Design Note				
Reference	057-CIX-00-XX-RP-C-0001	Rev.	P01	CITY INFINITY **Designing for sustainable mobility**
Project	Design Support Iffley Road/ Donnington Park Road Review			
For	Danny Yee			
Organisation	Oxfordshire Liveable Streets			
Date	16th December 2025			

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Introduction
Oxfordshire Liveable Streets (OLS) commissioned City Infinity to develop design concepts for a range of locations where cycling is currently poorly served and where walking and wheeling might also be improved.

The commission includes the review of the junction of Iffley Road with Donnington Park Road and Boundary Brook Road to develop options that include protected cycling space which is set out on this Design Note.

General Approach
The design work takes an approach where walking, wheeling and cycling is prioritised or at least provided with a similar level of service/ access as motor vehicles. This responds to the wider "decide and provide" agenda for the county and city which enables the assumption that motor traffic volumes need to reduce in order to provide space and capacity for sustainable modes.

The designs developed are concepts and would need development to more detailed stages with information covering topographical surveys, utilities information, traffic modelling, drainage design and other specialist inputs.

Even with lower future traffic flows assumed, larger signalised junctions are likely to remain signalised for the foreseeable future, especially as this enables wider network coordination (including bus priority).

For cycling, the preferred approach is to use one-way cycle tracks on each side of the road when being proposed. This provides direct access to frontages on both sides of the road and simplifies cycle traffic movements at priority junctions.

For one-way cycle tracks, 2.2m has been adopted as the minimum width, with 2m as the absolute minimum suitable for peak hour flows of 200 – 800 cycles. A minimum cycle lane width of 2m has been adopted with 1.5m as the absolute minimum.

Where cycleways are predominantly cycle lanes, localised sections of cycle track will at least the width of the lanes. For two-way cycle tracks, 3m has been adopted as the standard width.

The implications of carriageway-level, intermediate or footway level cycle tracks will influence useable (effective) width based on kerb heights over 60mm high where pedal-strike becomes a risk. Final decisions will depend on future design development.

Cycle tracks have a minimum of 2m internal radii where slow turns are expected, and 4m or greater for faster turns, subject to context and space. A coloured surface has been assumed to provide modal contrast between carriageway and footway space.

Advanced Stop Lines (ASLs) for cycle traffic are generally avoided as they provide little protection, although they have a place where traffic flows are low and there is no space for cycle tracks or lanes.

Footway widths are generally 2m of greater, with an absolute minimum of 1.8m. Controlled crossings are mainly 2.8m in width, but 2.4m is the minimum where space is more constrained.

Technical Guidance

There is a range of guidance used to inform the designs and proposals set out in this Design Note. Some have been used specifically and some have been used more generally in developing our knowledge and experience.

Key reference documents are as follows:

- Local Transport Note 1/20, Cycle Infrastructure Design. DfT, 2019.
- Inclusive Mobility. DfT, 2021.
- Guidance On The Use Of Tactile Paving Surfaces. DfT, 2021.
- Traffic Signs Regulations & General Directions 2016 (TSRGD2016).
- Chapter 3, Traffic Signs Manual, Regulatory Signs. DfT, 2019.
- Chapter 5, Traffic Signs Manual, Road Markings. DfT, 2018.
- Chapter 6 Traffic Signs Manual, Traffic Control. DfT, 2019.

Background

The A4158 Iffley Road is part of an arterial route into the city centre between the Eastern Bypass to the south and The Plain roundabout to the north and forms the major road of the junction running south-east to north-west.

The junction is a signalised staggered cross-roads with a right-left stagger between the B4495 Donnington Bridge Road to the west and Boundary Brook Road to the east. Boundary Brook Road is the sole motor vehicle access to the residential area to the east of the junction. The junction is within an area operating with a 20mph speed limit.

There are staggered pedestrian crossings on the Donnington Bridge Road and southern Iffley Road arms which operate with a “walk with traffic” arrangement. The refuge islands are narrow and bounded with guardrail. There is no signal control for pedestrians on the northern arm of Iffley Road or across Boundary Brook Road. The Iffley Road pedestrian crossing operates between the south-west corner of the junction between Donnington

Bridge Road and Iffley Road, and the northern side of Boundary Brook Road; and so is essentially diagonal.

Other than Boundary Brook Road, all arms have two-lane approaches for general traffic with narrow advisory cycle lanes feeding advanced stop lines for cycle traffic; there are also narrow cycle lanes on the outbound sides of the junction. Boundary Brook Road has an ASL.

Donnington Bridge Road has left and right turn lanes and the northern arm of Iffley Road has ahead/ left and right turn lanes. The southern arm of Iffley Road has left turn and ahead lanes, with the latter feeding a narrow right turn pocket into Boundary Brook Road. There is a yellow box on the southern arm of Iffley Road, opposite Boundary Brook Road.

There are cycle routes marked through the junction using TSRGD2016 Diagram 1055.3, although these are not connected to cycle-only movements and therefore not in line with the guidance in Chapter 6 of the Traffic Signs Manual.

The traffic signal arrangements operate in five stages as follows, with pedestrians walking with traffic when the stages permit:

1. The Iffley Road arms run together with the northern half of the Donnington Bridge Road pedestrian crossing for this stage.

2. Then there is an early cut-off for northbound traffic to allow right turning vehicles to clear the northern arm and the western side of the Iffley Road pedestrian crossing starts.

3. Donnington Bridge Road runs with the western side of the Iffley Road pedestrian crossing continuing plus the south half of the Donnington Bridge Road pedestrian crossing for this stage.

4. Boundary Brook Road runs and the eastern side of the Iffley Road pedestrian crossing starts.

5. The southern arm of Iffley Road runs with the eastern side of the Iffley Road crossing for this stage.

The southern arm of Iffley Road has several mature trees behind existing kerb lines and all arms have various signs of buried utilities in the footways as well as several existing vehicle accesses.

The area is generally subject to no waiting at any time restrictions (double yellow lines). Boundary Brook Road has a “school street” restriction during the morning and afternoon weekday peaks.

Design Objectives

The key objectives for the junction is to provide protected space and time for cycle traffic moving through the junction. It is also desirable to provide additional controlled crossing opportunities for pedestrians.

General traffic should continue to have access in all directions, as at the network level there is no reasonable opportunity to ban traffic movements without leading to long diversions or U-turning behaviour.

Design Development

There are large trees on the southern arm of Iffley Road and utilities in the footway around the junction more generally. It is often controversial to remove large trees and utility diversions can be costly, so the initial approach is to retain the existing footways, even though in some locations, local narrowing would probably be acceptable from a pedestrian comfort perspective.

From a one-way cycle track approach, the use of a Circulating Cycle Stage (CCS) junction was considered first as it would meet both design objectives with a relatively straight-forward traffic signal arrangement. However, the staggered arrangement and highway widths mean this junction form doesn't fit within the highway footprint, even with utilising the footway edge, and so this approach was rejected.

It is clear that carriageway space is required to provide cycling space and therefore, single lane approaches for general traffic would result. The consequence is that the Iffley Road arms will most likely need separate traffic stages, otherwise the junction risks being locked by right turning vehicles.

The use of cycle gates for the three main arms was considered, but the proximity of private vehicle accesses to the junction would either impact the direction in which these accesses can be used, or they would require vehicles to turn across the central islands which this junction form utilises. The approach was therefore rejected.

The use of separate cycle phases was considered next. In terms of space, the southern arm of Iffley Road and the Donnington Bridge Road arm can accommodate an island separating cycle stop lines from general traffic stop lines. The Boundary Brook Road arm doesn't have sufficient width and so the existing ASL needs to be retained, but there is potential for early start for cycle traffic to be added.

The current pedestrian crossing alignment over Liffey Road offers an opportunity. Providing the crossing as a single stage gives the potential to run some cycle movements at the same time.

A pedestrian crossing on the northern arm of Iffley Road would conflict with the existing vehicle accesses and is not considered practical. For the southern arm, a crossing might be possible between the first two dwellings on the eastern side, but this would take cycle and/ or general traffic stop lines further away from the junction than is already the case and which would add to geometric delay.

Making the Donnington Bridge Road pedestrian crossing single stage would be more accessible and potentially opens up the possibility of adding a controlled crossing on the Boundary Brook Road arm as these would need to operate in the same stage.

Two-way cycle tracks can provide a more efficient use of space and with more complex layouts, they can be simpler to incorporate into signalised arrangements. They can also provide side flexibility in the event cycle flows operate tidally.

A two-way cycle track arrangement has been considered on the western side of Iffley Road which feeds and is fed by one-way cycle tracks on Donnington Bridge Road. This would enable a protected cycle crossing of the entrance to Donnington Bridge Road to operate in parallel with a single stage pedestrian crossing. The lack of cycle track on the eastern side means additional pedestrian crossings can provide access across Iffley Road from both sides of Donnington Bridge Road.

Proposed Treatment – Option 1 – One-way Cycle Tracks & Lanes (Drawing 1001)
With single stage crossings of Donnington Bridge Road and Iffley Road (in the current positions), inbound cycle traffic from the west and north can be routed behind floating pedestrian crossings of the main carriageway. This has the effect that the two pedestrian crossings operate together with cycles leaving from and turning right into Donnington Bridge Road. Southbound cycle traffic can also run with left turns into Boundary Brook Road held at an internal stop line.

The Boundary Brook Road pedestrian crossing operates at the same time as the Donnington Bridge Road pedestrian crossing as set out above, but with the right turning cycle traffic from Iffley Road held at the internal stop line.

Northbound cycle traffic requires separate staging to northbound general traffic and can only operate without the Donnington Bridge Road and Iffley Road crossings, but it can operate with the internal stop line into Boundary Brook Road. Northbound cycle traffic will require significant time to clear the junction safely.

In terms of signal staging, the junction is likely to operate somewhat inefficiently with six stages being required as an initial assessment as follows:

1. Donnington Bridge Road.

2. All pedestrian crossings. Cycles from Donnington Park Road and cycles from the northern arm of Iffley Road (with right turners held). Cycles entering Boundary Brook Road are held at the internal stop line and released during Stage 4.

3. As Stage 2, but the Donnington Bridge Road pedestrian crossing ceases to allow right turns from the northern arm of Iffley Road.

4. Iffley Road southern arm for cycles and cycles from the northern arm of Iffley Road.

5. Iffley Road southern arm (cycles held).

6. Iffley Road northern arm (cycles held).

7. Boundary Brook Road.

Proposed Treatment – Option 2 – Two-way Cycle Track (Drawing 2002)
A two-way cycle track on the western side of Iffley Road utilises the space within the junction with Donnington Bridge Road and allows direct connections to the same. The Boundary Brook Road arm, simply doesn't have space for this level of protection.

Operating the cycle crossing and pedestrian crossing over Donnington Bridge Road together requires a traffic stage and this also enables the pair of crossings over Liffey Road to operate together.

The two-way cycle track can be accessed from Boundary Brook Road with an early start for cycle traffic at the ASL, but also where cycling takes place in mixed traffic and from a nearside or primary position.

Cycle traffic accessing Boundary Brook Road can do so with the other crossings operating, but not with a pedestrian crossing over Boundary Brook Road operating. An internal stop line might be possible here, but as cycle traffic will be moving towards it, compliance is likely to be low. Retaining a non-signalised pedestrian crossing of Boundary Brook Road is also an option.

There is some space for limited stacking of right turning traffic from the northern arm of Iffley Road which would potentially allow both Iffley Road arms to run with an early cut-off for the southern arm to all right turn clearance.

In terms of signal staging, an initial assessment is as follows:

1. Both Iffley Road arms.

2. Early cut-off for southern Iffley Road arm with right turns from the northern Iffley Road clearing.

3. Donnington Bridge Road.

4. Eastbound cycle crossing into Boundary Brook Road.

5. Boundary Brook Road with an early start for cycles.

6. All cycle and pedestrian movements run together other than the eastbound crossing into Boundary Brook Road.

Two-way cycle tracks have limitations as only one side of the street is directly served and there are complexities at side streets in terms of driver – cyclist interactions and accessing side streets on the opposite side of the road.

In this case, there are options to revert to one-way cycle tracks at the side streets immediately north and south of the junction with the use of signalised or parallel crossings:

- The junction of Iffley Road with Addison Crescent is filtered and so a crossing here could connect directly.

- The junction of Iffley Road with Freedlands Road could be filtered or made exit for general traffic to create space for a crossing.

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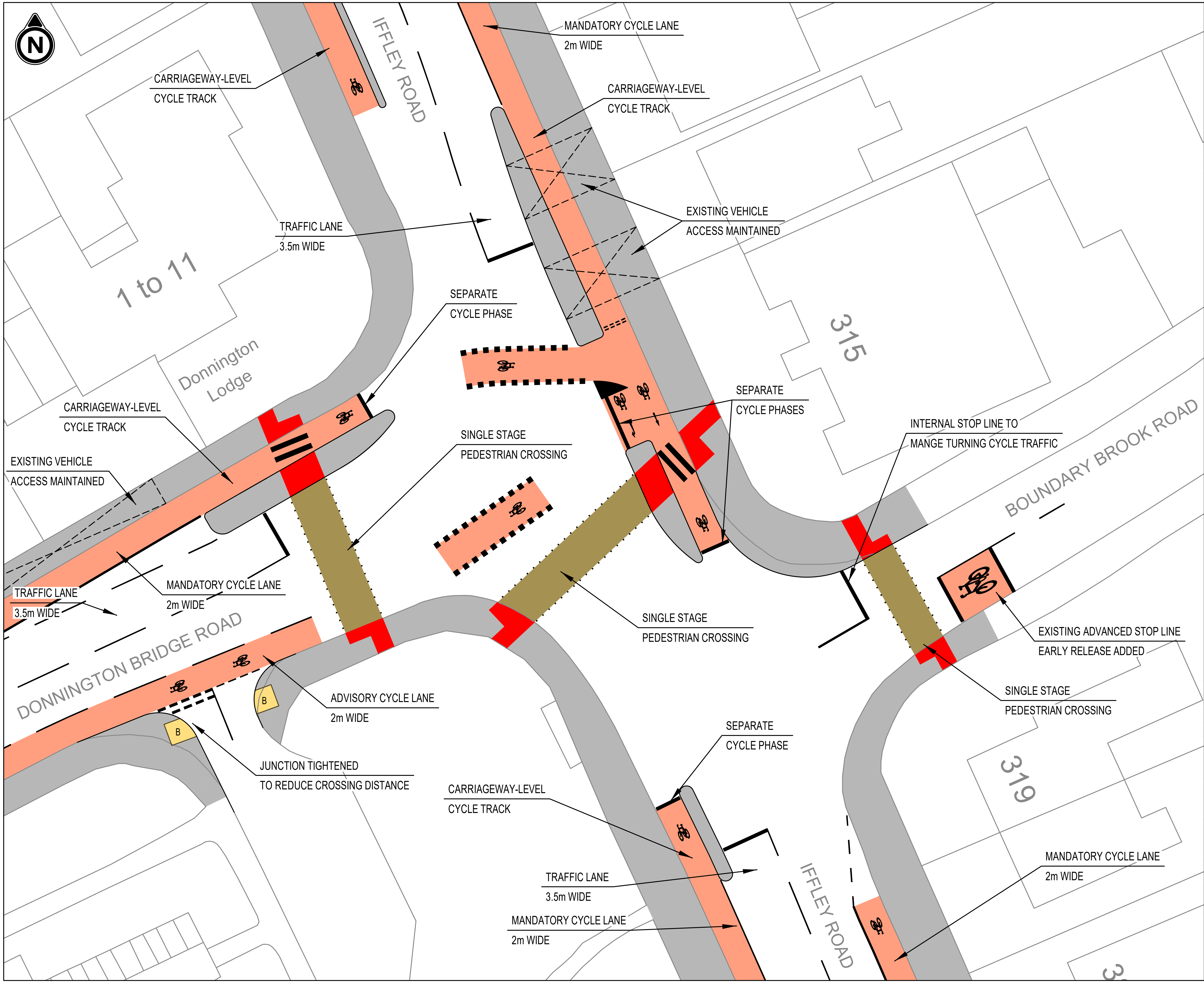
Limitation
This document has been prepared on behalf of, and for the use by the commissioning client in accordance with the agreement between them and City Infinity and as such, we accept no liability or responsibility for the use of, or reliance upon this document by any third party.

Construction (Design & Management) Regulations 2015
The contents of this note should be regarded as design work for the purposes of the CDM Regulations 2015, and it should be provided in full to anyone developing designs from the content herein.

There are specific duty-holders under CDM 2015 and for clients especially, we draw attention to their duties. CITB have produced information which will be of use to duty-holders, including clients.

https://www.citb.co.uk/health-safety-and-other-topics/health-safety/construction-design-and-management-regulations/



PURPOSE	CONCEPT DESIGN

IMPORANT HEALTH & SAFETY INFORMATION

Works on the public highway require authorisation from the highway authority.

Buried and overhead utilities which should be located and identified before any works take place.

Working on the public highway is subject to live traffic and a safe system of work, including traffic management should be employed, including the protection of people walking, wheeling and cycling.

NOTES

LEGEND

- Footway
- Cycleway
- Shared-use path
- Verge
- Red blister tactile paving
- B Buff blister tactile paving
- C Corduroy tactile paving
- T L Tramline / ladder tactile paving
- Signalised crossing surfacing
- Entrance kerbs
- Zebra crossing over cycle track

REVISION	AMENDMENT	DATE
P02	LEGEND & MINOR UPDATES	06/01/2026
P01	INITIAL ISSUE	09/12/2025

CLIENT: OXFORDSHIRE LIVEABLE STREETS

JOB TITLE: OXFORDSHIRE LIVEABLE STREETS DESIGN SUPPORT

DRAWING TITLE: IFFLEY RD/ DONNINGTON BR RD JUNCTION GENERAL ARRANGEMENT - OPTION 1

DRAWN	CHECKED BY	SCALE (AT A3)	DATE
MLP	MLP	1:250	09/12/2025

DRAWING No	REVISION
057-CIX-00-XX-DR-C-1001	P02

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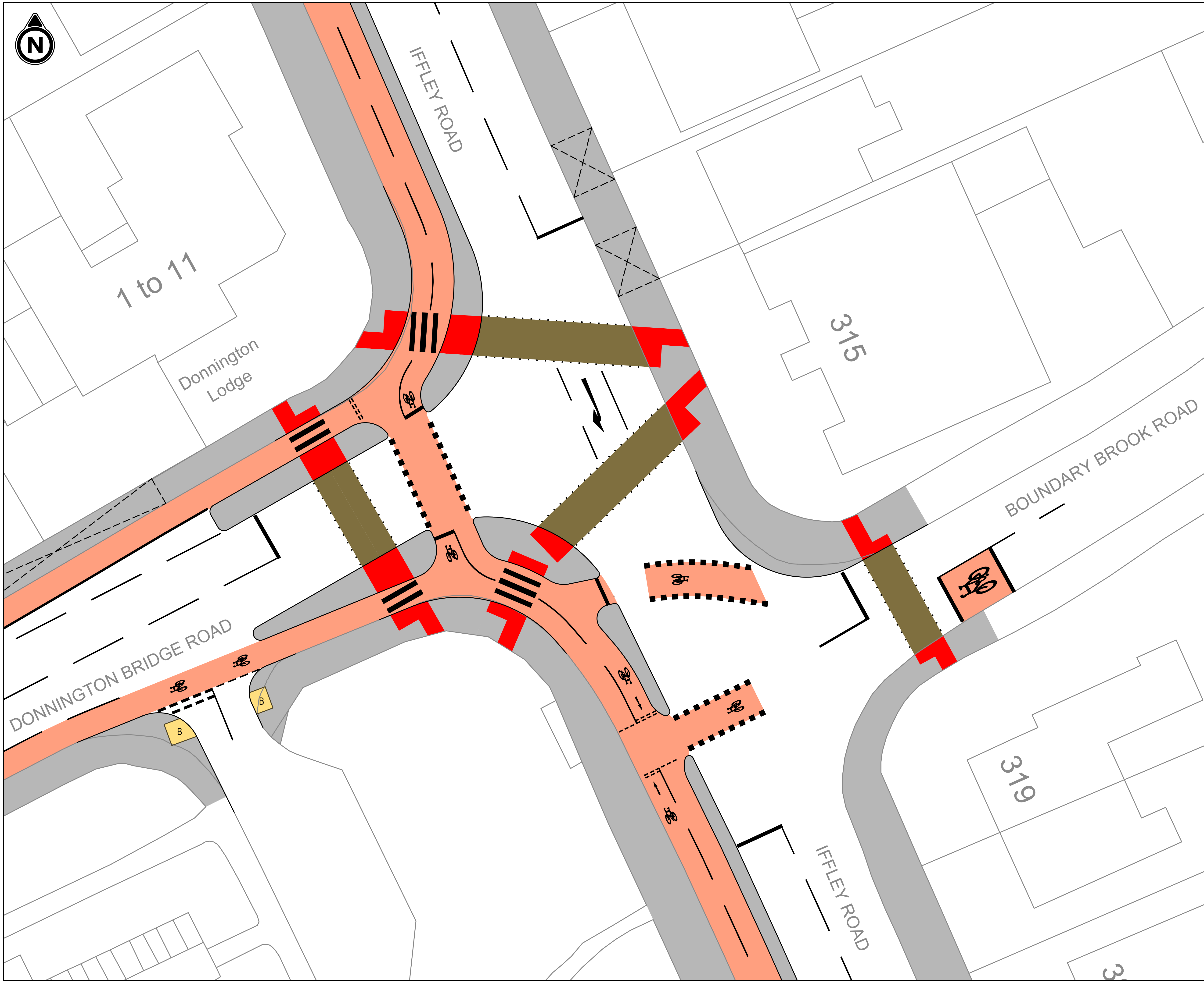

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REVISION	AMENDMENT	DATE
P01	INITIAL ISSUE	27/11/2025

CLIENT: OXFORDSHIRE LIVEABLE STREETS

JOB TITLE: OXFORDSHIRE LIVEABLE STREETS DESIGN SUPPORT

DRAWING TITLE: IFFLEY RD/ DONNINGTON BR RD JUNCTION GENERAL ARRANGEMENT - OPTION 2

DRAWN	CHECKED BY	SCALE (AT A3)	DATE
MLP	MLP	1:250	27/11/2025

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