The Nurses Way

A Key Route for Key Workers





Exeter Cycling Campaign

https://exetercyclingcampaign.org.uk/ Non-statutory planning consultees in Exeter

Why?

When we ask people in Exeter which bits of road stop them cycling or they dislike cycling along there is a recurrent theme.

Barrack Road, often accompanied by Polsloe Road.

This section of road network has evolved over thousands of years¹ but in its current configuration is one of the most problematic for active travel in Exeter - the group of users the government wants to see growing fastest.

That's a problem given this route should be key to our active transport network, with hospitals, schools, nurseries, offices, a train station, industrial areas, residential districts, play parks and the river valley park scattered along its length.

We think it's time to change that.

¹<u>http://www.exetermemories.co.uk/em/_streets/polsloeroad.php</u>

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About This Report

The Exeter Cycling Campaign are pleased to launch the initial steps into the proposition of the transformation of both cycle and pedestrian infrastructure along Polsloe, Barrack and Mount Pleasant road, shown in figure 1. This will provide a significant north/south link with a direct linkage of cycle routes E3 and E9.

The Exeter Cycling Campaign's vision is that the city is made accessible for people of all ages and abilities, using all forms of bike, to travel on safe, convenient and connected cycle paths. Significantly increasing the cycling modal share plays an important role in addressing climate breakdown, reducing pollution, alleviating congestion and making our city more liveable.

Evidence from other cities demonstrates that this modal shift can be achieved by having a dense network of cycle routes. The Campaign has previously produced an exemplar of what such a dense network should look like in the 2030 Network Plan².

This report summarises the potential that this section of road has in not only making the city centre more cycle friendly conforming with Aim 1 of Devon County Councils Cycling and multi-use trail network strategy³; showcasing Exeter as a premier cycle town. But also aligning with Net Zero Exeter 2030⁴ aiming for 50% active travel.

By linking this essential route the city will not only become safer to cycle in but a

better place to live, work and play; resultantly making a more 'liveable exeter'⁵ aiding Exeter City's Council 2040 vision⁶ aiming to become a global sustainable city leader.



² https://exetercyclingcampaign.org.uk/cycle-network-plan/

³ https://drive.google.com/uc?export=download&id=0BwtqG9WagiG2MUNIY196anJVaVk

⁴ https://www.exetercityfutures.com/wp-content/uploads/2020/05/Net-Zero-Exeter-2030-Plan-PU.pdf

⁵ https://www.liveableexeter.co.uk/

⁶ https://www.liveableexeter.co.uk/media/1bsj5352/vision-2040_lewebsitecontent.pdf

Context

Since the approval in 2015 of the Multi-Use Trail Strategy Devon County Council have been working to deliver the strategic cycle paths promised in this strategy. Figure two shows the potential for directly linking the E9 and E3 routes as well as ongoing potential to link to the E1 (Earl Richards Road) and E4 (Mount Pleasant Road). DCC's strategic cycle network plan is currently missing a direct, coherent, safe and comfortable north-south cycle route. This report proposes a well thought out option into where and how this link can be developed.

In further statutory government guidance in relation to covid-19⁷ there is an expectation that "local authorities [should] make significant changes to their road layouts to give more space to cyclists and pedestrians". This guidance not only allows for more potential long term change but also at present allows for greater distancing measures for those actively travelling across the city.

A recent citizen-led an initiative to deploy traffic cones to create a temporary protected cycle path (figure 2) were gratefully received by members of the public; "Some nurses even stopped and put their bikes on the side and said, 'thank you, this is wonderful'. One even asked if cones could be put on the other side of the road and up from Topsham Road⁸. Such aspects



demonstrated here such as simple protection for all road users is a key aspect that should be adhered to in all future road construction.

Figure 1 shows how the proposed route would integrate into the urban cycle fabric already in place. The LTN 1/20 guidance⁹ takes the approach that; "Cycle infrastructure must join together, or join other facilities together by taking a holistic, connected network approach which recognises the importance of nodes, links and areas that are good for cycling." (p.11). It is in this sense that this route provides an essential and missing connection between the north and south of the city that disables a significant population's ability to actively travel throughout the city safely, both for leisure and daily life.

⁷https://www.gov.uk/government/publications/reallocating-road-space-in-response-to-covid-19-statutory-guidance-for-local-authorities/traffic-manag ement-act-2004-network-management-in-response-to-covid-19

⁸ https://www.devonlive.com/news/devon-news/extinction-rebellion-create-protected-cycle-4184276

⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf

Purpose

Figure 1 graphically analyses the predominant infrastructure of which this suggested programme will serve. Primarily this route will strategically serve to improve access to the Royal Devon and Exeter Foundation Trust (RD&E) and Nuffield Hospital sites (amongst the largest employers in Exeter), County Hall, and increase the accessibility of the Marsh Barton industrial area from the residential areas north east of the river. Furthermore, a number of schools (Exeter School, Magdalen Court School, Ladysmith) and nurseries (Discovery, Puffin's, etc.) will be served as well as several surrounding residential areas – Gras Lawn, Wonford and Heavitree. This route would also serve as an intermediate leg for those travelling to and from the university, providing a safe route from the E4 into Newtown, Heavitree and Wonford areas, linking into the E3 and E9.

Ongoing plans for Marsh Barton train station also provide further reasoning for this link to be created – the high employment area of Marsh Barton offer vast opportunity for mixed-use travel into the city of Exeter as well as the hospitals, meaning workers have the opportunity to use more than one mode of transport (first leg train to Marsh Barton and second leg bike to the Hospital). The new Marsh Barton train station will be the closest station to the RD&E and County Hall.



Existing Bus Routes

Consideration must be given to the public transit network in the area, particularly with regards ensuring busses are given higher priority than single occupancy vehicles. Figure 4 shows the current stagecoach bus routes routes. Most of the route sees minimal direct bus traffic, aside from Barrack Road. In addition to the stagecoach city services there are several regional services that travel along Barrack road. Of particular note is the absence of busses on Polsloe Road.

Appreciated is the importance of the bus network in making Exeter easily accessible for all members of the public from all walks of life. DCC's 2030 transport strategy highlights the improvement of urban bus corridors providing a "reliable low carbon network of busses". Figure 4 shows the extent to which the proposal intersects with the bus routes at present. 2011 census data shows that 8% of commutes are by bus compared to 61% in private car.

This plan aims to ensure busses are not inhibited by the proposals, and where possible should be prioritised above cars.

Hospital Access

Ease of use for this proposal also considers hospital access. Whilst the hospital offers a significant opportunity to encourage more workers to actively commute, the essential need for easy flow in and out of the hospital from outlying areas is recognised. Easy and simple access can also be provided in this sense whilst also catering for safe cycle infrastructure as demonstrated in the latter part of this report. Where possible priority will be given to those travelling to the hospital over those leaving as they are more likely to be under duress (e.g. getting a partner in labour to the maternity ward, dealing with rushing a child to A&E, etc).





Analysis

The design for movement across this area should be based upon the existing routes taken by cyclists at present. Most importantly, the need for a significant connecting north to south route, this section analyses a variety of tools to evidence the need for this route.

The Principles

Alongside the Gear Change document¹⁰, LTN 1/20 outlines the health, wellbeing, congestion, air quality and climate change impacts of cycling as well as the benefits to local business and the economy. The fundamental initiatives are outlined in 5 key principles:

- Coherent people must be able to reach their destinations easily, along routes that connect, are simple to navigate and are of consistent high quality.
- Direct routes should provide the shortest and fastest way of travelling from place to place.
- Safe routes must be safe and must also be perceived to be safe.
- Comfortable routes should be good quality, well-maintained, smooth, have minimal stopping-starting and avoid steep gradients.
- Attractive environment should be attractive, stimulating and free from litter¹¹.

The Data

Alongside the local knowledge of members of the Exeter Cycling Campaign, we have used several data sources to help us understand traffic flows through the areas. We have used Devon County Council's traffic counters, StravaMetro¹² and the Propensity to Cycle Tool (PCT)¹³, in addition to mapping tools and crash data. This route is flagged as high priority by PCT and crash data shows accidents occurring all long it's length - both suggesting it needs to be tackled as a priority.

¹⁰https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and -walking.pdf

¹¹ https://democracy.devon.gov.uk/documents/s34301/Active%20Travel%20report.pdf

¹² https://metro.strava.com

¹³ https://www.pct.bike

Proposals

Common Challenges

The 2020-30 Exeter Transport Strategy shows the aspiration for a fully comprehensive cycle network for the city, with every road and junction suitable for cycling. In this proposal, our Campaign aims to adhere to several infrastructure standards best outlined in LTN 1/20:

Cyclists **must** be physically separated and protected from high volume motor traffic, both at junctions and on the stretches of road between them.

LTN1/20, p.10

The new LTN 1/20 document also sets out a wide range of other standards to met throughout, we have identified the following as the most appropriate to this section of road:

On roads with high volumes of motor traffic or high speeds, cycle routes indicated only with road markings or cycle symbols **should not** be used as people will perceive them to be unacceptable for safe cycling.

LTN1/20, p.10

This indicates that a significant and dramatic change is needed if we truly want to improve the ability to easily move from south to north of the city in a viable and efficient way.

The LTN1/20 document provides tables (LTN1/20 Figure 4.1: Appropriate protection from motor traffic on highways) to help estimate the infrastructure required to make cyclists feel safe given speeds and traffic volumes. The council traffic counts all show volumes exceeding the LTN 1/20 maximum 6000 PCU/day in only 12 hours of counting, even treating every vehicle as only 1 pcu (an underestimate given the commercial and bus traffic on the route). This >6000PCU/day figure means that, both at 20mph and 30mph, segregated infrastructure is the only viable option and that current infrastructure provision will put off all but the most confident cyclists.

Section 1: Marsh Barton Station to Topsham Road

This section is predominantly off-road shared use trails, with a section of quiet residential cul-de-sac (Earl Richards Road North) and an access road (Clapperbrook Lane North) bookending this section. The new train station at Clapperbrook Lane North has been approved but even pending it's arrival better active travel links into Marsh Barton from the residential areas of northern and eastern Exeter will be beneficial. With the addition of a new train station this will become the quickest connection to rail travel from the RD&E Hospital and from the council offices.

This section is present and functioning but would benefit from upgrading in line with LTN 1/20 guidance - notably the widths and possibly segregation to handle the volume of traffic that already stretches this section's capacity and will naturally increase with the new train station. A pinch point for this may continue to be the narrow high arch bridge beside Duckes Meadow which would require a significant cost to upgrade and whilst a nice addition to the route is beyond the scope of this proposal.

This section has the potential to form a key marketing section in the promotion of this route - particularly with providing the Active Travel Corridor from the train station to RD&E / County Hall through a green, off-road section of river valley park. It is already a popular section of trail, as can be seen on the strava heat map for all activity types (Run, Cycle and Walk, brighter = more popular)





Section 2: Topsham Road to Haldon View Terrace

The lower section of the corridor into Topsham Road is aimed to be pleasing to the eye, creating a sense of place through conceptualising road space and giving some of this back to the people.

This section from Topsham Road to Haldon View Terrace has the most potential for complete transformation. As this section boasts the widest sections of road able to use as well as the primary section linking the hospital there is a significant room for drastic improvement throughout this section of road.

Constraints

This section observes consistent heavy traffic flow; The annual traffic count sessions at the Topsham road junction and the Barrack, Dryden/Wonford crossroads output statistics which are in significant excess of the LTN 1/20 guidance allowing for 'provision of cycling for most people'.

This section offers greater widths to adapt however also offers challenges in maintaining bus connections and certain turning lanes throughout the section.

Our approach

In line with LTN 1/20 guidance this section offers a significant opportunity in implementing either light segregation, a stepped cycle track or at best a fully kerbed cycle track would allow 'provision for cycling for most people' (LTN 1/20, Figure 4.1).



Option 1: An Attractive Space

This layout offers in the campaigns eyes, the best possible outcome of what could be achieved with the average road width (16m) in the space; the inclusion of a separated (stepped) bi-directional cycle path is most apparent. This has the potential to boost the flow up to 24,000 people/hour using the cycle paths (TUMI).



Option 2: Width Constraints

This layout explores the best possible outcome for the section of road at its shortest averaged width (13.5m) - located adjacent to Gras Lawn from Artillery Court to the Gras Lawn Turning. This layout also includes the provision of a the southern section bus lane, this shows that the implementation of bi-directional cycle lane is still possible within these width constraints. This would be best suited to the section from Gras Lawn to Topsham Road Junction.



Our Suggestions:

- Continuous stepped bi-directional cycle track on the western side of the road,
- Reduction in road space for vehicular travel.
- When width allows, a greenery stepped barrier in between the road and cycle track.
- Boulevard style approach with semi-mature trees lining the walkways.
- Re-location of bus stops in areas which do not allow for sufficient width
- Raised cycle way to serve as bus alighting platform (see image below)



Section 3: Haldon View Terrace to Fore Street / Heavitree Road

This section is dominated by two busy junctions, a large volume of rush hour traffic and a section of on-street parking that is key for the terraced houses adjacent. This section is very busy with foot traffic for the local schools and linking through to the hospital- at peak times it is a veritable rainbow of colours with uniforms, scrubs, push-chairs and bags.

Width Constraints

Given the importance of providing parking for the residents this limits the width available. The narrowest form of LTN 1/20 compliant cycle path is a bidirectional lane at 3m, and this could be fitted on the opposite side of the road to the residents parking (parking on the east, bidirectional to the west side), although this requires a slightly narrow pavement on one side. To improve on this would require removal of parked cars (undesirable for residents) or restriction of one lane of traffic (problematic for local businesses and schools - particularly Exeter School with a very large catchment and many parents who drive in). It is also a particularly important link for ensuring easy access to the hospital for those on urgent business - linking the hospital to the city centre via Magdalen Rd / Fore Street.

This layout can be continued at the junctions, with the extra width either going to a limited turning section, wider pavements or planting to improve the environment - or some combination of the above!





Section 4: Fore Street / Heavitree Road to Old Tiverton Road / Union Road / Stoke Hill / Prince Charles Road Roundabout

This section can be broken in two at Blackboy / Pinhoe Road but the options for both sections are similar. Different options could be chosen for each section, with Option 2 being the recommended choice for the Mount Pleasant section and Option 1 being slightly favoured over Option 2 on the Polsloe Road section

As with section 3, this section struggles with width constraints, particularly in light of the sections of residential parking and some very narrow sections of road. Whilst it has slightly lighter traffic levels than the Barrack Road section the levels are still in excess of the requirement to segregate cycle traffic. The widths however are such that pavement, cycles and cars cannot all have lanes in both directions without removing the residents parking. This leaves us two options. For both options we would suggest making the areas 20mph limits, although this does not materially impact the designs alone it will assist them.



Option 1: Cut the through traffic to remove the need to segregate

Point closures applied to Polsloe Road at Clifton Hill and Mount Pleasant Road at Iddesleigh Road(Solid lines on the map) would start towards making two low traffic neighbourhoods (with additional closures needed on Ladysmith Road [choice of dotted lines] to convert the Newtown area fully). Removing this through traffic would probably drop the traffic levels on these streets far enough to allow on-street options to be viable, potentially even to the point of no bike lane needed with a shared use home zone style permitted along the length. This would have an adverse impact on the traffic on Old Tiverton Road - already a challenging section. This would improve the quality of life for those within the new low traffic neighbourhood areas.

This has a potential to change traffic volumes in the area before traffic evaporation takes effect. Worst impacted would be:

- Old Tiverton Road the point closure of the Mount Pleasant section would divert most of its traffic along this alternative route resulting in an overall doubling of traffic.
- Heavitree Road The closure of Polsloe road could see a 50% increase in overall traffic on the Newtown leg. The main issue on this section would be the volume of traffic turning right from Heavitree Road onto Barrack Road assuming worst case scenario of all traffic detours the latest traffic counts would see this right filter volume increase by 150%. This would need treatment to avoid gridlocking the road, although re-phasing the lights would be sensible with the change of volumes on Polsloe Road and this may mitigate the issue.

Instating 20mph areas for these low traffic neighbourhoods would further help users feel safe on the streets.



Option 2: Single Direction Vehicle Access

Removing a lane of traffic adds sufficient width to introduce a bidirectional cycle route. In line with our aim of not impeding flow to the hospital for those in a panic, we would recommend southbound flow remains. On the northern section it would make sense to apply the counter treatment to Old Tiverton Road, forming a loop with Blackboy Road serving as the link on the southern edge of the triangle. We calculate that this would have a minimal change to overall traffic levels on this road, with Mount Pleasant and Old Tiverton seeing less than a 10% change in total volume of traffic for recombining north/south (based on counts at the northern roundabout). This would also provide the opportunity to make Old Tiverton Road a link from the E4 to the City Centre - a much needed section of cycle access. It also changes the dynamic at the notorious Union Road / Prince Charles Road roundabout with only 4 motor vehicle entry/exit points instead of 5.

On the Polsloe Road section the northbound traffic could be pushed onto western way, taking the main roads and not cutting through the residential areas. This would require either a point closure or counterpart one way section outside Ladysmith schools to prevent people detouring along Ladysmith Road instead (highlighted on the map). We do not anticipate much net change in the adjoining streets that meet (such as Gladstone Road), with any increase in traffic seeking to access the one way road offset by the reduced number of people no longer cutting in to go the northern direction.

This direction of flow is proposed as it keeps the simple flow to the hospital for those already stressed by the cause of their trip and it doesn't increase traffic volumes at the right turn from Heavitree Road to Barrack Road.

Even with the removal of one lane of traffic some of the tightest pinches will need to squeeze to below optimal values - such as at the 8.6m wide section of Polsloe Road between Grendon and Regents. 20mph zones would help encourage navigation systems to stick to the main routes and not try to do any silly cut throughs.





Our Suggestions

We would recommend turning Newtown into a Low Traffic Neighbourhood. This is likely to be the lowest cost and of greatest benefit to the residents, although either option for this section will produce an equally good cycle route. We recognise this would cause most disruption to motor vehicles cutting north/south through this residential area and whilst popular with residents may be the more politically challenging solution. We believe this section will be the most politically difficult of the whole route and, even if studies show such changes are popular with residents, it will still face vocal opposition.

We would suggest applying a one way system for motor vehicles to the Mount Pleasant Road / Old Tiverton Road sections as we believe this section would have significantly adverse impacts if it was converted to an LTN. We do not anticipate this proposal causing a significant stir, and the added benefit of a cycle link from the E4 to the City Centre would also be opened up.



Section 5: Stoke Hill

Stoke Hill is, as its name suggests, reasonably hilly! The pavement to the north-western edge is relatively narrow but the south-eastern edge has a wide verge with mature trees planted throughout. This is a popular back-route into and out of the city from the north and sees traffic volumes commensurate with that. It also has large sections of on street parking for the residents who have no off-street parking options. This leaves similar widths to the northern section of Barrack road but with the added challenge of maintaining the established trees and sense of green this brings.

The access to properties to the northwest of the road is predominantly from other roads, with only one or two entrances from Stoke Hill - including the junior school and a footpath through into the rear of Lyncombe Close. As such, additional width could be generated by removing the inadequate pavement to the northwest and placing proper crossing points to link in these few sites. The main carriageway could then be shifted away from the main pavement to give additional space for a bi-directional cycle route.

As at present, we would suggest breaking the parking around the trees to provide additional space to maneuver paths around them. To make this simpler we would suggest the pavement is split around the trees with pedestrians having a choice of paths (with accessible width on either side - given the primary schools this is going to see lots of push chairs) and the cyclists placed to the edge beside the houses. This would hopefully maintain the planting (particularly with extended lozenges of green around the trees), maintain the parking and provide easy access to all users.

Given the unusual layout it would be important to highlight the cycle vs pedestrian sections - green tarmac on the bike lane



would add to the overall green appearance of the street (as much as this might seem ecologically wrong) as some form of vertical barrier seems ill advised in an area with a primary school (small children will wander sideways without looking). This is the largest challenge of this section - to design infrastructure that will work well when there are lots of children and parents on the school run, including on bikes, with other users attempting to cycle the section too.





Conclusions

With a mixture of intervention measures it should be possible to instigate a full active travel corridor along the length of this route, connecting key locations effectively. Many of the proposals could be achieved with minimal heavy engineering (light segregation or LTN instatement), with the exception of the key barrack road section. These proposals retain almost all residential parking on the route, ensure continued access and would have a minimal impact on journey times (8 vs 9 minutes from the RD&E to Old Tiverton Rd junction).

These proposals would have an improvement on communities by providing better active travel routes and if the LTN option is chosen for newtown, significantly improving the environment for those living in that neighbourhood. This also tackles the priority route highlighted from the census data and increases safety on a section with multiple pedestrian and cyclist accident black spots.

