

Review of Walking and Cycling Connections to/from the proposed Foundry Lea Development

October 2021



HighgateTransportation

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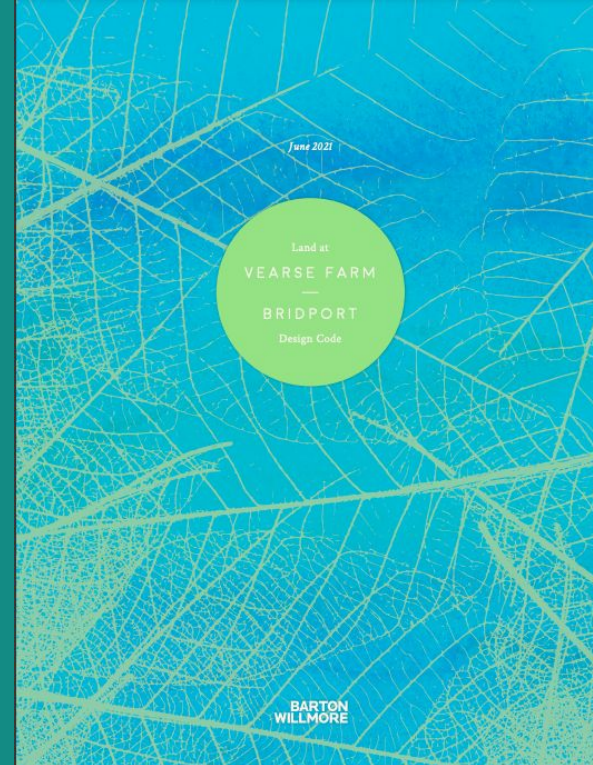
Introduction

Bridport Town Council commissioned Streets Reimagined and Highgate Transportation to consider strategic opportunities for improving walking and cycling connections to/from the proposed Foundry Lea development. The commission also included a review of the current proposals for walking and cycling infrastructure within the development as set out in the Draft Design and Access Statement (June 2021).

A previous study was also undertaken by Dorset Council in 2017, which proposed preliminary design options for walking and cycling connections and these proposals are referenced and reviewed as part of this study.

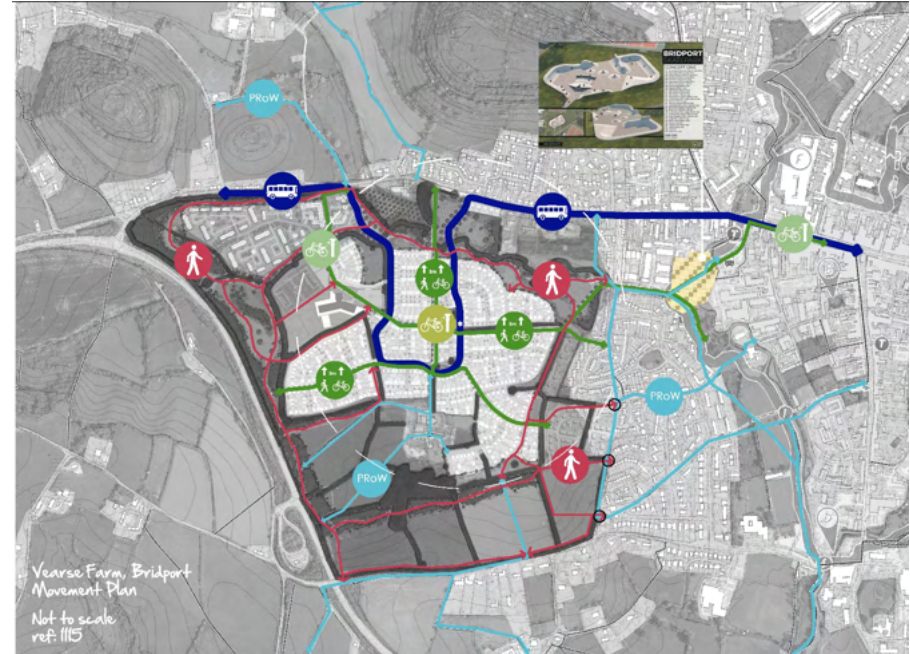
Review of Foundry Lea master plan

In this section we present the findings from our analysis of the draft Foundry Lea Design and Access Statement (June 2021).



Key positives

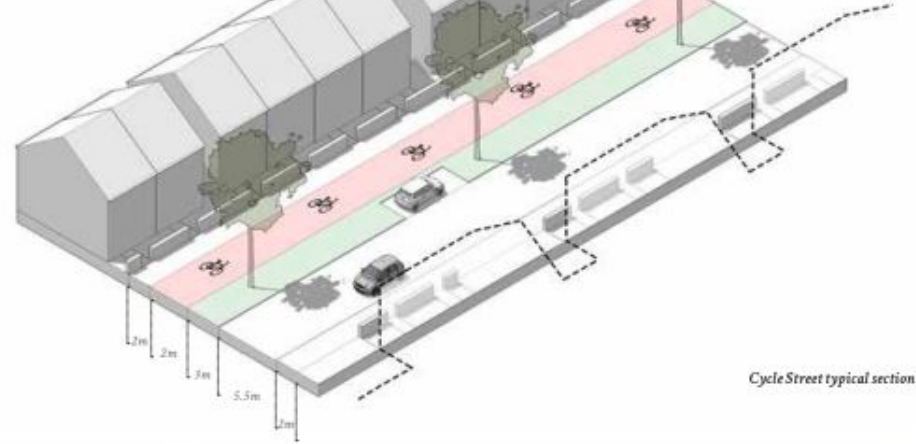
- Permeable/walkable site layout
- Proposed segregated walking/cycle route running through centre of the master plan linking a proposed local centre at the north western part to the eastern perimeter
- Proposed walking and cycling connections to Magdalen Lane and Pine View align with existing PROW (Public Rights of Way) routes



Potential to be more ambitious

- There is currently only one segregated cycle route proposed in the design code (referred to as a 'Cycle Street') but if cycling is to be considered a commuting mode of transport, then consideration should be given to creating a network of segregated routes that provides safe access throughout the site and beyond
- There could be more provision for the use and storage of cargo bikes (e.g at local centre and within residential streets) to enable cycling to become a viable mode of transport for more people
- There is potential for further cycling connectivity with the wider town i.e. from the west, south and southeast of the site through to the eastern boundary for town centre access

Street-level analysis



- The proposed 'Cycle Street' with an off-carriageway cycleway is shown as having a variety of widths proposed along its length and some widths don't meet best practice requirements* for a two-way cycleway (e.g. in the 'Gateway Corridor').
- Shown as one-directional as opposed to two-way

*Cycle Infrastructure Design LTN 1/20

Design Speed	20 mph
Dimensions	
Carriageway	up to 5.5m
Cycleway	up to 2m on one side
Verge	3m on one side
Footway	2m on either side
Design and Function	
Parking	Visitor parallel parking on one side, depending on access to properties. On plot parking in front or side of dwellings with direct access from the road (only on the side opposite the cycleway)
Traffic Calming	Raised tables at key spaces and junctions (or as required to meet the MfS stds/dft guidance)
Materials	
Carriageway	Bitmac
Footway	Bitmac
Kerbs	Concrete 125m upstand
Pedestrian crossings	Tactile paving
Street furniture	-
Trees	Tall trees at regular 20m intervals planted in grass verge (3m)
Lighting	
Type	Lighting Columns

Cycle Street

For information the conventional definition of a cycle street is;

“Bicycle street is a concept applied to roads and streets that have only residential access function for motorised traffic but are an important and popular link for cycling traffic. The trick is to make the street perceived as a cycle path with (some) cars allowed. This can be helped by signs (“cars are guests” in the Netherlands, bicycle path sign with an exception e.g. for local inhabitants in Germany) and street layout (e.g. continuation of red surface from a cycling path).”



<https://cyclehighways.eu/design-and-build/infrastructure/bicycle-streets.html>

Street-Level analysis

The current plans show no provision for cycling along the primary corridor.

There is a need to consider end-to-end journeys and how users would access the 'Cycle Street'

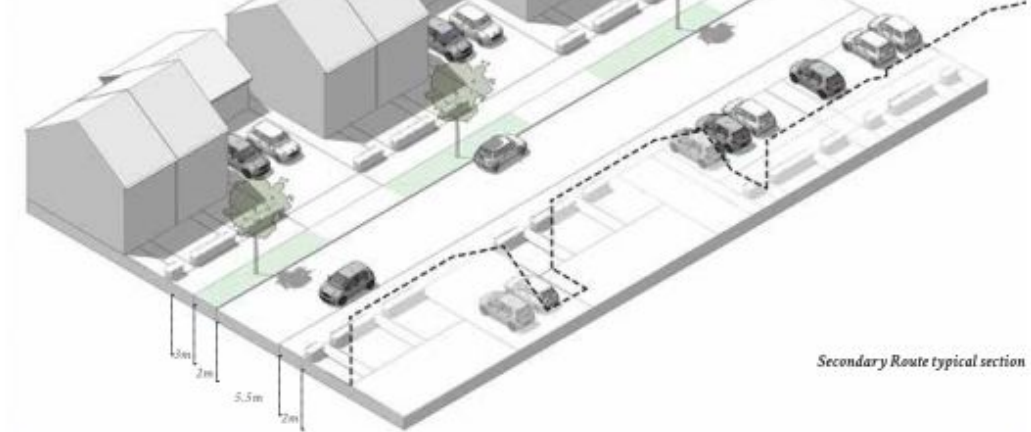


Design Speed	20 mph
Dimensions	
Carriageway	up to 6.75m
Footway	2m on either side
Design and Function	
Parking	Visitor parking on courts where possible. On plot parking in front or side of dwellings with direct access from the Primary Road
Traffic Calming	Raised tables at key spaces and junctions (or as required to meet the MfS stds/dft guidance)
Materials	
Carriageway	Bitmac
Footway	Bitmac
Kerbs	Concrete 125m upstand
Pedestrian crossings	Tactile paving
Street furniture	Yes
Trees	In front gardens
Lighting	

Street-Level analysis

Shared footway and cycle paths are proposed in a number of locations which are contrary to current best practice*

* Cycle Infrastructure Design LTN 1/20



Design Speed	20 mph
Dimensions	
Carriageway	up to 5.5m
Shared cycle/footpath	up to 3m on one side
Verge	2m on one side
Footway	2m on one side
Design and Function	
Parking	Visitor parallel parking on either side, depending on access to properties. On plot parking in front or side of dwellings with direct access from the road
Traffic Calming	Raised tables at key spaces and junctions (or as required to meet the MfS stds/dft guidance)
Materials	
Carriageway	Bitmac
Footway	Bitmac
Kerbs	Concrete 125m upstand
Pedestrian crossings	Tactile paving
Street furniture	-
Trees	On verge
Lighting	
Type	Lighting Columns

Cycle Infrastructure Design LTN 1/20 (national guidance)

8.2 Managing user conflict

8.2.1 The potential conflict between pedestrians and cyclists is often a concern when designing routes away from highways. Although there are few recorded collisions between pedestrians and cyclists on shared use paths, the fact that the two user groups travel at different speeds and sometimes in different directions, can affect the level of comfort of both groups. It is a particular concern for visually impaired people.

8.2.2 Providing sufficient width for the anticipated levels of use will help minimise the risk of conflict between different user groups.

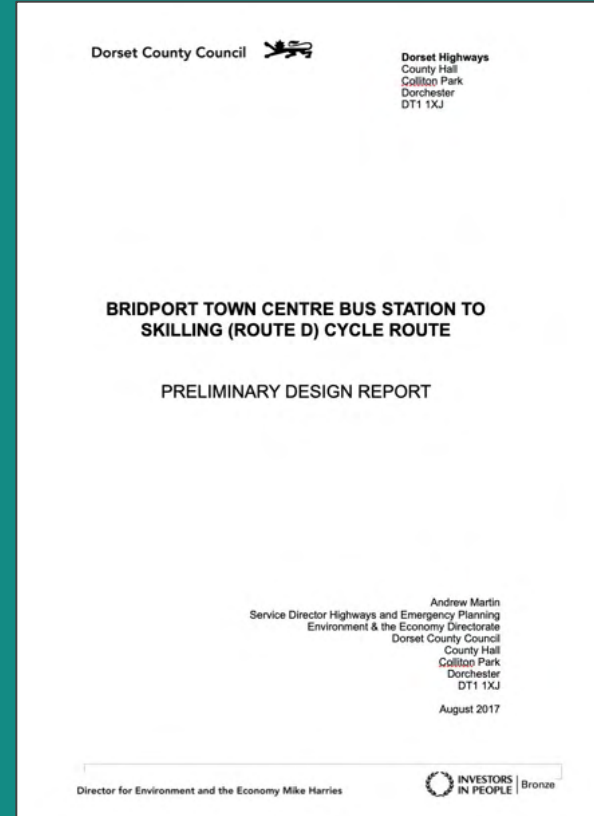
8.2.3 Where space and budget allows, the most effective way to minimise conflict and increase comfort is to provide separate routes for walking and cycling

Strategic review of walking & cycling route options

In this section we:

- present the existing provision for walking and cycling in this part of western Bridport
- present the various strategic route options and provide high level analysis of the relative advantages and disadvantages of each and highlight a preferred route

Please Note: As part of the analysis we reference preliminary proposals as set out in a report completed by Dorset Council in 2017.



Existing walking and cycling routes

Magdalen Lane:
(Public Right of Way)

Proposed
Foundry Lea
Development

Existing shared footpath
& cyclepath next to
football pitches

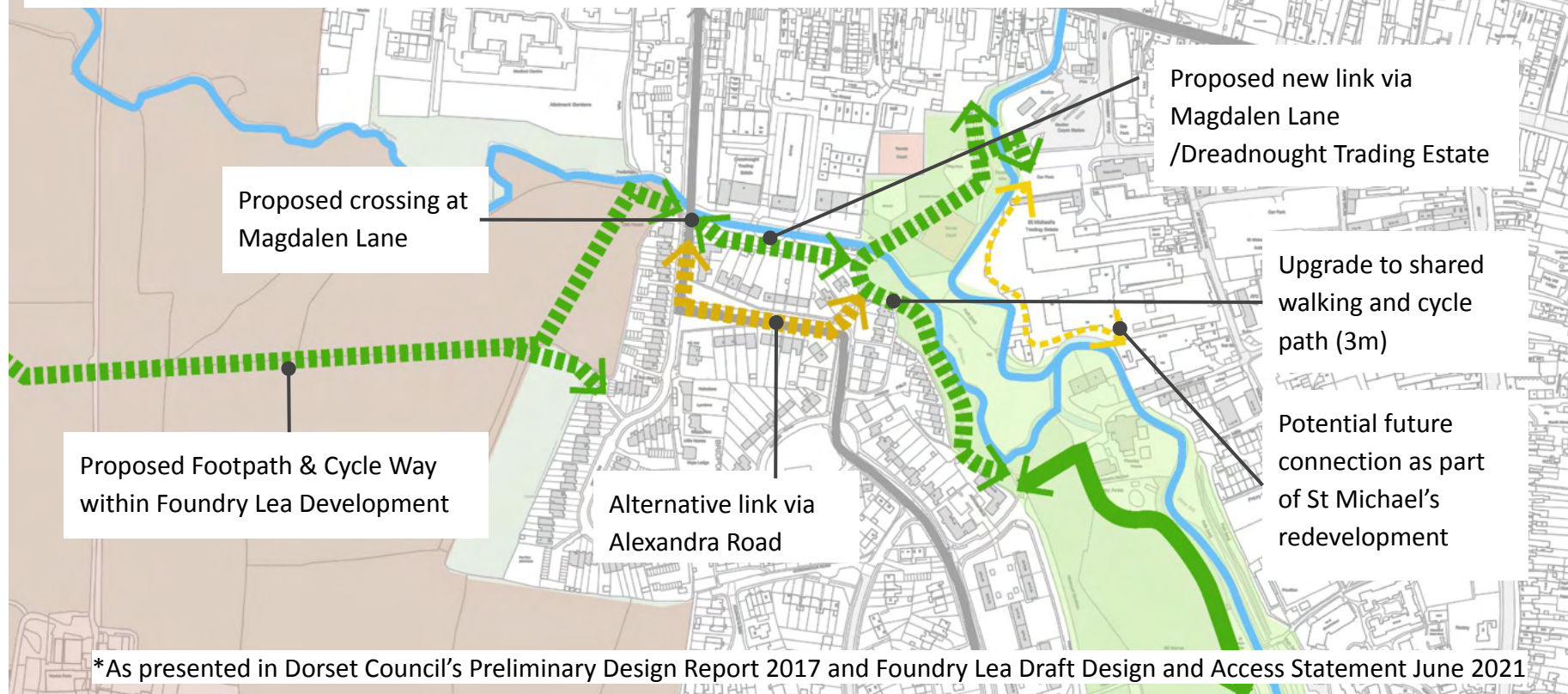
Plottingham

Dreadnought
Estate

Existing footpath through
Plottingham



Previously proposed new / upgraded routes*



Option 1* Magdalen Lane

Advantages

- Most direct option between Foundry Lea and town-centre
- No on-street parking

Disadvantages/Constraints

- No/few active frontages (i.e windows at ground level)
- Currently lacks street lighting for part of the route
- Footpath beyond metalled carriageway is not suitably surfaced for cycling (unsealed)

*As presented in Dorset Council's Preliminary Design Report 2017



Option 1* Magdalen Lane

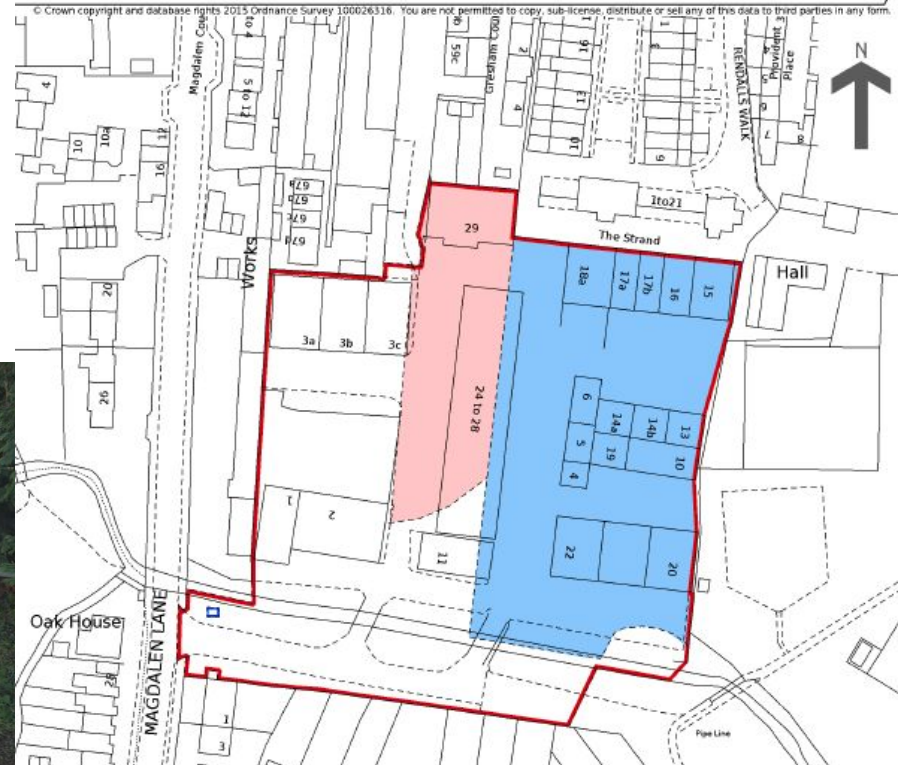
Disadvantages/Constraints

- The carriageway from Magdalen Lane is not public highway
- Whilst there is a Public Right of Way (W1/44) in this location, the land is currently in private ownership and utilised as a car park with a lockable gate



HM Land Registry
Current title plan

Title number **DT360956**
Ordnance Survey map reference **SY4692NW**
Scale **1:1250 enlarged from 1:2500**
Administrative area **Dorset**



Option 1* Magdalen Lane

Disadvantages/Constraints

- There are also other constraints on this route, including topography, access roads and the proximity to the river which may require EA approval for infrastructure improvements



Option 2*: Alexandra Road

Advantages

- Active Frontage
- Existing Street Lighting

Disadvantages/Considerations

- Indirect route between Foundry Lea and town-centre
- Trees and width present limited scope for off road routes
- On-street parking is less conducive to cycling and limited scope for segregated/protected cycle infrastructure

*As presented in Dorset Council's Preliminary Design Report 2017



Option 2: Via Alexandra Road

Disadvantages/Constraints

Creating a connecting link through to Footpath W1/29 from Alexander Road would be challenging due to current land uses in this location (parking, dwelling access points, etc)



[illegible]

Option 3: On-road signed route

Advantages

- Does not require third party consent
- Relatively modest capital investment required (mostly signing)

Disadvantages/Constraints

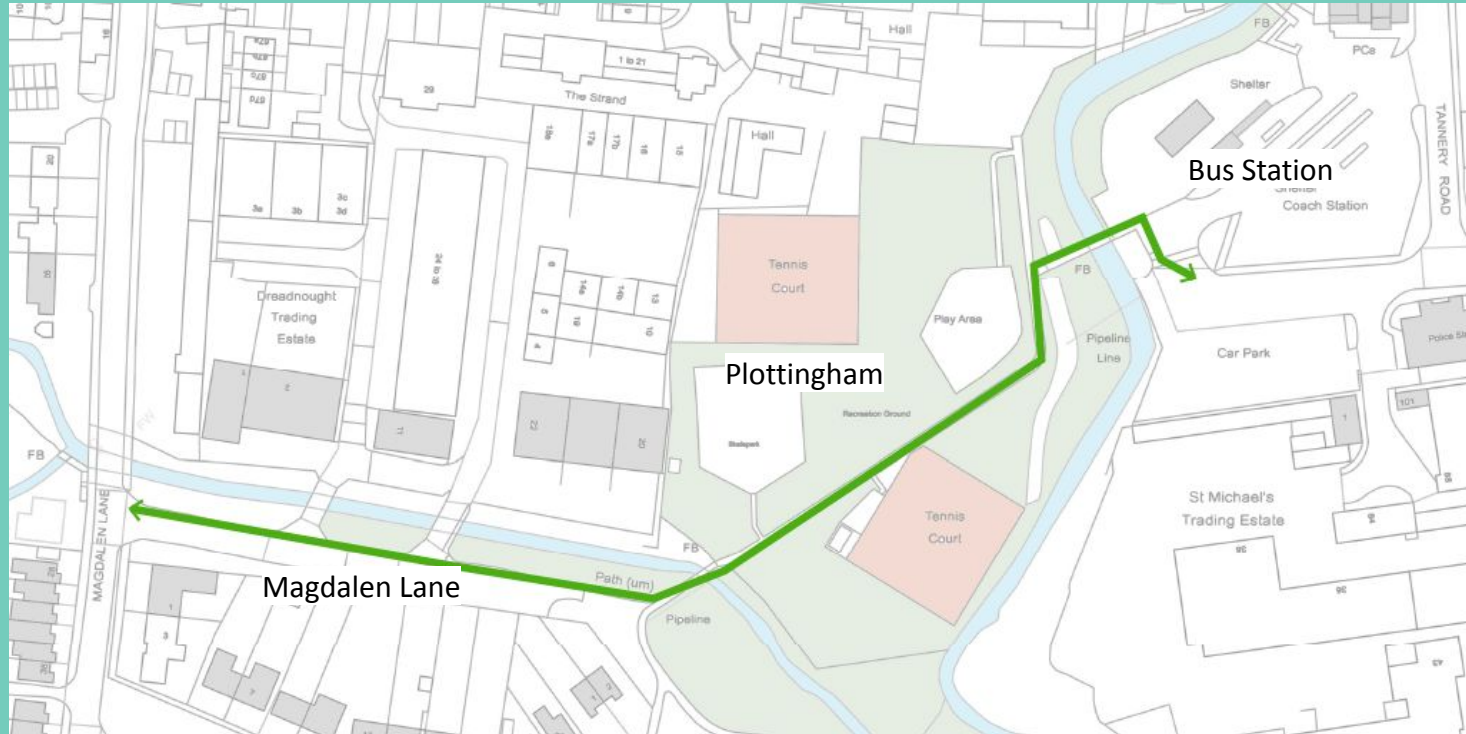
- Proposed route provides connections as far as St Michael's Lane but onward connections are unclear
- Section of route runs along Alexandra Road which is a relatively busy road and therefore may discourage less confident cyclists



Preliminary conclusion:

Option 1: via Magdalen Lane is the preferred route

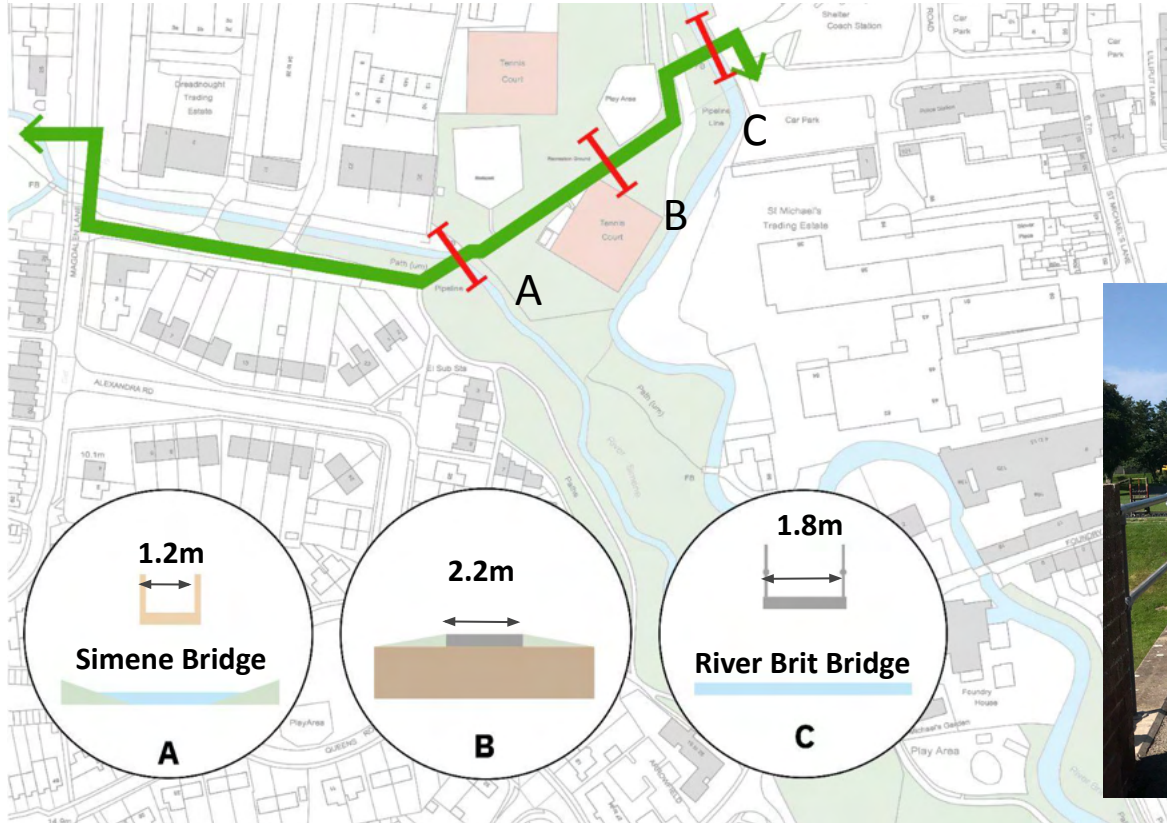
Offers the most direct and safest route - with the majority of route being off-road



Further analysis of preferred route (Option 1)

In this section we undertake more detailed analysis of the preferred route Option 1.

Insufficient width to meet national guidance



Brit Bridge: Bike/Cargo bike swept path analysis

- Currently insufficient width for bi-directional shared walking and cycling use on Brit Bridge
- Eastern ramp, with sharp 90 degree bend is unsuitable



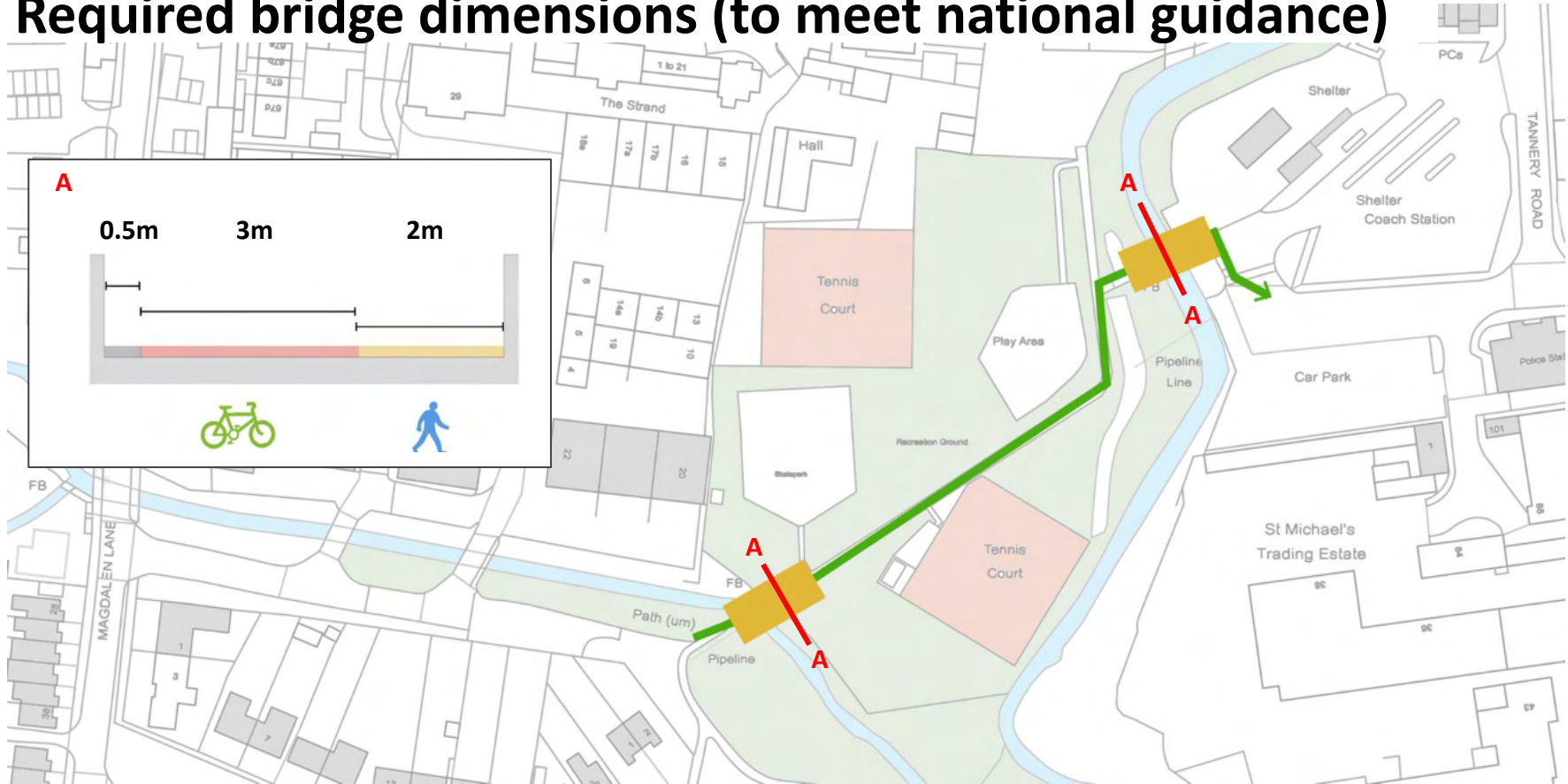
Key guidance: required dimensions

2-way cycle track	For a >300 peak hour cycle flow track, the desirable width minimum is 3m (LTN 1/20 p.43)
Pedestrian footway	Minimum of 2m is required (Manual For Streets p.68)
Parallel crossing	Provide a legal priority to pedestrians and cyclists. The parallel crossing is similar in form and application to a zebra crossing, but with a separate parallel cycle crossing alongside the zebra crossing (LTN 1/20 p.101)
Fully kerbed cycle tracks	Fully kerbed cycle tracks may be set at carriageway level, at footway level or at an intermediate height between the two (LTN 1/20 p.52)
Bridge width	Overall desirable minimum widths between walls/parapets is a 5.5m separate provision (2m footway, 3m cycle track, 0.5m clearance on one side) (LTN 1/20 p.128)

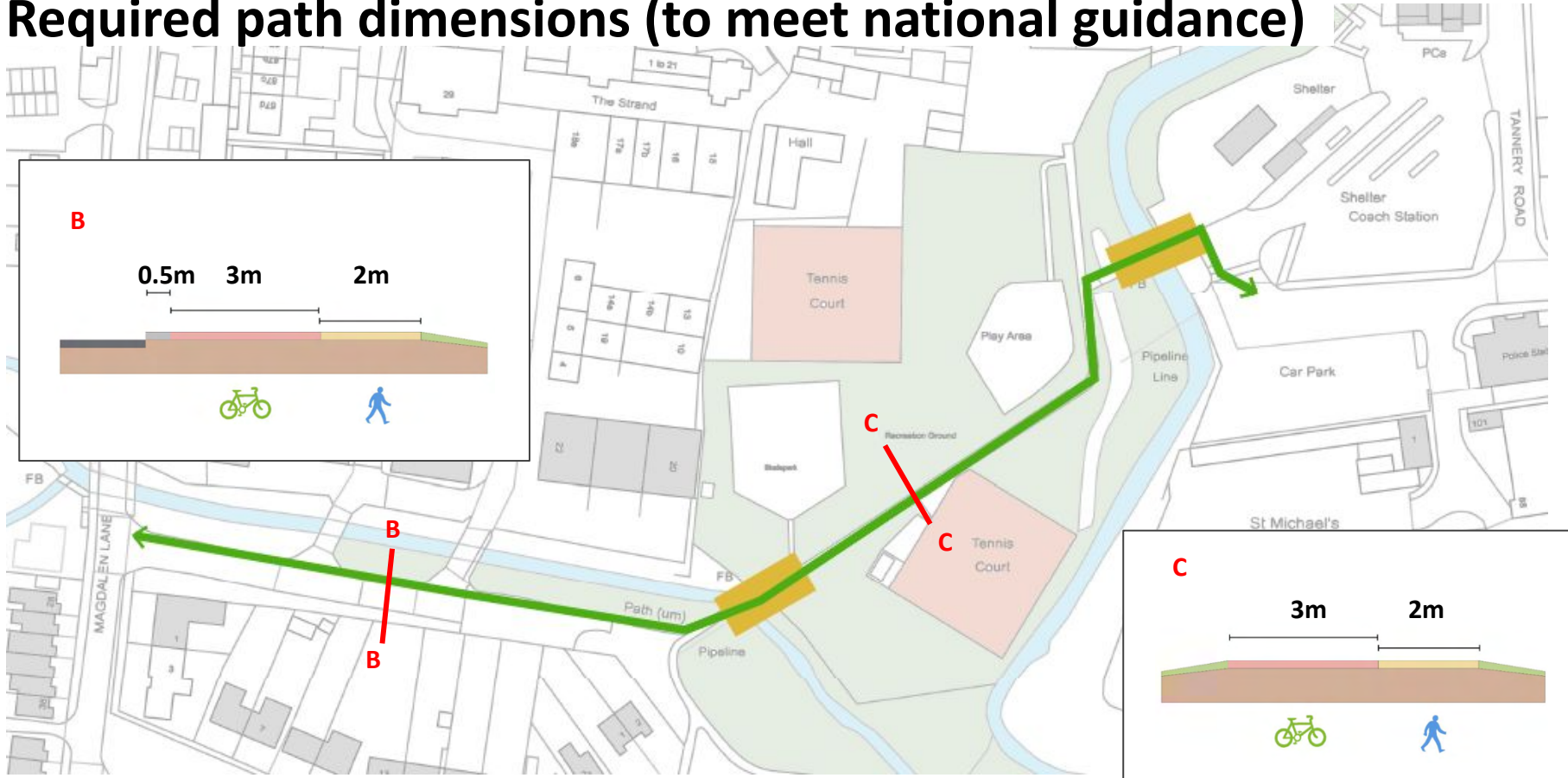
New bridges would be required at River Simene and Brit



Required bridge dimensions (to meet national guidance)



Required path dimensions (to meet national guidance)



**Indicative illustration of widened and
segregated walking and cycling route
through Plottingham**

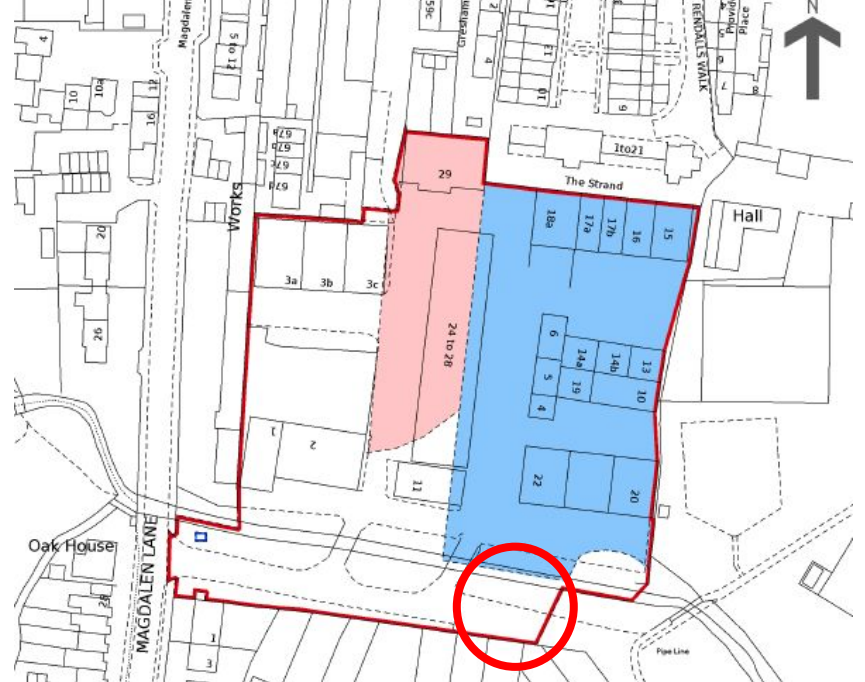


Key challenges for delivery

- Land Ownership: surface car park at end of Magdalen Lane (in ownership of Dreadnought Trading Estate)

Therefore, as a priority there is a need for investigation into the potential to purchase or utilise this land (currently a public right of way)

- Cost: Whilst a cost assessment was outside the scope of this study - all options (with the exception of on-street signed routes) are likely to require significant capital infrastructure investment



Proposed interim approach

Purchase land from Magna Housing to create a widened walking/cycling route along existing north/south route connecting with existing routes and Foundry Lane.



Other considerations

In this section we highlight some other considerations for new walking and cycling infrastructure

Need to consider onward connections



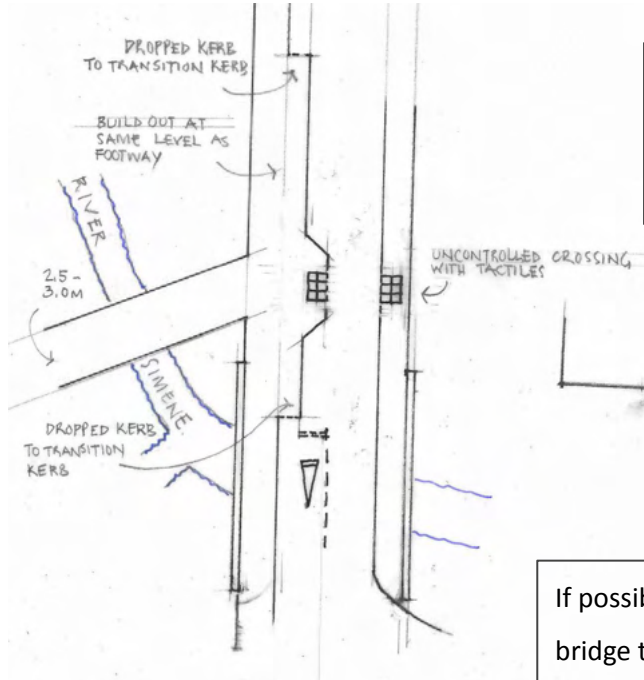
Indicative illustration of pedestrian/one way bike crossing from River Brit Bridge arrival over to new one way cycle track and pedestrian footpath through West Street Car Park towards town-centre

Need to consider onward connections

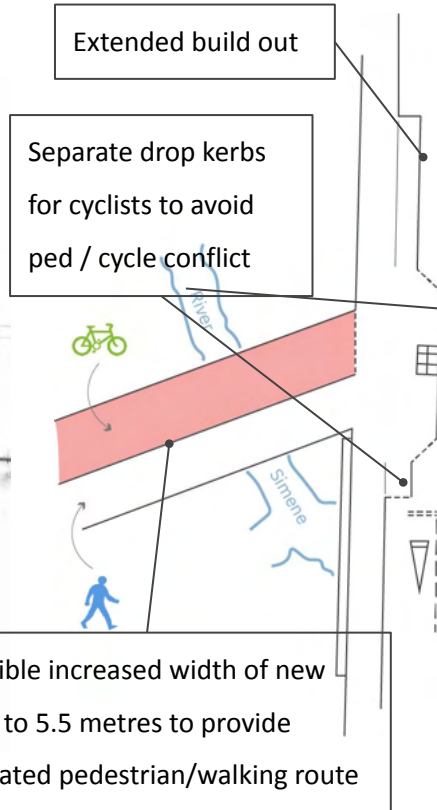


E.g. Gundry Lane is one-way and very narrow in places which would make contraflow cycling arrangement challenging.

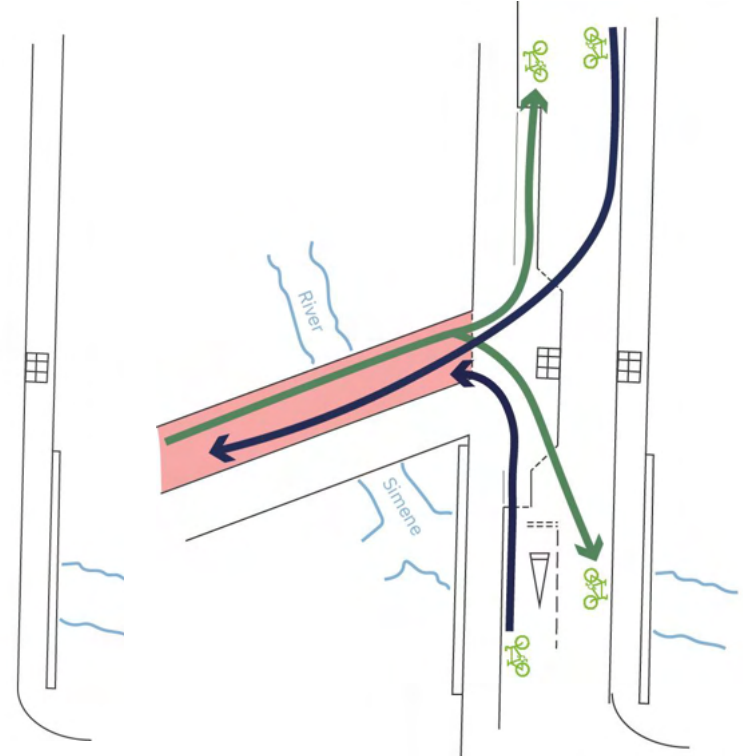
Need to consider access to/from Foundry Lea site



Proposed Design DCC



Potential Additions



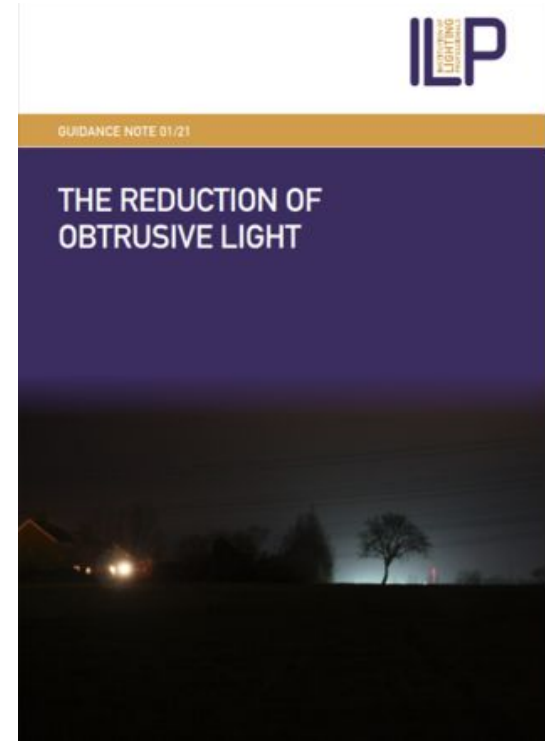
Cycle Movement

Lighting

Whilst lighting was outside the scope of the study, we highlight below some of the key guidance documents and principles in relation to lighting.

“Good lighting practice is the provision of the right light, at the right time, in the right place, controlled by the right system”

(The Reduction of Obtrusive Light ILP GN01/21).

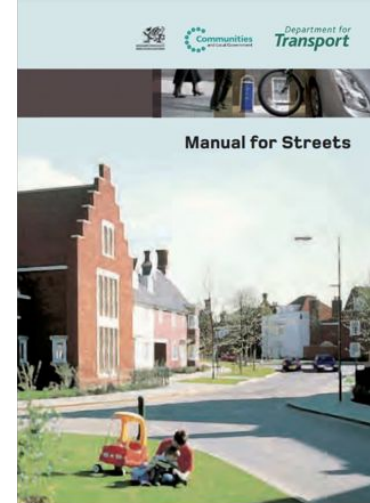


Lighting - an integral part of the design process

User Safety (perception and actual)

Manual for Streets sets out that lighting can contribute to:

- Reducing risks of night-time accidents
 - Discouraging crime and vandalism
 - Making street users feel secure
-
- Lighting should be of high quality and generally be in accordance with BS EN 13201-2, BS EN 13201-3 and BS EN 13201-4. Guidance on lighting design is given in BS 5489-1, Code of Practice for the Design of Road Lighting, to comply with the requirements of BS EN 13201.
 - Lighting columns should be placed so that they do not impinge on available widths of footways (or cycleways) in the interests of wheelchair users and people pushing prams (and cyclists) or pose a hazard for blind or partially-sighted people.
 - A street audit can be helpful in determining both the level of lighting and the type of equipment used in the area.
 - Over-lighting should be avoided. More detailed information is given in the Guidance Notes for the Reduction of Obtrusive Light.



Ecology

The Diversity of Photosensitivity and its Implications for Light Pollution (ICP) sets out that efforts to mitigate light pollution should consider the unique ways species perceive artificial light at night.

Light pollution has a wide-reaching influence in both urban and natural areas and its influence on one species can cascade to influence an entire community.

As research accumulates, decisions about the spectra of light we emit into the night should consider the unique ways local organisms may respond to different technologies and how diverse responses may scale up to have broad ecological implications.

While lighting fulfils a number of important purposes in terms of user-safety, care should be taken not to over-light, which can contribute unnecessarily to light pollution, neighbourhood nuisance and energy consumption (MfS). The scale of lighting in terms of height, massing and lumen intensity and colour must be considered from an early stage.



Integrative and Comparative Biology

Integrative and Comparative Biology, volume 0, number 0, pp. 1–12
<https://doi.org/10.1093/icb/icab156>

Society for Integrative and Comparative Biology

SYMPOSIUM

The Diversity of Photosensitivity and its Implications for Light Pollution

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From the symposium "Blinded by the light: Effects of light pollution across diverse natural systems" presented at the Society for Integrative and Comparative Biology virtual annual meeting, January 3–February 28, 2021.

Summary of key lighting & ecology principles

- Ensure walking and cycling infrastructure is well lit so as to be functional and safe to use
- Minimise light pollution and impact on local ecology
- Lighting specialists should be involved early in the design process to carry out detailed analysis and develop recommendations and specifications



Conclusions and Recommendations

In this section we summarise the key findings and present recommendations

Conclusions

- Whilst the proposed master plan for Foundry Lea does include some provision for active travel, there is scope to be more ambitious e.g. by providing a network of segregated cycle routes connecting all sections of the new neighbourhood
- The proposed walking and cycling route along Magdalen lane towards the bus station is considered to be the optimal route as it provides the most direct access - however, delivery is challenging due to a lack of funding to upgrade bridges and paths to meet current standards
- A pragmatic interim solution is needed to provide improved walking and cycling routes where feasible. This will involve working with third party landowners and potentially land purchases

Recommendations

- Investigate potential purchase of land from Magna Housing and as an interim step widen / upgrade current walking route between Simene Bridge and Foundry Lane to offer provision for walking and cycling (to current standards LTN 1/20)
- Investigate potential to upgrade public right of way across third party land between Magdalen Lane and Magna Housing Land (close to Simene bridge) to provide provision for walking and cycling (to current standards LTN 1/20)
- Engage Foundry Lea developers to further expand cycling infrastructure within Foundry Lea to create a network of cycling infrastructure across the site in line with national standards
- Lighting specialists should be appointed to develop a lighting strategy for all walking and cycling infrastructure in line with current best practice to ensure safe and functional use whilst minimising light pollution and safeguarding biodiversity

Appendix One:

Examples of different types of cycle infrastructure



Example of segregated walking and cycling infrastructure integrated within Green Infrastructure* in new development (Eddington, Cambridge 2020)

*Swale / Tree verge planting



Example of 'half kerb height' construction

Image LTN 1/20



Examples of mandatory cycle lane (continuous white line) and light segregation with 'wands'.

Example of fully Segregated
Pedestrian/ Cycle Bridge



Cambridge



Example of fully Kerbed
Segregated Cycle track and
pedestrian route

Cambridge

Appendix Two:

Existing public right of ways

Existing network of existing PROW routes (Public Rights of Way)

