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# Thornbury and Bradley Stoke to North Bristol Sustainable Transport improvements

# Design summary

To provide improved facilities for buses and people walking, cycling and wheeling, we are proposing the following:

## A38 improvements

- **A new, separate two-way cycleway** alongside the footway between Almondsbury and Alveston. This will give cyclists a safe route where there currently is no option and free up more space for pedestrians, making it safer for everyone.
- **Additional southbound traffic lanes from Gloucester Road to M5 J16** to improve traffic flow leading to improved bus journey times.
- **New southbound bus lane** along some sections of the A38, where buses regularly get stuck in traffic at busy times.
- **Bus gate at the Hortham Lane junction.**
- **Improvements to the bus stops along the A38.**
- **Improved crossing facilities for pedestrians and cyclists along the A38**, to allow safe access to the new cycle track and to improve access to bus stops.
- **Junction improvements** to provide safety for pedestrians and cyclists at crossings.
- **Reduction in speed limits between Almondsbury and Woodhouse Down, at Rudgeway and between Alveston and Grovesend** to improve safety and support increased walking, cycling and wheeling.

## Alveston Hill improvements

- **A 2-way cycle track with separate footway** with sections of shared use path.
- **Bus stop improvements.**
- **Improved crossing facilities for pedestrians and cyclists.**
- **Junction improvements** to provide safety for pedestrians and cyclists at crossings.

## Bradley Stoke Way improvements

- **A 2-way cycle track with separate footway mostly on the western side of Bradley Stoke Way** to be constructed by widening the existing shared use path.
- **A new southbound bus lane approaching Savages Wood Roundabout** (opposite Tesco).
- **Improved crossings** to enable safer access to/from the cycle track from both sides of Bradley Stoke Way and when crossing side roads at junctions.
- **Junction improvements** to support walking, cycling and wheeling.
- **Speed limit change south of Great Meadow roundabout (also known as Baileys Court roundabout).**

Further details are provided in the following sections:

## A38 between Almondsbury and Grovesend

A combination of bus infrastructure, junction improvements and improved walking, cycling and wheeling facilities are provided along the A38 from Almondsbury to Grovesend. The Grovesend junction improvements are being developed separately and subject to a separate public consultation.

### Bus infrastructure improvements

A southbound bus lane is proposed at the following locations:

- Woodhouse Avenue to Hortham Lane
- Over Lane to M5 junction 16 (with small break at electricity substation)

A bus lane is required at these locations as buses frequently experience delays due to queuing traffic in peak periods and when traffic is diverting on to the A38 from the M5 southbound between Junction 14 and 16. These measures will help to improve reliability of bus journeys along the corridor, making travelling by bus a more attractive option.

The proposed bus lane from Woodhouse Avenue will terminate at the Hortham Lane junction. A signal-controlled bus gate will be included at the junction to provide priority to buses. The bus lane will generally be created through widening into the verge, except for the last 60m approaching the Hortham Lane junction. It will be necessary here to convert the current southbound left-turn lane into the bus lane. Left turns would still be permitted but with a single southbound lane for all non-bus traffic. Traffic counts indicate that there is a relatively small number of vehicles using this lane and that converting it to a bus lane would not have a material impact on journey times through the junction.

In addition to the proposed southbound bus lane at the Gloucester Road junction, an additional traffic lane has been proposed to improve traffic flow toward M5 Junction 16. This would be provided by reducing the width of the central reserve, therefore making the existing 4 lanes south of the Gloucester Road junction longer.

Improved bus stop facilities are proposed along the A38 to meet a consistent standard for accessibility (including raised kerbs), shelter and information provision. It may be necessary to relocate some bus stops a short distance to enable these improvements to be made or to improve accessibility for users. In particular, the following are proposed:

- The southbound bus stop south of the M4 overbridge would be relocated to the north of Hortham Lane opposite the existing northbound bus stop.
- A new northbound bus stop between Rudgeway Park and Church Road would replace both the existing northbound bus stops at Rudgeway Park and Church Road.
- The existing southbound bus stop south of Briarleaze junction would be relocated north of The Mason's Arms pub.

- The existing southbound bus stop south of The Street would be relocated approximately 100 metres south.

Some bus stops are currently maintained by Parish Councils. Where this is the case, we will undertake further engagement with them regarding the proposed improvements and arrangements for future maintenance.

### Junction improvements

We are proposing to reduce the radius of junctions along the A38, therefore making the turns tighter to reduce traffic speed, making it safer for pedestrians and cyclists when crossing the road.

### Walking, cycling and wheeling improvements

We are proposing to place the A38 cycle track on the western side of the road as this enables direct access to be provided to Alveston. To provide a high-quality facility, crossings at side roads would be provided to give priority to cyclists and pedestrians, where possible, and increase safety and reduce delay. Dutch entrance kerbs have been proposed at accesses located along the proposed cycle track and footway.

In most cases, a 2-way cycle track constructed to one side of the road takes up less space than if separate cycle tracks were to be provided on each side of the road whilst also providing a more attractive facility for cyclists. The minimum desirable width set out in the Cycle Infrastructure Design guidance (LTN 1/20) is 3 metres for a 2-way track and 2 metres for a one-way track. Providing one-way tracks on both sides of the road would therefore require a total of 4 metres to be allocated for cycle tracks. Providing a 2-way track on one side of the road is also expected to be more cost-effective and result in less disruption during the construction works than if works were required to both sides of the road.

The cycle tracks will be separated from the footway by a demarcation kerb, therefore providing a separate space for cyclists and pedestrians. At locations where pedestrians need to cross the cycle tracks, a zebra crossing has been proposed to provide safety. For example, a zebra crossing provided at a bus stop bypass allows pedestrians to safely cross the cycle tracks and access the bus shelter. A bus stop bypass is where a protected cycle track is routed behind a bus shelter or passenger boarding area at a bus stop. Bus stop bypasses would be provided along the A38.

The new cycle track will be created mostly through reallocating road space that is not currently used. This includes areas that are currently hatched (area of stripes painted to keep drivers apart) or where traffic lanes are wider than needed. Existing right-turn filter lanes located in the central reservation will be retained as they are important to maintain traffic flow and safety.

The width of traffic lanes on the A38 will generally be reduced to industry standards to allow large vehicles including buses and lorries to pass safely. Existing on-road cycle lanes will be removed.

We propose the following speed limit changes:

- Reduced speed limit from 40mph to 30mph between Almondsbury (south of Oaklands Drive) and Woodhouse Down (BP garage).
- Reduced speed limit from 40mph to 30mph at the Church Road junction.
- Reduced speed limit from the national speed limit to 50mph from south of Old Gloucester Road to west of Abbey Lane
- The existing 40mph speed limit east of Abbey Lane towards Grovesend junction would be extended to start west of Abbey Lane.

The changes in the speed limits are needed to meet the Cycle Infrastructure Design guidance which identifies the minimum horizontal separation to be provided between cycle tracks and the carriageway, shown in Figure 1, and generally to improve safety and support increased walking, cycling and wheeling through these areas.

**Table 6-1: Minimum recommended horizontal separation between carriageway and cycle tracks\***

Speed limit (mph)	Desirable minimum horizontal separation (m)	Absolute minimum horizontal separation (m)
30	0.5	0
40	1.0	0.5
50	2.0	1.5
60	2.5	2.0
70	3.5	3.0

\*Separation strip should be at least 0.5m alongside kerbside parking and 1.5m where wheelchair access is required.

*Figure 1: Minimum recommended horizontal separation between carriageway and cycle tracks according to the Cycle Infrastructure Design guidance (LTN 1/20)*

We have proposed the following crossing types along the A38 and at side roads:

Crossing type	Description
Puffin crossing	This is a stand-alone signal-controlled pedestrian crossing.
Parallel crossing	This consists of a zebra crossing alongside a separate cycle crossing. This type of crossing gives pedestrians and cyclists priority at crossings, improving their safety.
Signalised parallel crossings	These are signal-controlled crossings where pedestrians and cyclists are separated.

Toucan crossings	These are signal-controlled crossings shared between pedestrians and cyclists with no separation between them. A shared use path is suitable on either side of these crossings to avoid conflict among users.
Uncontrolled crossings	These are crossings without traffic signals, stop signs, or other forms of traffic control.

We have detailed the type, location and benefits of the proposed crossings along the A38 in Table 1.

Table 1: Proposed crossings along the A38

<b>Crossing no.</b>	<b>Crossing location</b>	<b>Drawing No.</b>	<b>Crossing type</b>	<b>Existing, New, Upgraded</b>	<b>Reason for crossing</b>
1	North of National Highways Depot	44	Parallel	New	To provide connectivity between various sports clubs on either side of A38 for pedestrians and cyclists.
2	Over Lane	45	Toucan	Upgraded – currently uncontrolled dropped kerbs	To provide connectivity between residential areas and retail units
3	North of Scout Hut	47	Puffin	New	To provide connectivity between residential areas and allow safe crossing to/from Scout Group
4	Florence Park	47	Signalised parallel crossing	New	To provide a safe crossing facility for users to join onward walking/cycling facilities from large residential areas
5	South of Hortham Lane	46	Signalised parallel crossing	New	To facilitate a connected active travel network and allow pedestrians/cyclists safe access to proposed or existing facilities
6	North of Hortham Lane	46	Signal controlled crossing	New	To facilitate a connected active travel network and allow pedestrians/cyclists safe access to the proposed or existing facilities
7	Fernhill	37	Puffin	New	To allow safe movements for pedestrians to/from Fernhill
8	Woodhouse Avenue	38	Puffin	New	To allow safe movements for pedestrians to/from Woodhouse Avenue
9	Tockington Park Lane	38	Puffin	New	To allow safe movements for pedestrians to/from Tockington Park Lane

<b>Crossing no.</b>	<b>Crossing location</b>	<b>Drawing No.</b>	<b>Crossing type</b>	<b>Existing, New, Upgraded</b>	<b>Reason for crossing</b>
10	North of Washingpool Hill Road	38	Toucan	New	To provide a safe crossing facility between the southbound bus stop and Washingpool Hill Road, providing connection into Tockington
11	Rudgeway Park	39	Toucan	New	To provide a safe crossing facility to/from Rudgeway Park residential area
12	South of Church Road	39	Puffin	New	To provide a safe crossing facility between Church Road and residential areas or bus stops on Gloucester Road
13	North of Hazel Lane	40	Uncontrolled crossing	Upgraded	The existing uncontrolled crossing would be upgraded by providing tactile paving allow safe crossing facility between Briarleaze and Hazel Lane for people with visual impairments.
14	South of Forty Acre Lane	41	Puffin	New	To provide a safe crossing facility between Forty Acre Lane and Alveston, including St Helen's Church and schools
15	South of David's Lane	43	Puffin	New	Upgrade of existing uncontrolled crossing to safely connect The Street and Alveston
16	Alveston Hill	43	Signalised parallel crossing	New	To allow safe connections to Alveston



## Alveston Hill

A combination of junction improvements, 2-way cycle track and improved footway is proposed along Alveston Hill.

### Bus infrastructure

A new bus shelter has been proposed to replace the existing bus shelter at the northbound bus stop south of Down Road (subject to agreement by Alveston Parish Council). The new bus shelter would be located near the carriageway with the shared use path continuing behind the bus shelter. The improvements at the bus stop will include raised kerbs to meet accessibility requirements.

### Junction improvements

We are proposing to reduce the radius at the Down Road and Old Gloucester Road junctions, which leads to reduced traffic speed, making it safer for pedestrians and cyclists when crossing the road.

### Walking, cycling and wheeling improvements

We are proposing to provide a shared use path (minimum 3 metres wide) along the western side of the road south of Down Road junction. The path widens to a 3-metre cycle track and 2 metre footway which changes to a shared use path on the eastern side of the road north of the Old Gloucester Road junction. The proposed cycling, walking and wheeling facilities have been designed to meet the standards set out in the [Cycle Infrastructure Design guidance \(LTN1/20\)](#). The shared use path has been proposed along sections where there is insufficient width to provide a separate footway and cycle track. This path would be designed to accommodate pedestrians and cyclists safely. Dutch entrance kerbs or dropped kerbs have been proposed at accesses located along the proposed walking and cycling facilities.

Improved crossings will provide a continuous high-quality route, improving safety for users and providing access to residences and businesses along the route. We are proposing to provide a parallel crossing at Down Road junction. A parallel crossing consists of a zebra crossing alongside a separate cycle crossing. This type of crossing gives pedestrians and cyclists priority at crossings, improving their safety.

The uncontrolled crossing located immediately north of the Old Gloucester Road junction would be upgraded by providing tactile paving to meet accessibility requirements for people with visual impairments and provide access to the footway located on the western side of the carriageway. A toucan crossing has been proposed approximately 100 metres north of Old Gloucester Road to transition the cycle track and footway from the western side of the road to a shared use path on the eastern side of the road.

## Bradley Stoke Way

A combination of bus infrastructure, junction improvements, 2-way cycle track and improved footway is proposed along Bradley Stoke Way between Aztec West and Great Stoke Roundabout.

### Bus infrastructure

Improved bus stop facilities are proposed for the non-metrobus stops along Bradley Stoke Way that are served by the T1 and 73 bus routes. This would include accessibility improvements (including raised kerbs), shelter and information provision. Some existing bus stops currently are just a bus stop flag so shelters will be provided to improve the waiting facilities for users.

A new southbound bus lane approaching Savages Wood Roundabout has been proposed to improve bus journey times, while the existing bus lanes would be maintained.

### Junction improvements

Junction improvements have been proposed at the Patchway Brook roundabout, Savages Wood roundabout, Webbs Wood roundabout and the Great Meadow roundabout (also known as Baileys Court roundabout). These improvements include:

- Reduction or removal of the traffic islands along the arms of the roundabout. This is aimed at reducing the speed approaching and exiting the roundabout making it safer for vehicles and pedestrians and cyclists when crossing the road.
- Protected cycling and walking facilities connecting all arms of the roundabout.
- Provision of new or upgraded crossings on all arms of the roundabout.

### Walking, cycling and wheeling improvements

The existing shared use path network running along Bradley Stoke Way provides a safe route for walkers, cyclists and wheelers that is segregated from traffic but does not provide separate facilities for walkers, cyclists and wheelers in accordance with the Cycle Infrastructure Design guidance. We propose upgrading this to create a 2-way cycle track with separate footway which will run from the Aztec West Roundabout to Great Stoke Roundabout.

Where the new cycle tracks pass through bus stops, we will aim to provide segregation between cyclists and bus users by providing bus stop bypasses for cyclists.

Improved crossings will provide a continuous high-quality route along its length and access from the eastern side of Bradley Stoke Way. We are proposing to provide different types of crossings at various locations along the road. The crossing types include toucan crossings, parallel crossings and signalised parallel crossings, which have been defined in the section above.

Table 2 details the location, types and reason for the new or upgraded crossings proposed along Bradley Stoke Way.

Table 2: Proposed crossings along Bradley Stoke Way

<b>Crossing no.</b>	<b>Crossing location</b>	<b>Drawing No.</b>	<b>Crossing type</b>	<b>Existing, New, Upgraded</b>	<b>Reason for crossing</b>
1	South of the Aztec West roundabout	53	Signalised parallel crossing	Upgraded	To separate pedestrian and cyclist movements to improve safety.
2	West of Woodlands Lane	54	Toucan crossing	New	To provide connectivity between residential areas and retail units.
3	West of Orchard Gate	54	Toucan crossing	Upgraded	To provide access to residential areas.
4	All arms of the Patchway Brook roundabout	55	Signalised parallel crossings	Upgraded	To allow pedestrians and cyclists to safely cross the arms of the roundabout which have high flows.
5	North of Savages Wood roundabout	56	Toucan crossing	Upgraded from a puffin crossing	To transition the cycling and walking facility from the eastern side of the road to the western side.
6	Bradley Stoke arms at the Savages Wood roundabout	57	Signalised parallel crossings	New/ upgraded	To allow pedestrians and cyclists to safely cross these arms of the roundabout which have high flows.

<b>Crossing no.</b>	<b>Crossing location</b>	<b>Drawing No.</b>	<b>Crossing type</b>	<b>Existing, New, Upgraded</b>	<b>Reason for crossing</b>
7	Fiddlers Wood Lane and Savages Wood Road arms of the Savages Wood roundabout	57	Parallel crossings	New/ upgraded	To provide a safe crossing facility at the roundabout.
8	South of Savages Wood Roundabout	58	Signalised parallel crossing	Upgraded	To provide a safe crossing to access Bradley Stoke Community School.
9	North of Stoke Brook Bridge	58	Puffin crossing	Upgraded	To provide a safe crossing to access the southbound bus stop.
10	Bradley Stoke arms at the Webbs Wood roundabout	59	Signalised parallel crossings	Upgraded	To allow pedestrians and cyclists to safely cross these arms of the roundabout which have high flows.
11	Webbs Wood Road arms at the Webbs Wood roundabout	59	Parallel crossings	Upgraded	To provide a safe crossing and connectivity to the residential areas along Webbs Wood Road.
12	Bradley Stoke arms at the Great Meadow roundabout	60	Signalised parallel crossings	Upgraded	To allow pedestrians and cyclists to safely cross these arms of the roundabout which have high flows.

<b>Crossing no.</b>	<b>Crossing location</b>	<b>Drawing No.</b>	<b>Crossing type</b>	<b>Existing, New, Upgraded</b>	<b>Reason for crossing</b>
13	Baileys Court Road arms at the Great Meadow roundabout	60	Parallel crossings	Upgraded	To provide a safe crossing and connectivity to the residential areas along Baileys Court Road.

We are proposing a speed limit change south of Great Meadow roundabout to Great Stoke Way roundabout from 30mph to 40mph. The change in speed limit aims to improve traffic flow along this section. This will be particularly beneficial in reducing bus journey times along this section.

