from Finchale Road. An existing path (see photo below right) along a separate former railway line provides a surfaced, attractive, traffic-free route through the Low Newton Nature Reserve (LNNR) between the Newton Hall area and Frankland Lane. The NRR would cross this surfaced path, presently the main route through LNNR. There are no extant PRow along these former railway lines shown on the County Definitive Map. Presumably, these are 'permissive rights'. Pedestrians, cyclists and horse riders currently use this path.

Mitigation could include provision of a formal, all-weather, surfaced link from Finchale Road to the existing high quality path (top photo). It is suggested that this would be provided on the west side of the proposed NRR. It will, of course, be compromised being adjacent to a major traffic route. Depending upon the topography, an underpass for the LNNR main path is the most user-friendly solution; retaining a traffic-free route under the proposed road.

Recommendation:

1. provide a formal off-road cycle track link from Finchale Road to the existing LNNR path.

Cost estimate HIGH: £150K

2. provide an underpass crossing of the existing LNNR main path. Cost estimate HIGH: £500K

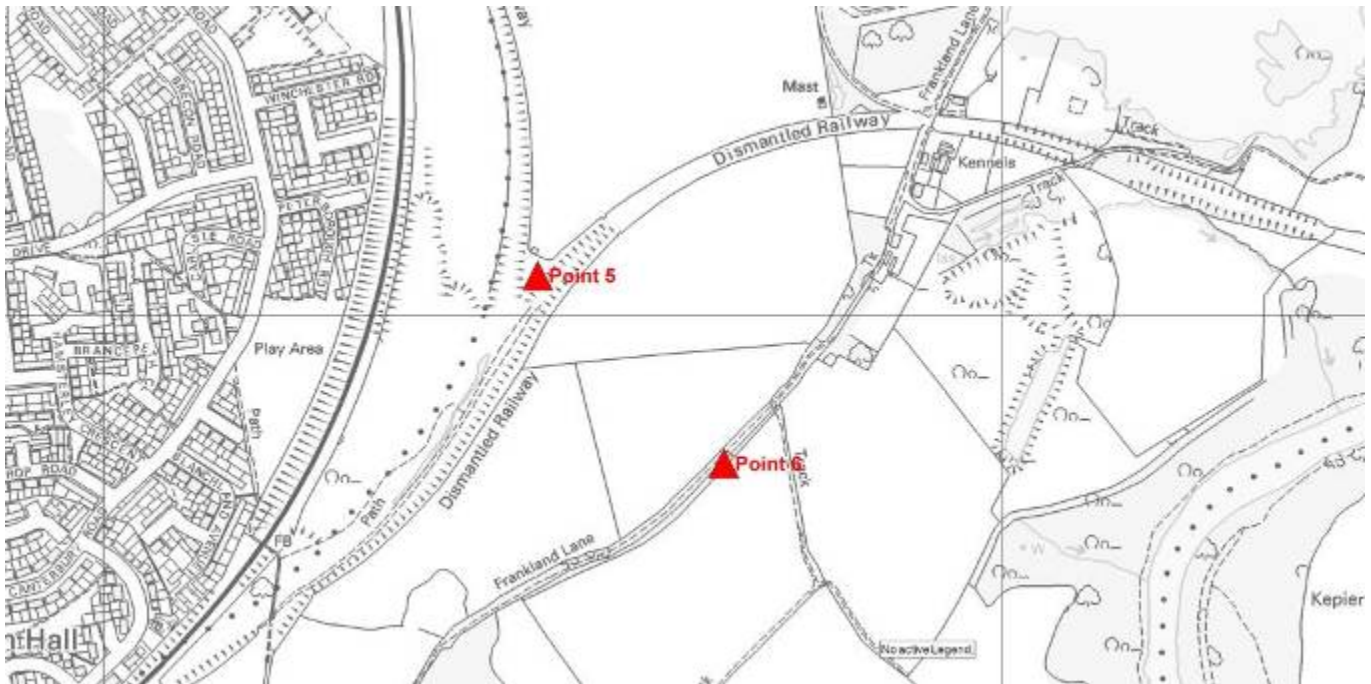


An informal, unsurfaced walking route exists along the former railway line south from Finchale Road. The route of the NRR will follow much of this path.



The Low Newton Nature Reserve includes an attractive, surfaced, walking and cycling route along the former railway line. The NRR will cross this existing shared use path.

12. 'POINT 6' FRANKLAND LANE



The proposed Northern Relief Road (NRR) will cross Frankland Lane, a Bridleway south from Finchale Avenue, Brasside. The Bridleway provides a link southwards (incorporating the Weardale Way), a lightly trafficked, unclassified road, and a link into the city along the River Wear. It is understood that this alignment is proposed as a 'Cycle Super Route'.

Ideally, this route should be provided with an underpass, though this will depend upon the topography and the final alignment of the NRR. The minimum requirement will be a traffic light controlled Toucan crossing, however, the NRR would need to be restricted to 40mph for this option. This may not be deemed acceptable.

Recommendation

Provide an underpass for this existing bridleway

Cost estimate HIGH: £500K



Frankland Lane provides a north-south link between Finchale Avenue and Durham city centre.

3. 'POINT 7' BELMONT FP No.7



The proposed Northern Relief Road (NRR) is included in the Draft Local Plan. PRoW Footpath No.7 is a rural walking link between the river Wear FP No.1 (east side) and ultimately to Carrville via an extremely hazardous at-grade link over the A690 dual carriageway, close to the junction with the A1.

It is not fully clear where/how the NRR route would affect FP No.7.

Issues to consider include:

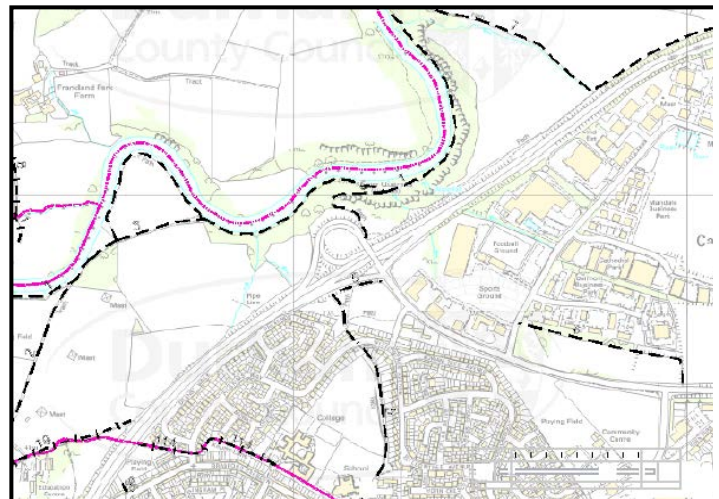
1. river road bridge clearance to allow the riverside FP No.1 clear passage underneath;
2. diversions for FP No.7 if its alignment is threatened;
3. clearance for FP No.7 under the new NRR junction with the A690.

The crossing of the A690, just west of the, A1 roundabout junction will need consideration. The topography may allow for a bridge to complete a safer link.

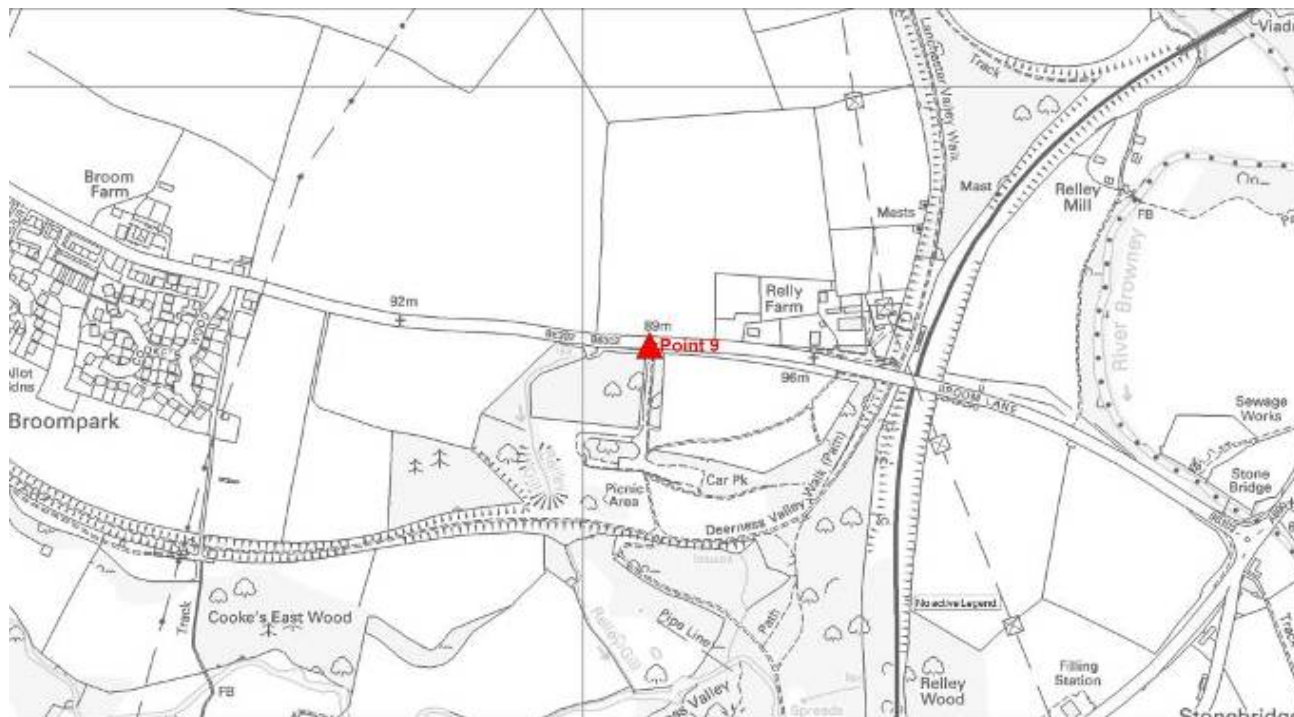
Recommendation

Existing riverside footpath and link to Carrville should be provided with underpasses incorporated in the associated river bridge and A690 elevated junction structures.

Cost estimate: should be included within the NRR design.



14. 'POINT 9' BROOM LANE



The proposed Western Relief Road (WRR) runs northwards from a connection with the B6302, Broom Lane, close to the Broompark Picnic Area.

There are two PRoW footpaths (FP No.89 and No.87) which run south from Broom Road which, however, do not appear to be affected. There are also many 'permissive paths', the most important and well-used of which is the Lanchester Valley Walk (LVW) along a disused railway line (part of National Cycle Network Route 14). The Deerness Valley Walk (DVW) uses another disused railway line south of Broom Lane. The proposed WRR/Broom Road junction does not appear to affect these routes.

Discussion

It is presumed that the WRR will include an adjacent off-road cycle track, providing an orbital walking/cycling facility west of Durham. Ped/cycle links from the end of this orbital route onto the LVW and DVW will make better use of the facility. A direct link southwards, from the WRR/Broom Lane junction, to the DVW is suggested.

A pedestrian/cycle link eastwards, along Broom Lane to the Stonebridge Roundabout, will also complement the local cycle network - this could be in the form of a converted, widened footway on the south side of Broom Lane.

Recommendations

1. Provide a pedestrian/cycle link from the WRR/Broom Lane junction to the Deerness Valley Walk.

Cost estimate MEDIUM: £50K

2. Provide a pedestrian/cycle link eastwards along Broom Lane to Stonebridge. **Cost estimate MEDIUM: £75K**



Lanchester Valley Walk, looking north from Broom Lane



Permissive link path, south from Broom Lane, to the Broompark Picnic Area.

15. 'POINT 10' BAXTER WOOD



The proposed Durham Local Plan Western Relief Road (WRR) crosses a Bridleway (Path No.82) west of Baxter Wood and its junction with the Lanchester Valley Walk (LVW).

The Bridleway connects Tollhouse Road and the LVW. West of the LVW, the Bridleway links to Broom Lane (B6302), though the path surface deteriorates quickly as the all-weather surface runs out at the end of the lane.

Discussion

The WRR would sever the PRoW Bridleway west of the LVW. The Bridleway provides a traffic-free link to/from the Bearpark community. Providing a wider all-weather surface along the Bridleway and a more direct link (possibly via Stockley Court) would create an attractive traffic-free link. Any crossing of the Bridleway should ensure that the route remains traffic-free. A well-designed underpass would best achieve this.

Recommendation

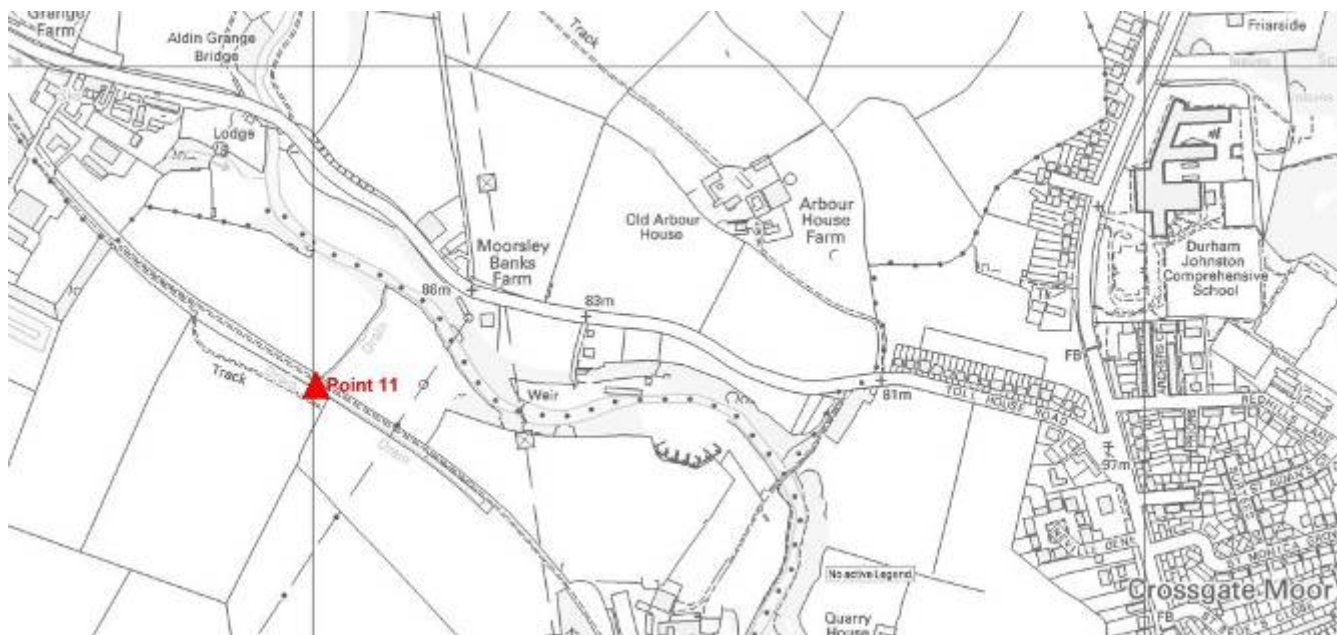
Provide an underpass for Bridleway No.82.

Cost estimate HIGH: £500K.



Lanchester Valley Walk looking north from Bridleway (Path No.82) - crosses L-R in this photo.

16. 'POINT 11' LANCHESTER VALLEY WALK



The proposed Durham Local Plan Western Relief Road (WRR) crosses the Lanchester Valley Walk (LVW) between Aldin Grange and Baxter Wood.

The LVW is a surfaced permissive path along a disused railway line, part of National Cycle Network Route 14. It appears to be well used by cyclists, pedestrians and horse riders.

Discussion

The WRR would sever the LVW. Any crossing of the LVW should ensure that the route remains traffic-free. A well-designed underpass would best achieve this.

Recommendation

Provide an underpass for the LVW.

Cost estimate HIGH: £500K.



Lanchester Valley Walk, a popular, surfaced shared use path (looking SE from Aldin Grange to Baxter Wood). The proposed WRR will sever this path in this vicinity.

17. 'POINT 12' STOTGATE



The proposed Durham Local Plan Western Relief Road (WRR) appears to cross a number of PRoW in the Stotgate area: FP No.9 (along the farm track, south from Tollhouse Road); Bridleway No.10 (from Arbour House and Tollhouse Road and continuing along the farm track beyond Stotgate Farm); and Bridleway No.11 (from the A167 at Whitesmocks). The three PRoW converge at the summit halfway along the farm track, SE of Stotgate Farm.

Discussion

FP No.9 and part of Bridleway No.10 (along the farm track) comprise the current vehicular access to the properties at Stotgate Farm. Bridleway No.10, between the farm track and Tollhouse Road, is currently overgrown and impassable. Bridleway No.11 is useable on foot, or possibly on horseback. From observation, it would appear that the track and FP are the most used routes.

A future, all-weather surfaced path along Bridleway No.11, to/from Whitesmocks, is likely to be the most useful in network terms. The provision of an underpass to allow continued vehicular access for the Stotgate Farm residents along the track, would also provide continuity under the WRR for the various PRoW that converge in this area. Some modest PRoW diversions and realignment might be required to make this work, depending upon the final line of the WRR.

Recommendation

Provide an underpass at the convergence point of the WRR with the farm track to Stotgate and the converging PRoW routes.

Cost estimate: £500K.



Bridleway No.11 follows the ploughed field edge, left to right, and links through to the A167 at Whitesmocks.



Track to Stotgate Farm looking NW from the PRoW convergence area on the summit. Bridleway No.10 continues along this track to beyond Stotgate and joins FP No.22.