

Cabinet

Supplementary Information



Date: Tuesday, 6 February 2024

Time: 4.00 pm



































Venue: The Council Chamber - City Hall, College Green, Bristol, BS1 5TR

13. **A37/A4018 Victoria Street & Colston Avenue Full Business Case (FBC)**

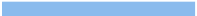




















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Issued by: Amy Rodwell, Democratic Services
City Hall, Bristol, BS1 9NE
E-mail: democratic.services@bristol.gov.uk
Date: Monday, 29 January 2024



ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	% Complete
1									0%
2			WECA Committee: Change Request Approval	1 day	Fri 17/03/23	Fri 17/03/23		14,13,6,3	100%
3			WECA/BCC arrangements for funding	100 days	Mon 20/03/23	Fri 04/08/23	2		100%
4			Procurement to Direct Award FBC consultant	18 days	Wed 29/03/23	Fri 21/04/23		20	100%
5			TRO Process	225 days	Mon 20/03/23	Fri 26/01/24			77%
6			Instruct TRO Team	21 days	Mon 20/03/23	Mon 17/04/23	2	7,8	100%
7			TRO Instruction accepted	4 days	Tue 18/04/23	Fri 21/04/23	6	8	100%
8			TRO Preparation Work	128 days	Mon 24/04/23	Wed 18/10/23	6,7	9	100%
9			TRO Advert & Statutory Consultation	4 wks	Mon 23/10/23	Fri 17/11/23	8,13	10	50%
10			TRO Objection Report	4 wks	Mon 20/11/23	Fri 15/12/23	9	11	0%
11			TRO Objection Report Signed off by BCC	4 wks	Mon 01/01/24	Fri 26/01/24	10		0%
12			Design Work	142 days	Mon 20/03/23	Tue 03/10/23			100%
13			TRO Plans	28 days	Mon 20/03/23	Wed 26/04/23	2	14,9	100%
14			Detailed Design	15 wks	Thu 27/04/23	Wed 09/08/23	2,13	15,16	100%
15			RSA2	6 wks	Thu 10/08/23	Wed 20/09/23	14	17	100%
16			Internal Stakeholder Consultation	3 wks	Thu 10/08/23	Wed 30/08/23	14	17	100%
17			QA4 Board Prep & costings	9 days	Thu 21/09/23	Tue 03/10/23	15,16	18	100%
18			QA4 Board (03/10)	0 days	Tue 03/10/23	Tue 03/10/23	17	24,27FF	100%






















Project: A37 A4018 Vic St & Co
Date: Thu 09/11/23

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Critical	
Project Summary		Manual Summary		Critical Split	
Inactive Task		Start-only		Progress	
Inactive Milestone		Finish-only		Manual Progress	

ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	% Complete
19			Full Business Case Work	147 days	Thu 27/04/23	Fri 17/11/23			96%
20			Inception Meeting	1 day	Thu 27/04/23	Thu 27/04/23	4		100%
21			Modelling and Appraisal	3.3 mons	Thu 01/06/23	Thu 31/08/23		23	100%
22			Draft Strategic Case	3.9 mons	Mon 01/05/23	Wed 16/08/23		27	100%
23			Draft Economic Case	1 mon	Mon 25/09/23	Fri 20/10/23	21	27	100%
24			Draft Financial Dimension	0.85 mons	Thu 05/10/23	Fri 27/10/23	18	27	100%
25			Draft Management Case	2.2 mons	Tue 01/08/23	Fri 29/09/23		27	100%
26			Draft Commercial Case	2.2 mons	Tue 01/08/23	Fri 29/09/23		27	100%
27			Atkins Technical review	10 days	Mon 30/10/23	Fri 10/11/23	18FF,22,23,24,25,	28	25%
28			FBC draft for WECA Grant Assurance	5 days	Mon 13/11/23	Fri 17/11/23	27	35,43	0%
29			ASN	1 day	Mon 03/07/23	Tue 04/07/23			100%
30			ASN development	1 day	Mon 03/07/23	Tue 04/07/23			100%
31			ASN shared with CA GA	1 day	Mon 03/07/23	Tue 04/07/23			100%
32			ASN amended in line with CA comments	1 day	Mon 03/07/23	Tue 04/07/23			100%
33			ASN Approved	0 days	Mon 03/07/23	Mon 03/07/23			100%
34			BCC Decision Pathway	57 days	Mon 20/11/23	Tue 06/02/24			0%
35			DMT (21/11/23)	2 days	Mon 20/11/23	Tue 21/11/23	28	36	0%
36			EDM (22/11/23)	5 days	Wed 22/11/23	Tue 28/11/23	35	37	0%
37			CMB (07/12/23)	5 days	Fri 01/12/23	Thu 07/12/23	36	41,38	0%
38			Cabinet paper process	11 days	Fri 08/12/23	Fri 22/12/23	37	39	0%
39			Christmas Break	10 days	Mon 25/12/23	Fri 05/01/24	38	41,40	0%

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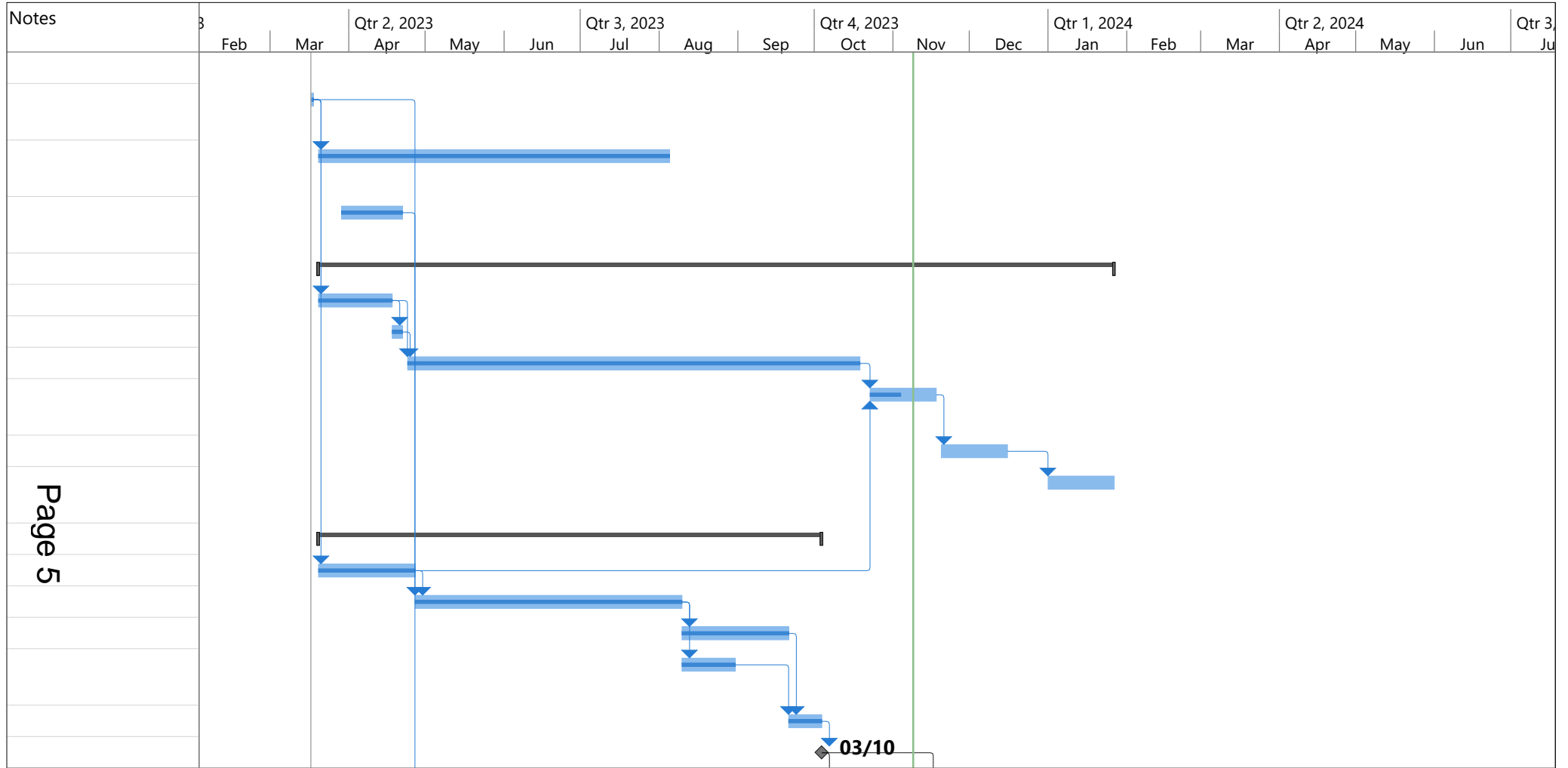
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Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Critical	
Project Summary		Manual Summary		Critical Split	
Inactive Task		Start-only		Progress	
Inactive Milestone		Finish-only		Manual Progress	

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	% Complete
40		Cabinet paper process continues	21 days	Mon 08/01/24	Mon 05/02/24	39		0%
41		Cabinet	1 day	Tue 06/02/24	Tue 06/02/24	37,39	45,47	0%
42		WECA Assurance	35 days	Fri 17/11/23	Fri 05/01/24			0%
43		Submit FBC to WECA Assurance	0 days	Fri 17/11/23	Fri 17/11/23	28	44	0%
44		CA Grant Assurance review	7 wks	Mon 20/11/23	Fri 05/01/24	43	45	0%
45		WECA Approvals - Feb date t	13 days	Wed 07/02/24	Fri 23/02/24	41,44	46	0%
46		Decision risk allowance	1 wk	Mon 26/02/24	Fri 01/03/24	45	47	0%
47		WECA GOL & BCC legal processes	4 wks	Mon 04/03/24	Fri 29/03/24	41,46	49,48	0%
48		Procurement	60 days	Mon 01/04/24	Fri 21/06/24	47	51	0%
49		Procurement - Tender Prep	2 mons	Mon 01/04/24	Fri 24/05/24	47	50	0%
50		Tender Award	1 mon	Mon 27/05/24	Fri 21/06/24	49	52	0%
51		Mobilisation	90 days	Mon 24/06/24	Fri 25/10/24	48		0%
52		Mobilisation	90 days	Mon 24/06/24	Fri 25/10/24	50	55	0%
53		Construction	320 days	Mon 28/10/24	Fri 16/01/26			0%
54		Construction Start	0 days	Mon 28/10/24	Mon 28/10/24	55SS		0%
55		Construction Phase	16 mons	Mon 28/10/24	Fri 16/01/26	52	56FF,54SS	0%
56		Construction End	0 days	Fri 16/01/26	Fri 16/01/26	55FF		0%

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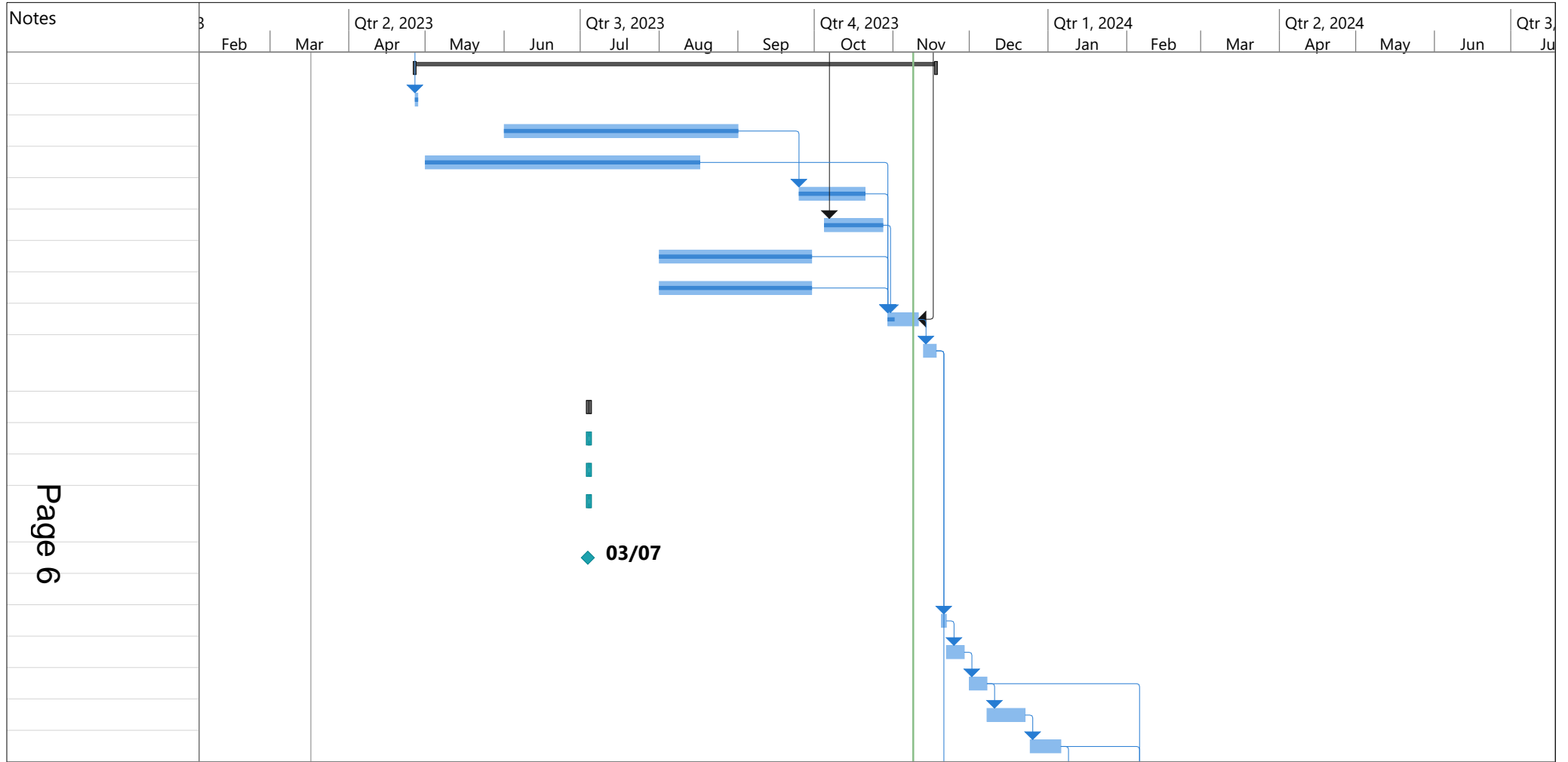
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Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
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Inactive Milestone		Finish-only		Manual Progress	



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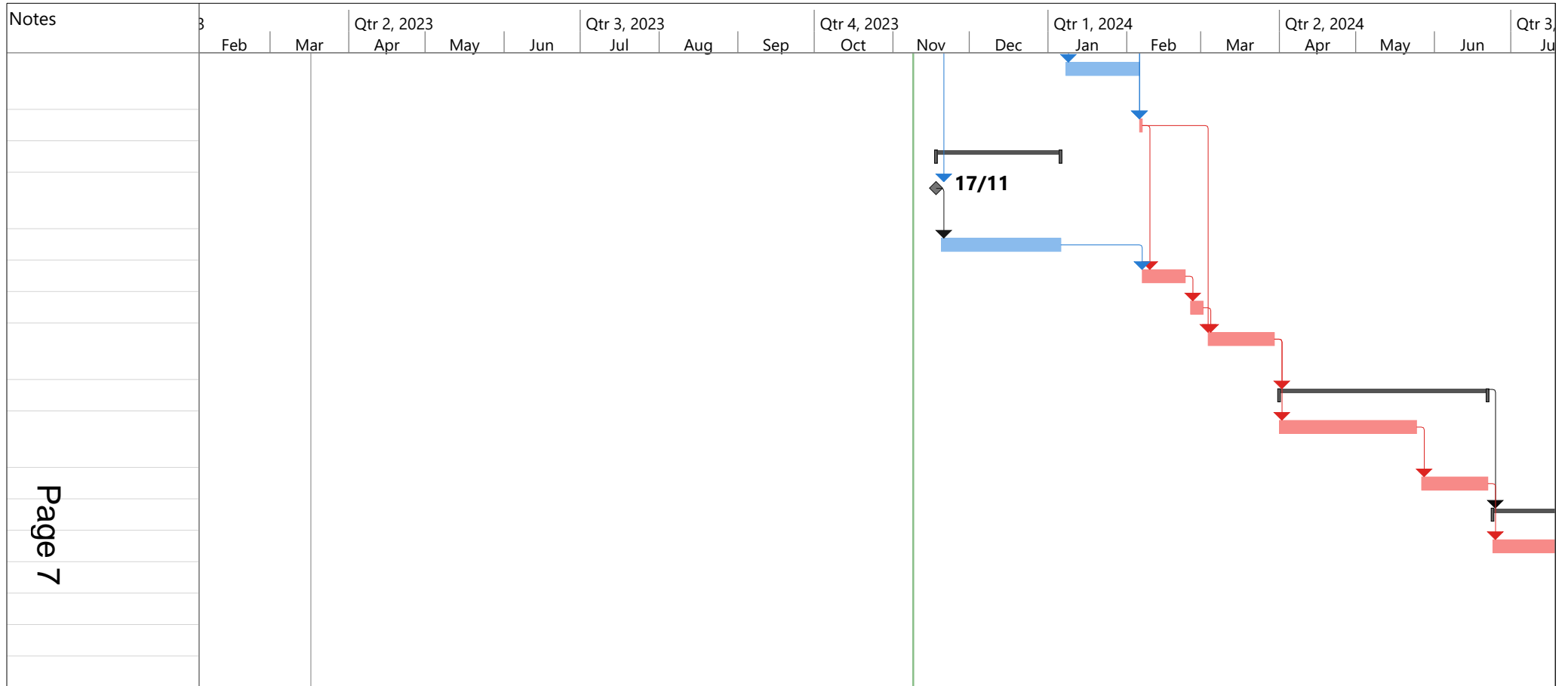
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Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Critical	
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Inactive Milestone		Finish-only		Manual Progress	



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Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Critical	
Project Summary		Manual Summary		Critical Split	
Inactive Task		Start-only		Progress	
Inactive Milestone		Finish-only		Manual Progress	

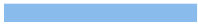






















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Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Critical	
Project Summary		Manual Summary		Critical Split	
Inactive Task		Start-only		Progress	
Inactive Milestone		Finish-only		Manual Progress	

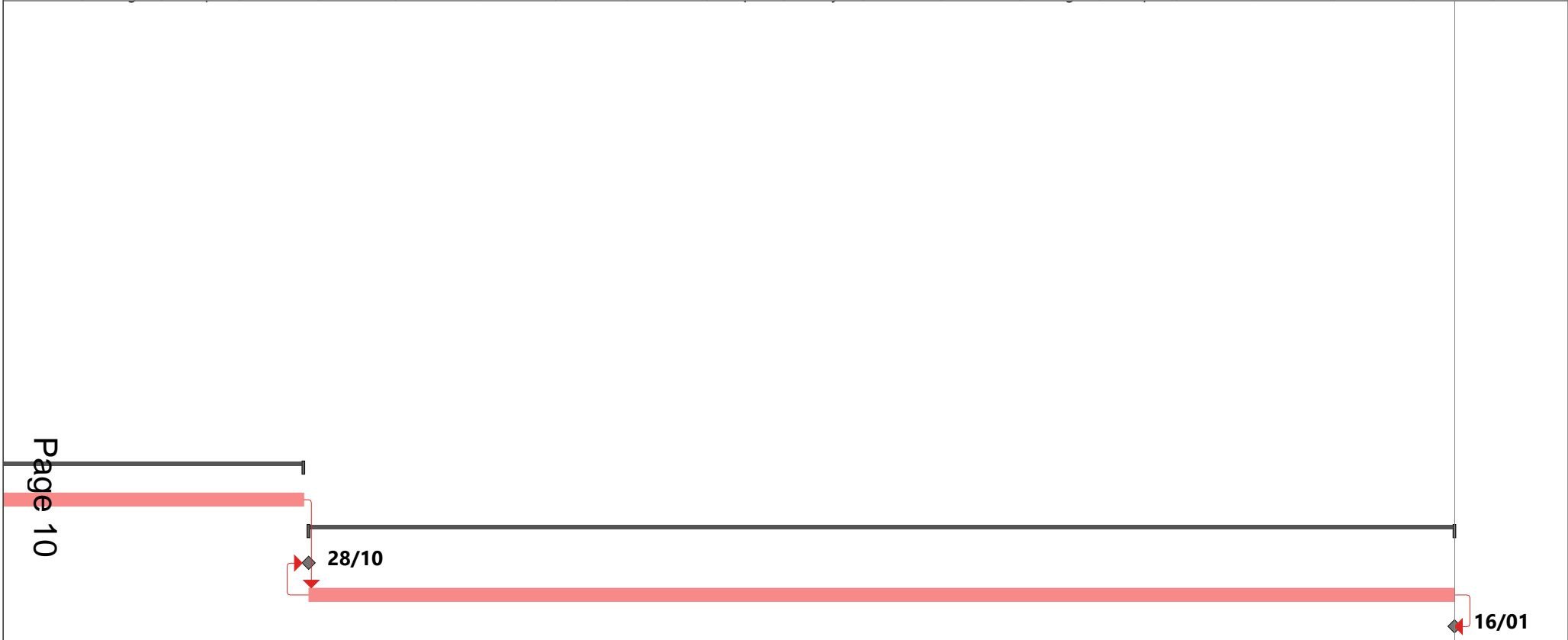
Qtr 3, 2024			Qtr 4, 2024			Qtr 1, 2025			Qtr 2, 2025			Qtr 3, 2025			Qtr 4, 2025			Qtr 1, 2026	
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
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Project: A37 A4018 Vic St & Co Date: Thu 09/11/23	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Critical	
	Project Summary		Manual Summary		Critical Split	
	Inactive Task		Start-only		Progress	
	Inactive Milestone		Finish-only		Manual Progress	

Qtr 3, 2024			Qtr 4, 2024			Qtr 1, 2025			Qtr 2, 2025			Qtr 3, 2025			Qtr 4, 2025			Qtr 1, 2026	
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
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Project: A37 A4018 Vic St & Co Date: Thu 09/11/23	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Critical	
	Project Summary		Manual Summary		Critical Split	
	Inactive Task		Start-only		Progress	
	Inactive Milestone		Finish-only		Manual Progress	

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Project: A37 A4018 Vic St & Co
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Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Critical	
Project Summary		Manual Summary		Critical Split	
Inactive Task		Start-only		Progress	
Inactive Milestone		Finish-only		Manual Progress	

A37/A4018 Victoria Street & Colston Avenue

Full Business Case

Bristol City Council

20 December 2023

Notice

This document and its contents have been prepared and are intended solely as information for Bristol City Council and for use in relation to A37/A4018 Victoria Street & Colston Avenue Full Business Case

Atkins Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 143 pages including the cover.

Document history

Document title: Full Business Case

Document reference: Full Business Case

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	First Draft for informal review	ED/EH/ML	EK	KP	SP	03/11/2023
1.1	First Draft (feedback addressed)	ED/EH/ML	EK	KP	SP	10/11/2023
1.2	First Draft (updated)	ED/EH/ML	EK	KP	SP	15/11/2023
2.0	Final Draft for review	ED/EH/ML	EK	KP	SP	20/12/2023

Client signoff

Client	Bristol City Council
Project	A37/A4018 Victoria Street & Colston Avenue
Job number	
Client signature/date	

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Executive Summary

The A37/A4018 Strategic Corridor is a transport improvement scheme in Bristol. It aims to enhance cycling walking, bus and urban realm infrastructure. It is funded by the West of England Combined Authority (WECA) and promoted and delivered by Bristol City Council (BCC).

An Outline Business Case (OBC) was developed in 2020 and submitted to BCC in 2022. Some but not all elements of the scheme were supported. To move the project forward, and particularly to meet the City Region Sustainable Transport Settlements (CRSTS) funding window, the BCC A37/A4018 project team proposed to build on the support given to certain key elements of the project and separate them into the following three distinct work packages:

- Work Package 1 (WP1) – FBC 1: Victoria Street & Colston Avenue
- Work Package 2 (WP2) – FBC 2: South
- Work Package 3 (WP3) – Revised OBC: Remainder of the A37 / A4018 Corridor

Developing on the OBC, this Full Business Case (FBC) focuses on WP1, covering Victoria Street (from Bristol Bridge to Temple Way/Gate) and Colston Avenue/Saint Augustine's Parade. The current provision of walking and cycling infrastructure is insufficient given the high demand of active travel in the post-COVID world, offering opportunities to intervene by creating a segregated cycle way and improving the pedestrian experience through enhanced public realm. The behavioural change in travel pattern from private vehicles to walking and cycling following COVID and the closure of Bristol Bridge also reduces highway traffic along Victoria Street. Thereby creating a need for re-arrangement of the Victoria Street/Counterslip junction to improve operational inefficiencies and hence yield a more balanced outcome for users across all modes. In terms of buses, the current uneven distribution of bus stops and the lack of modern facilities require intervention to improve bus service efficiency and reliability, as well as user experience for public transport users. Moreover, bus delays can be attributed to the lack of a dedicated lane for buses to complete the turning movement into Colston Avenue. Extension of bus lanes across the stop line at the junction will help to remove such delays.

There is also strong alignment between the Victoria Street & Colston Avenue scheme and national, regional and local policies, which is demonstrated in the Strategic Dimension. All in all, the existing challenges and future strategic developments demonstrate a strong case for change and that environmental and developmental problems may perpetuate without the scheme.

In the Economic Dimension, economic analysis of the scheme compares the Present Value Cost of **£2,728,209** to the Present Value Benefit of **£8,003,880** (including modal shift to cycling and walking, consolidation and improvement of bus stop facilities along Victoria Street, changes to the highway layout and priority at Victoria Street's junction with Counterslip, bus passenger time savings through the introduction of bus only lanes for southbound vehicles on Colston Avenue, changes in the amenity value of land through a range of public realm improvements and green infrastructure, etc.). This yields an initial Benefit to Cost ratio (BCR) of **2.93** and an improvement with the adjusted BCR of **3.42**. Therefore, the intervention has a **high** value for money.

The Financial Dimension outlines the expected capital costs required to construct the scheme, with a cost base in 2023. Real cost inflation has been applied to such costs, providing a 10% overall contingency for background cost increases over the construction period. A value of risk, which has been informed by a Quantified Risk Assessment (QRA), has also been applied to the costs. Most of the costs associated with this scheme is expected to occur during 2025 (71% of total Costs). Early materials and construction costs (14% of total cost) will be spent in 2024, while final fit-out costs (12% of total cost) will be incurred in 2026. The scheme will be funded by WECA, which secures funding from central government sources (e.g. City Region Sustainable Transport Settlements fund) and funding within the wider programme from local government sources (e.g. surplus funding from the Bristol Clean Air Zone).

It is proposed that the Bristol Highway Assets and Associated Works Framework (BHAMAaWF), which has been successfully used for other BCC projects, will serve as the framework contract for the delivery of the scheme. It runs under New Engineering Contract (NEC) 4 Terms and Conditions and works will be awarded to a preferred supplier. Lots 1, 4, 5, 6 and 12 will be used to deliver the services required. The payment framework for the contract is well-established, and the commercial performance of the contract will be monitored on a monthly basis by the principal and the contractor. There are also robust procedures in place to effectively manage risk and minimise risks of overspend and delays. The commercial approach for the scheme has been presented in the Commercial Dimension,

The Management Dimension presents the deliverability of the scheme. The scheme is developed and will be delivered by BCC, which has experience of delivering several similar schemes. Project governance structure,

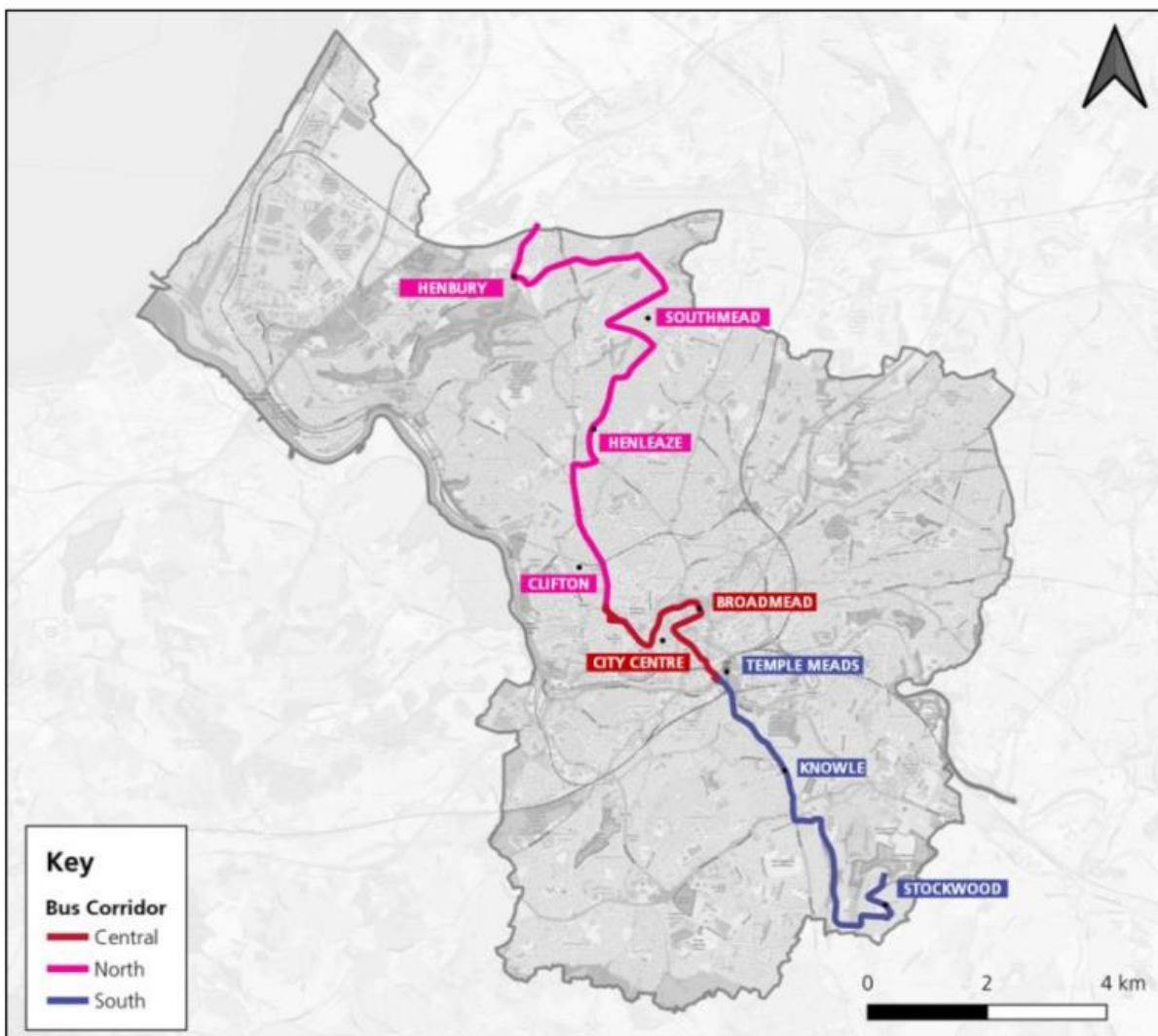
assurance and approvals plan, change management process and programme plan are also in place to facilitate the delivery of the scheme. The risk management strategy of this scheme will be implemented in line with BCC's Risk Management Framework, which sets out procedures of risk escalation and responsibility for risk management. An information exercise to inform stakeholders in the Victoria Street area of the upcoming statutory consultation (October 2023) was carried out in June 2023. Further consultation on this scheme includes the upcoming statutory consultation which will be held in late October 2023. Benefits Realisation Plan and Monitoring & Evaluation Plan are produced to monitor the delivery of the scheme and ensure that the expected benefits are realised. The relevant data will be sourced from historic data and collected using Vivacity Traffic Sensors; and results will be reported in the first and third following the opening of the scheme.

1. Introduction

The A37/A4018 Strategic Corridor is a transport improvement scheme in Bristol, delivering enhancement in cycling, walking, bus and urban realm infrastructure. It is funded by the West of England Combined Authority (WECA), and promoted and delivered by Bristol City Council (BCC).

The project has been in a period of development since 2020. Initially in the Outline Business Case (OBC) developed in 2020, the study corridor for the scheme covered the length of the A37 and A4018 that runs from Stockwood in the South of Bristol to Cribbs Causeway in the North of the City. The scheme runs through a number of important areas within the city, including Knowle, Totterdown, Bristol Temple Meads Station, Bristol Shopping Quarter, Park Street, Whiteladies Road, and Southmead. The scheme was divided into North, Central and South sections, as shown in Figure 1-1 below.

Figure 1-1 - Overview of the scheme route in the Outline Business Case



Previous work in the Option Assessment Report (OAR)¹ and the OBC identified problems along the A37/A4018 corridor and the wider area, including slow bus journey times, unattractive urban realm for pedestrians, poor cycling facilities and high levels of car dependency. These issues result in poor air quality, unnecessary carbon emissions, and higher than necessary journey times. Both reports demonstrated a clear rationale for intervention, and strong policy fit with local (BCC), regional (the Combined Authority) and national (e.g. DfT) policies.

¹ An OAR has been submitted to WECA in advance of the submission of the previous corridor-wide OBC.

The OAR documented an option long-list and short-listing exercise. A package of walking and cycling, bus prioritisation and urban realm improvements which scored well against a number of criteria such as costs, deliverability, acceptability and risk were selected. Other options (e.g., eScooters, park and ride, bike loan schemes, etc.) were discounted.

Subsequent to the completion of the OAR, an OBC for the whole corridor was prepared and submitted to BCC decision makers in August 2022. Due to its size, the corridor was defined by interventions proposed on three sections: North, Central and South. Following consideration of all the sections, BCC decision makers supported some proposed interventions whilst indicating the requirement of further investigation for others. Within the Central section of the scheme proposals, along Colston Avenue and Victoria Street were supported and fast-tracked. Within the North and South sections, not all the proposals were supported whilst others were. To move the project forward, and particularly to meet the City Region Sustainable Transport Settlements (CRSTS) funding window, the BCC A37/A4018 project team proposed to build on the support given to certain key elements of the project and break them up into the following three components, which shall be taken forward in three different business cases of different business case stages (i.e. two advancing to Full Business Case (FBC) stage while one remains at OBC stage). This approach was agreed by Change Request with WECA in March 2023:

- Work Package 1 (WP1) – FBC 1: Victoria Street & Colston Avenue
- Work Package 2 (WP2) – FBC 2: South
- Work Package 3 (WP3) – Revised OBC: Remainder of the A37 / A4018 Corridor

The agreed timeline for the three work packages is as follows²:

Milestone/Project	WP1	WP2	WP3
OBC approval	n/a	n/a	Jun 24
Consultation start	Sep 23	Feb 24	Nov 24
FBC approval	Mar 24	Jun 24	May 25
Construction start	Oct 24	Dec 24	Oct 25
Construction finish	July 25	Apr 26	Mar 27

The benefit sought from this approach is to ensure that the items of the wider corridor supported by BCC decision makers are able to proceed towards delivery sooner by accelerating interventions surrounding Victoria Street and Colston Avenue in the Central section and other interventions in the South section straight to FBC. Thereby, disaggregating them from the wider process than if they were part of a revised OBC for the entire corridor and ensuring early delivery of some of the scheme components. It was only possible to propose this acceleration for the interventions concerned because several key steps for that to happen had already been completed such as preliminary design, Quality Assurance (QA) stage 2, Public Consultation and QA stage 3 at the time of the decision.

This business case focuses on WP1, with the study corridor for the scheme covering the length of the A37 and A4018 that runs along Victoria Street (from Bristol Bridge to Temple Way/Gate) and Colston Avenue/Saint Augustine’s Parade. The schemes in the scope of this business case are in proximity to several key areas within the city, including Bristol Temple Meads Station as a transport hub and Bristol Temple Quarter as an employment cluster.

The above sets out the background and the development of the scheme up to this point in time. The remainder of the document focuses on the proposed interventions and their delivery of the FBC 1 (i.e. WP1 focussing on measures on Victoria Street and Colston Avenue).

² This table provides the current agreed timeline. However, changes have been made as shown in the Programme Plan in Appendix G, which is yet to undergo WECA’s change control process.

2. Strategic Dimension

2.1. Overview

The Strategic Dimension sets out to demonstrate the need for change in the study area; that there is a clear rationale for making the investment. It also provides an overview of how the scheme will serve to meet the aims and objectives, thereby addressing the problems identified in the study area. The Strategic Dimension establishes the:

- Context for the business case, outlining the strategic aims of this scheme.
- Transport-related problems that have been identified, using evidence to justify intervention and examining the impact of not making the investment.
- The objectives that solve the problem, identified through alignment with strategic aims and responsibilities.
- Measures for determining successful delivery of the objectives.
- Scheme scope, determining what the project will and will not deliver.
- Constraints that affect the scheme's delivery and opportunities that the delivery of the scheme will help to exploit.
- Interdependencies of the scheme options.
- Details of main stakeholders.
- Evaluation of the options considered.

The Strategic Dimension considers scheme options for addressing problems along the corridor and identifies which of these options fit best with the scheme objectives. It concludes that there is a strong case for change and identifies the recommended scheme that should be taken forward for funding.

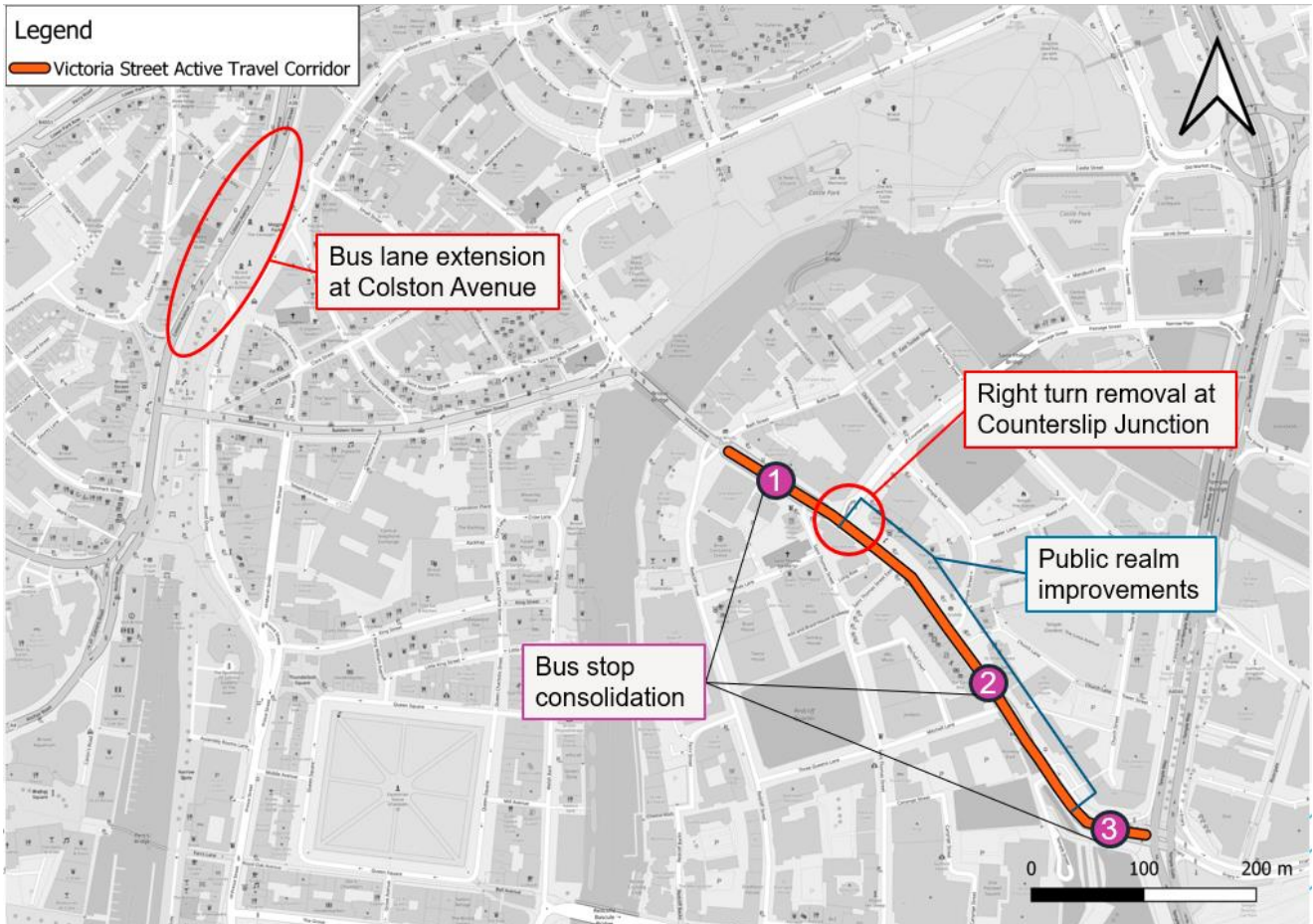
2.2. Background

Previous work focused on interventions along the entire A37/A4018 Victoria Street corridor. However, given the different levels of support and design maturity for individual components of each section, WECA has approved the approach of separating the scheme into three discrete business cases of different stages. WP1 and WP2 will be accelerated to FBC stage while WP3 which covers the remainder of the corridor will continue at OBC stage. Whilst this document is focused on an investment case for the Central Section covering Victoria Street and Colston Avenue, the interventions proposed have not changed and remain relevant to the themes of walking and cycling, bus prioritisation and urban realm improvements, as previously identified for the entire corridor.

The following proposed interventions fall into the scope of this business case, including:

- **Victoria Street** (from Bristol Bridge to Temple Way/Gate)
 - Segregated cycleway
 - Junction improvements
 - Bus stop consolidation and upgrades
 - Public realm improvements
 - Reduction of on-street parking
- **Colston Avenue/St Augustine's Parade**
 - Extension of Southbound Bus Lane from the current stop line near the War memorial to just beyond the entrance to Colston Avenue (Bus only road)

Figure 2-1 - Overview of the scheme extent



2.3. Case for Change and rationale for intervention

2.3.1. Current transport context and challenges

2.3.1.1. Use of and provision for active travel

The number of walking and cycling users along Victoria Street is high due to its central location and proximity to transport hubs, employment clusters and other attractions. This is demonstrated in the observed average daily active travel user demand in Table 2-1. However, existing provision of cycling infrastructure is not up to standard or insufficient to meet the requirements to serve the high number of users due to the lack of segregated cycleways on either direction (see street views of Victoria Street in Figure 2-2). Furthermore, there has been significant behavioural changes in when and how people commute or travel since COVID-19. These changes also impacted the journeys made within or through the study area. A notable trend in the change is the increasing use of active modes for travel. These changes further exacerbate the current problem of substandard active travel provision along Victoria Street.

This problem is also compounded by the closure of Bristol Bridge in August 2020 to private vehicles, which significantly lowered highway traffic on Victoria Street. This is evident in Table 2-2, which compares vehicular counts along Victoria Street before and after the pandemic. It shows clear reduction in traffic during peak and interpeak hours, which is particularly significant for southbound travel.

Considering the reduced highway traffic along Victoria Street and the high number of active mode users along the same corridor. This signals a need to rethink infrastructure provisions for transport users of different modes and offers the opportunity (and potentially the road space) to rationalise the current provisions to suit the needs of different users. For example, the provision of continuous footways and segregated cycleways which represent a step change in the provision for active mode users and can address the new transport demands and further encourage positive travel behavioural changes. The new infrastructure will also provide integration

between different modes of transport and the connection between employment clusters and other attractors in the area.

Table 2-1 – Average daily active travel (walking & cycling) demand

Active travel demand	Walking	Cycling
Users	7101	763
Trips	13492	1450

Source: BCC

Table 2-2 – Average hourly vehicular counts along Victoria Street in 2019 and 2021

Traffic demand

Direction	Time Period	Year	
		2019	2021
Southbound	AM	521	185
	IP	535	222
	PM	483	248
Northbound	AM	164	166
	IP	157	153
	PM	146	151

Source: BCC

Figure 2-2 – Street view of Victoria Street



2.3.1.2. Public Transport – Bus infrastructure provision along Victoria Street

The current provision of bus stops is not evenly distributed. Some stops are located in close proximity to each other. Figure 2-3 shows the current layout and the geographic location of bus stops along Victoria Street in the study area.

Figure 2-3 - Current locations of bus stops on Victoria Street



Inbound bus stops are located too close to each other, with only 255m between bus stops R8 and R6, and only 190m between bus stops R6 and T7. Table 2-4 also suggests relatively fewer passengers boarding at bus stop R6, compared to bus stops R8 and T7. The tight spacing of these bus stop results in inefficient bus service provision and operation, which could lead to long journey time, lengthy waiting time for buses on Victoria Street, frequent delays, poor punctuality and reliability of bus services elsewhere along the A37-A4018 corridor. These could inhibit modal shift from private vehicles to public transport, and also contribute towards air pollution and CO₂ emissions along the corridor. Hence in the process of rationalising the active mode provision along Victoria Street, there is also an opportunity for consolidating bus stops along the route, through introduction of new bus stops, and re-location and improvement of existing ones, to ensure that they are suitably spaced and carry the high standard that meet the current and future needs.

The current provisions at bus stops R9, R8 and R7 on Victoria Street are listed in Table 2-3. They suggest a lack of modern and advanced facilities demonstrate a need to pursue improvements such as CCTV provision, installation of advanced real time passenger information system and bus shelter extension, etc. The future needs for better bus stop facilities are also strengthened by the fact that Victoria Street is part of a proposed mass transit corridor³. This puts an even higher requirement on bus stops than what is already needed to serve the existing significant demand (evidenced in Table 2-4). For these reasons and for future-proofing purposes, there is a need to deliver better and more modern bus infrastructure along Victoria Street that provides a better user experience to public transport users.

Table 2-3 - Current provisions at bus stops R9, R8 and R7

Bus Stop	Current provisions
Bristol Bridge (stop R9)	<ul style="list-style-type: none"> • Lack of dedicated CCTV provision • Bus shelter is short (4-bay) and has the scope for extension • Provision of Real Time Passenger Information (RTPI) is of standard grade and can be upgraded to advanced system
Bristol Bridge (R8)	<ul style="list-style-type: none"> • Lack of dedicated CCTV provision • Bus shelter is short (6-bay) and has the scope for extension • Provision of Real Time Passenger Information (RTPI) is of standard grade and can be upgraded to advanced system

³ WECA Future4WEST (Mass Transit) study identifies Victoria Street as part of a proposed mass transit corridor.

Victoria Street (R7)	<ul style="list-style-type: none"> • Bus shelter is short (4-bay) and has the scope for extension • Provision of Real Time Passenger Information (RTPI) is of standard grade and can be upgraded to advanced system
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Table 2-4 - Bus Boarding Data (March 2022)

Bus Stop	Bus Patronage
Bristol Bridge (stop R9)	[Please note that this information has been redacted for commercially sensitive reasons]
Bristol Bridge (R8)	[Please note that this information has been redacted for commercially sensitive reasons]
Victoria Street (R6)	[Please note that this information has been redacted for commercially sensitive reasons]
Victoria Street (R7)	[Please note that this information has been redacted for commercially sensitive reasons]
Temple Meads Station (T7)	[Please note that this information has been redacted for commercially sensitive reasons]

Source: First Bus Ltd

2.3.1.3. Public Transport – Efficiency of Counterslip junction on Victoria Street

As mentioned in the previous section, the reduction in highway traffic along Victoria Street and the high number of active mode users along the same route calls for a systematic rethinking on the infrastructure provision to suit the needs of transport users of all modes. This includes not only new provisions for active mode users but also rebalancing of existing provisions at a key junction along Victoria Street. The closure of Bristol Bridge reduced the car traffic on Victoria Street to access only in most cases. This means that the current traffic arrangements (i.e., signal plan and green time allocation to different phases) at the Counterslip junction may no longer be appropriate for the new traffic pattern. Some examples for this include lengthy cycle time (approximately 72 seconds) and long waiting time for buses on Victoria Street (due to green time given to traffic emerging from Counterslip).

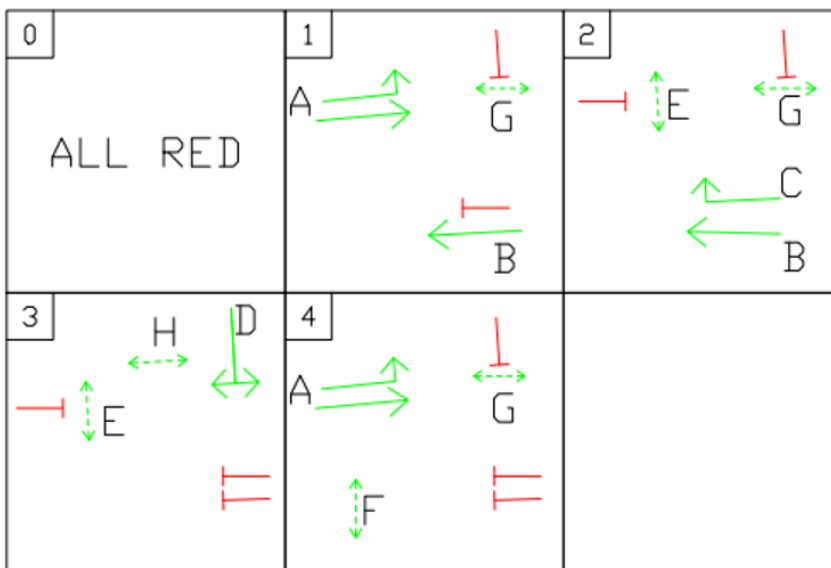
Figure 2-4 shows the current traffic arrangement at the Victoria Street/ Counterslip junction. Continuing with the existing plan may cause operational inefficiencies or miss the opportunity to provide a more balanced outcome for users across all modes.

The illustrative existing signal arrangement (shown in Figure 2-5) may no longer be fit for purpose as it was in place before Bristol Bridge was closed to private vehicles. There is therefore a need for simplification of signal stages and rationalisation of movement at junctions. This was not possible before the reduction in car traffic was realised, and the space or time / capacity saved may be used to better cater for public transport and active mode users.

Figure 2-4 - Junction at Victoria Street and Counterslip



Figure 2-5 - Illustrative existing traffic signal plan



2.3.1.4. Public Transport – Bus delays on Colston Avenue

The Colston Avenue corridor connects general traffic and bus services between St James Barton roundabout and Anchor Road and Park Street. It also provides access to the Broad Quay and Colston Avenue East bus stop system when approaching from Rupert Street. Together these bus stops serve as an interchange as well as a pick-up and drop off point for The Centre, The Old City and Floating Harbour which contains some of the most significant attractors in the city.

The current bus lane runs along Rupert Street on the inside lane up to the War Memorial just short of the current stop line at the junction with Colston Avenue, which is bus only (as shown in Figure 2-6). The rest of the traffic goes on the outside lane along Rupert Street in parallel to the bus lane. As there is no bus lane at or beyond the stop line, many car drivers move their vehicles across from the outside to the inside lane (at or just beyond the stop line) to position themselves better depending on where they are travelling to (either Anchor Road or College Green). When the traffic volume is high or the downstream road is busy, this will cause blocking back at the junction and inhibit buses on the inside lane from turning into Colston Avenue, as shown in Figure 2-8.

The lack of a dedicated lane for buses to complete the turning movement into Colston Avenue therefore causes delays to buses and their passengers onboard. Manual counts have been performed on the A38 Colston Avenue to record the journey time on Colston Avenue and at the Colston Avenue/ Colston Avenue South junction. The locations of these counts are presented in Figure 2-6.

Table 2-5 shows that the average speeds at these two locations are 16.8mph and 14.6mph respectively, both under 20mph speed limit on those roads, suggesting delays to buses. Improvements on bus lanes (such as its extension across the stop line at the junction) will help to remove such delays.

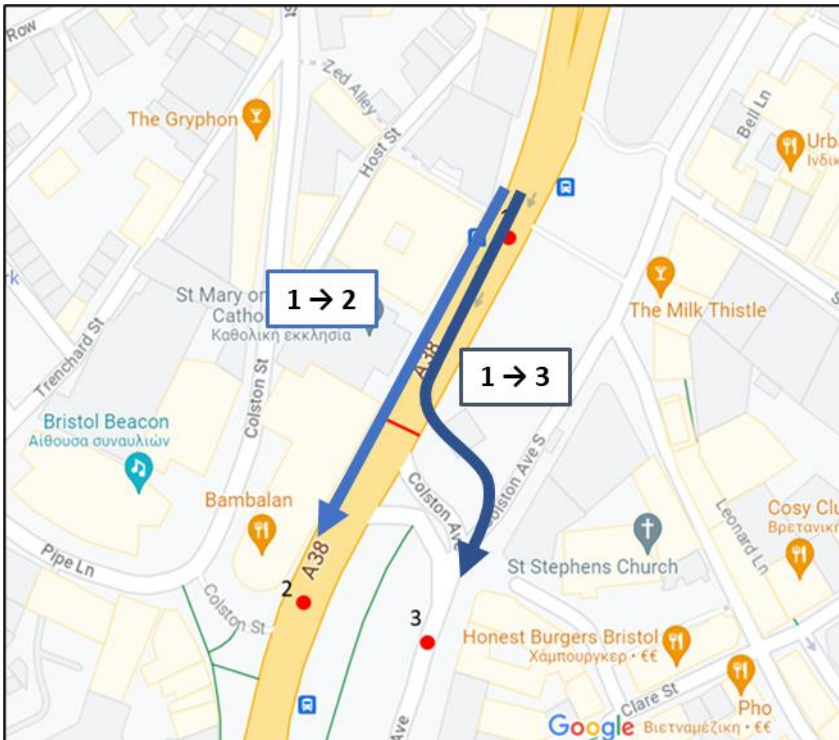
Figure 2-6 - Rupert Street/ Colston Avenue junction



Table 2-5 - Data on bus travel on the A38 Colston Avenue

Manual Count	Distance	2	3	
BCC 13/07/23 8.30am -9am	1	135	150	m
Average Observed Time	1	18	23	s
BCC - 23/7/23 1200 - 1630				
Average Speed	1	7.5	6.5	m/s
	1	16.8	14.6	mph

Figure 2-7 - Location of bus counts



A total of 31 buses run along Colston Avenue, with circa 66 buses an hour passing along Colston Avenue in a southbound direction through the junction during peak periods.

Figure 2-8 - Blockage at Rupert Street/ Colston Avenue junction



2.3.1.5. Public realm

Public spaces play important roles in promoting human contact, social activities and community involvement. They also help create active frontages which provide informal surveillance opportunities and often improve the vitality and safety of an area and enhance streetscape and urban environment by making the space more visually engaging and vibrant for pedestrians.

Reduction of highway traffic on Victoria Street and the proposed re-arrangement and consolidation of road space for different transport users provides opportunities to include holistic consideration of better provisions for public realm interventions and improvements along this corridor.

2.3.2. Future land-uses and policies

2.3.2.1. Bristol Local Plan

The last Local Plan for Bristol was published in 2011⁴. It includes a city centre focused “Bristol Central Area Plan” adopted in March 2015⁵, which sets out the City’s strategy up to 2026. A refresh of Bristol’s Local Plan is being prepared in line with the West of England’s Spatial Development Strategy. The review of the Bristol Local Plan will set out how Bristol will develop over the next 20 years, thereby helping to deliver the new homes and jobs needed in the local area and help to safeguard local environmental assets. The Bristol Local Plan is currently being updated and is expected to be adopted by the end of 2024.

2.3.2.1.1. Bristol Local Plan: Progressing Bristol’s Development

The Bristol Local Plan: Progressing Bristol’s Development⁶ was published in October 2020, as part of the refresh of the Local Plan. It identifies the two main issues that Bristol faces – lack of affordable housing (including student housing) and the need for growth and regeneration in the city centre and Temple Quarter. It provides guidance on planning in Bristol, including the current approach to making planning decisions on areas including housing and communities, economy, connectivity, environment, health and wellbeing, and learning and skills. Further details on the challenges, objectives and proposed interventions outlined in the Local Plan can be found in Section 1.4.2 of the Strategic Dimension of the previous corridor-wide OBC.

While the developments proposed in the Local Plan do not depend on the transport intervention covered in this business case, the scheme will support their delivery as the proposed interventions are located right at the city centre in close proximity to transport hubs and employment clusters. The scheme will help to make the developments more attractive propositions to investors, developers and buyers as the proposed scheme will help to provide transport to and from the new planned developments.

2.3.2.1.2. Draft Bristol Local Plan

The Draft Bristol Local Plan is yet to be formally adopted. The latest draft was published for public consultation, which took place between March and May 2019⁷; additional policies were then published for public consultation in January 2023. The next stage of the local plan development is to agree a publication version which will be made available for formal representations. This is expected in November 2023. After the publication stage, the plan will be submitted for examination and will begin the process of being formally adopted by the council.

Directing decisions on planning applications in Bristol, the latest Bristol Local Plan will set out the growth ambitions for the city, including the potential for delivery of 11,500 new homes in Central Bristol within the plan period with scope for significantly greater numbers where further interventions and delivery of infrastructure can unlock more potential. The Draft Local Plan sets out a number of locations for development across the city, some of which will be supported by the scope of interventions outlined in this FBC. These locations highlight flagship development areas located near to the proposed corridor, which includes the Bristol Temple Quarter. The themes of the document can be found in Section 1.4.3 of the Strategic Dimension of the previous corridor wide OBC.

2.3.2.1.3. Bristol Temple Quarter

The proposed Bristol Temple Quarter is one of the largest urban regeneration projects in the UK. It sits in the heart of Bristol city centre, close to the main railway station. It covers 130 hectares of land, and upon completion will be home to a wide range of projects, transforming the area into a vibrant mix of employment, residential, educational and leisure uses.

The regeneration of this area will help to create 10,000 new homes, 22,000 new jobs and bring £1.6bn annual income to the city economy⁸. While the proposed regeneration of the area is not dependent on the proposed interventions, they will complement the proposed new developments by providing additional transport capacity, better and more modal choices for existing and new residents and workers with access into and out of the area. The corridor will also be a key access point for students who will likely pass through Victoria Street either by active mode or bus travel from the main university campus or Clifton.

⁴ [Bristol Development Framework Core Strategy \(June 2011, bristol.gov.uk\)](#)

⁵ [Bristol Central Area Plan \(March 2015, bristol.gov.uk\)](#)

⁶ [Progressing Bristol's Development \(Oct 2020, bristol.gov.uk\)](#)

⁷ [Bristol Local Plan Review - Draft Policies and Development Allocations \(March 2019, bristol.gov.uk\)](#)

⁸ <https://www.bristoltemplequarter.com/about/vision/>

2.3.2.1.4. Castle Park View

Castle Park View is a former brownfield development site in the city centre. Completed in 2022, the development delivered 375 new homes within a structure bookended by a 26-storey tower and 10-storey block. It is expected to generate additional traffic in the study area. The proposed interventions of this scheme will help to support the demand generated by the new development.

2.3.2.1.5. Finzel's Reach

Finzels Reach⁹ is a 1 million sq. ft. development in the city centre of Bristol. It was completed at the end of 2022¹⁰, and delivered:

- employment for 3,300 people across 375,000 sq. ft. of office space
- 737 new homes, of which 100 will be affordable
- 198 build-to-rent apartments
- a 168-bed hotel
- 30,000 sq. ft. of leisure space

The development will generate a large volume of trips into the study area, which the scheme will help to address. Thereby helping to facilitate the development and make it more attractive to residents, potential investors, and visitors to the complex.

2.3.3. Summary of problems

Section 1.3 in the OBC details the transport problems across the Central Section of the A37/A4018 corridor. While the geographical context and scopes differ between the OBC and the FBC, the problems underpinning both exhibit obvious overlapping themes:

- **Inefficient traffic and delays** – High levels of traffic (particularly car) along the corridor and inefficient traffic arrangements at junctions which do not address post-COVID demands lead to delays at key junctions and poor journey time reliability along the corridor. (see sections 1.3.1.1 and 1.3.1.2 of OBC)
- **Bus infrastructure** – The inadequate provision of bus infrastructure and appropriate facilities and the limited bus prioritisation measures along the corridor render public transport an unattractive mode of transport. The inadequate quality of bus stop facilities renders sub-standard experience for users, making bus a less attractive mode of transport. (see section 1.3.1.4 of OBC)
- **Active Travel infrastructure** – Cycling and walking infrastructure along the route is inadequate. The existing signposted cycle routes are not fully segregated. As a result, while demands for walking and cycling have increased, their uptake have not been fully exploited. This results in more people travelling by car than would otherwise be necessary, causing further congestion and delays. (see section 1.3.1.6 of OBC)

Table 2-6 below presents the problems specific to the scope of interventions in this FBC, and compares them against those identified in the corridor-wide OBC to demonstrate their connection.

Table 2-6 - Summary of problems identified in the previous OBC and this FBC

Problems identified in this FBC along Victoria Street and Colston Avenue		Identified in previous OBC for the entire corridor
Problem 1	Insufficient infrastructural provision for active travel	Low levels of cycling and walking along the corridor and associated reliance on private vehicles
		Poor/ disconnected provision for cyclists along the A37/A4018 on Henleaze Road, Westbury Road, Queens Road, and Victoria Street. Lack of segregated infrastructure

⁹ [Finzel's Reach - Vision](#)

¹⁰ [Cubex Land - Finzels Reach Reaches Practical Completion](#)

Problem 2	Public Transport – Inefficient distribution of bus stops (tight spacing between bus stops R6 and its previous (T7) and next (R8) bus stops) and inadequate bus infrastructure provision along Victoria Street	Poor/ inadequate bus stop facilities and lack of bus prioritisation measures
Problem 3	Public transport – Inefficient counterslip junction on Victoria Street	Significant levels of delay at peak times at key junctions on the corridor Poor journey time reliability at peak times along the corridor
Problem 4	Public Transport – Bus delays on Colston Avenue	
Problem 5	Traffic re-arrangements and removal of traffic pressure along the A37-A4018 corridor create opportunities for public realm interventions and improvements	

Solving these problems will help generate several positive outcomes such as:

- Improved facilities will encourage residents, commuters and visitors to switch to more sustainable forms of transport such as bus, cycling and walking.
- Reduced greenhouse gas emissions, therefore helping contribute to the BCC's and the Combined Authority's ambitious net zero targets.
- Improved air quality because of a reduction in NO_x and PM emissions due to fewer journeys being made by car.
- Contribution towards an improved urban realm, which will help to promote economic growth in sectors such as hospitality.
- Improved health outcomes for residents as a result of an increase in physical activity.
- Time savings because of faster journeys.

Overall, the study of the transport context along Victoria Street and Colston Avenue in Section 2.3.1 identifies current problems including insufficient provision of walking, cycling and bus infrastructure, as well as inefficiencies of existing traffic arrangements. These compound with the ambitious developmental aspirations on economic growth, housing, environment, health and well-being and connectivity in the Bristol Local Plan (detailed in Section 2.3.1.2) and will present further transport demands and challenges. Therefore, there is a clear case for change such that interventions and measures are necessary for rectifying current problems and mitigating their exacerbation in order to support the needs of future developments.

2.3.4. Future challenges without interventions

Section 2.3.1 set out the identified current transport problems along the route while Section 2.3.2 the requirements to meet the travel demand from the growth ambitions in the local area. These include poor walking and cycling facilities, a lack of bus prioritisation, all of which leads to high levels of car dependency in the area. Without targeted and coordinated interventions, these problems will perpetuate, with the following impacts:

- **Carbon emissions** will continue to rise along the corridor, and as a result, BCC and the Combined Authority will not meet their committed net zero targets. Transport offers a cost-effective pathway to decarbonisation when compared with other sectors such as heat. Transport is also the second largest source of carbon emissions in the UK, accounting for about 27% of greenhouse gas emissions²². Within domestic transport the car accounts for 55% of the GHG emissions, so reducing travel by car is therefore a main target for reducing GHG emissions in order to achieve net zero²². It is likely in the absence of a corridor-based and coordinated intervention aimed at modal shift and carbon reductions, more expensive means of decarbonisation will need to be secured from other sectors.
- **Air quality** will continue to deteriorate. The corridor includes several areas, which are routinely in excess of legal air quality limits. This is particularly a problem in the city centre, where the introduction of a Clean Air Zone (CAZ) is required to bring emissions back in line with legal limits. Not intervening

will hinder efforts to reduce the emissions of NO_x and PM, as intervening would otherwise help to reduce car use and associated emissions.

- **Key developments** as outlined in the Bristol Local Plan may struggle to secure planning permission or may be less marketable to buyers thereby making investment in Bristol by developers less attractive. This may affect Bristol's ability to achieve its ambitious housing delivery targets.
- **Mode shift targets** from car use to more sustainable modes of transport will not be achieved.
- **Congestion** will continue to be an issue along the corridor. Congestion imposes costs to the local economy as it makes journeys less reliable therefore imposing costs on users who have to plan around unreliable journeys.
- **Public realm improvements will not be implemented.** Improvements in the public realm have the potential to spur growth in particular sectors of the economy such as hospitality and may potentially help to attract visitors to the local economy.

Without the interventions this scheme, the following impacts may occur:

- Rise in greenhouse gas emissions
- Congestion costs will be imposed on the local economy
- Increased vehicle trips, increasing the amount of time spent queuing in traffic, causing congestion and delays
- Increase in average journey times.

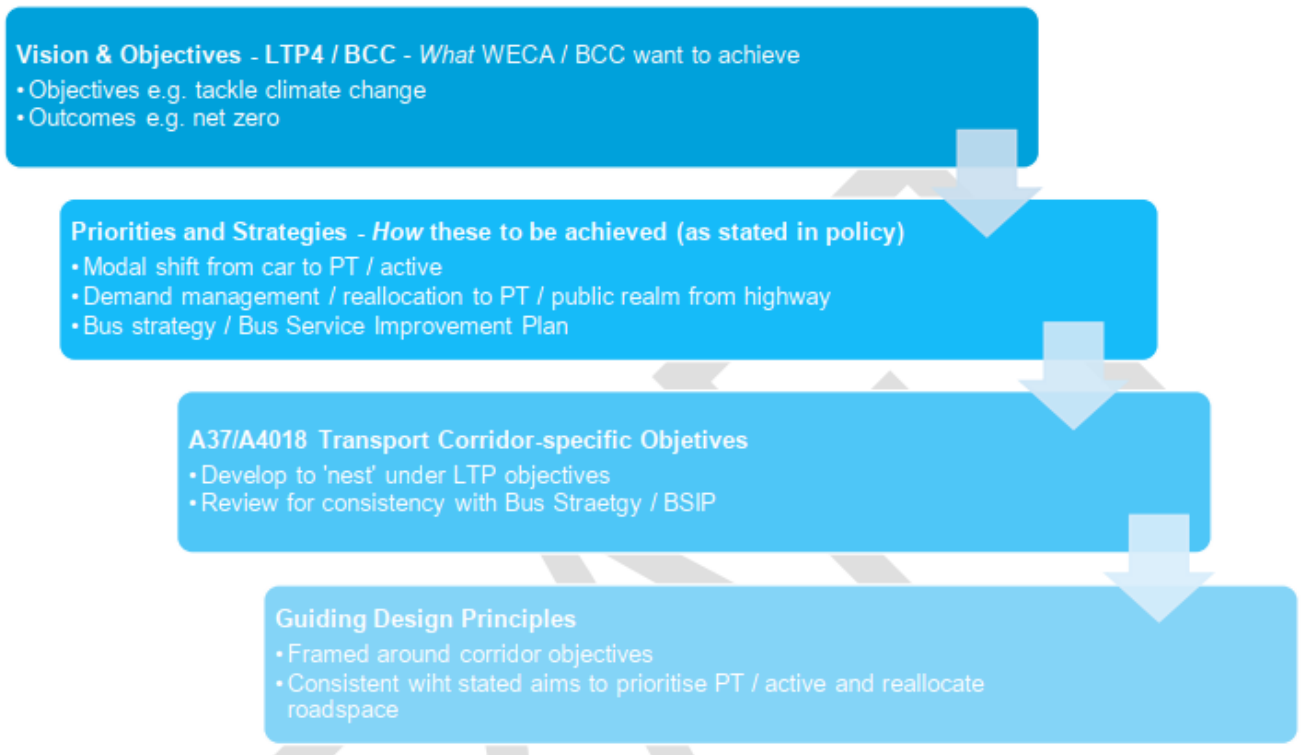
2.4. Project Objectives

2.4.1. Objectives, outcomes and indicators of success

The objectives for the previous corridor-wide OBC nest within a wider policy context and set of objectives (i.e., the objectives are consistent with what BCC, the Combined Authority, and wider objectives the Government want to achieve and their established policies and strategies).

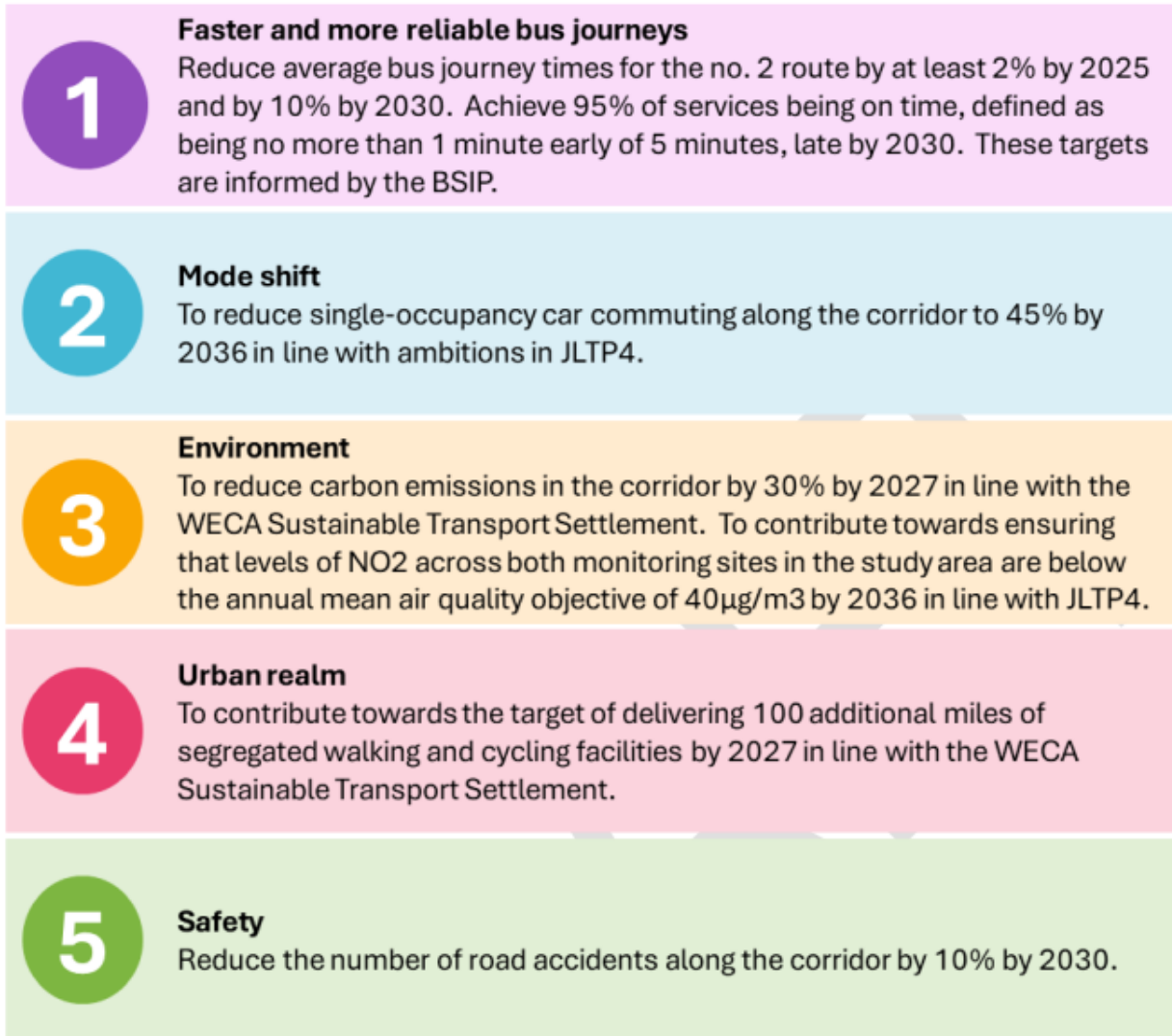
Figure 2-9 below presents how the original objectives for the A37 / A4018 corridor and its design principles were derived from the wider strategic goals of the Council and the Combined Authority.

Figure 2-9 - Objectives and design principles for the entire corridor in the previous OBC



The objectives for the corridor-wide interventions in the previous OBC are informed mainly by the Joint Local Transport Plan 4 (JLTP4) (details of which can be found in A.2.2 in the Appendix), whose objectives are underpinned by regional and national policy goals, and are most relevant to the geographical scope of the scheme. Based on the objectives and outcomes selected from JLTP4, as well as the transport problems identified in Section 1.3 of the previous OBC, a hierarchy of five objectives was established for the corridor-wide scheme (as set out in Figure 2-10).

Figure 2-10 – Objectives of the corridor-wide scheme (in the previous OBC)



As demonstrated in Section 2.3.3, there is strong alignment in terms of themes between the corridor-wide transport problems and the challenges identified in the area within the scope of this FBC. Therefore, the objectives of the interventions proposed in this FBC have been informed by the objectives for the entire corridor, as well as the current transport problems on Victoria Street and Colston Avenue (identified in Section 2.3.1). These specific objectives are detailed in Table 2-7 below.

Table 2-7 – Scheme Objectives, relationship with transport problems and expected outcomes of this scheme (this FBC)

Transport objectives	Transport related problems	Expected Outcomes	Contribution to the wider corridor
<p>1. Improvement in bus journeys – Improve journey time, punctuality and reliability of bus services along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.</p>	<p>Problem 2 – Inadequate bus infrastructure provision along Victoria Street</p> <p>Problem 3 – Inefficient Counterslip junction on Victoria Street</p> <p>Problem 4 – Bus delays on Colston Avenue</p>	<p>The scheme will improve journey time, punctuality and reliability of bus services along the A37-A4018 corridor.</p> <p>Proposed consolidation and improvement of bus stops along Victoria Street will improve operational efficiency.</p> <p>Removal of the right turn from Counterslip to Victoria Street will improve operational efficiency of the junction, shortening waiting time for buses on Victoria Street.</p> <p>Extension of bus lane on the A38 Colston Avenue is expected to completely remove delay.</p>	<p>Faster and more reliable bus journeys</p>
<p>2. Modal Shift – Increase the proportion of trips made by bus, cycling and walking along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.</p>	<p>Problem 1 – Insufficient infrastructural provision for active travel</p> <p>Problem 2 – Inadequate bus infrastructure provision along Victoria Street</p>	<p>The scheme will increase the proportion of trips made by bus, cycling and walking along the corridor.</p> <p>The proposed continuous footways at junctions and segregated cycleway along Victoria Street from Bristol Bridge to Temple Way/Gate will connect existing cycling paths located along High Street/Baldwin Street/Castle Park, Counterslip and Temple Meads station, forming a network of active travel routes to unlocking significant growth in journeys by walking and cycling to or from Temple Meads, employment clusters and other attractors in the area.</p>	<p>Modal shift to sustainable modes</p>
<p>3. Environment – Reduce levels of air pollution and CO₂ emissions along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.</p>	<p>Problem 1 – Insufficient infrastructural provision for active travel</p> <p>Problem 2 – Inadequate bus infrastructure provision along Victoria Street</p>	<p>The scheme will improve the efficiency of bus operations and encourage mode shift from private vehicles to public transport and active travel. These changes are expected to reduce levels of air pollution and CO₂ emissions along the corridor.</p>	<p>Faster and more reliable bus journeys</p> <p>Modal shift to sustainable modes</p> <p>Better air quality and reduced carbon emission</p>

<p>4. Urban Realm – Enhance streetscape, public spaces and urban environment along the Victoria Street and Colston Avenue sections of the A37-A4018 corridor</p>	<p>Problem 5 – Traffic re-arrangements and removal of traffic pressure along the A37-A4018 corridor create opportunities for public realm interventions and improvements</p>	<p>The scheme will enhance streetscape, public spaces and urban environment along the A37-A4018 corridor. The bus lane on Victoria Street outbound to Temple Meads will be removed to create space for public realm interventions and improvements for sustainable modes, as there is no longer traffic pressure on this road since the removal of through traffic.</p>	<p>Better urban realm</p>
<p>5. Safety – Improve road safety for active travel mode users along Victoria Street and Colston Avenue.</p>	<p>Problem 3 – Inefficient Counterslip junction on Victoria Street</p>	<p>By providing improved cycling and walking infrastructure, the scheme is expected to improve road safety and reduce accidents along on Victoria Street and Colston Avenue for pedestrians and cyclers.</p>	<p>Enhanced safety</p>

2.4.1. Anticipated impacts on travel demand and transport users

As a result of the scheme proposals at Victoria Street and Colston Avenue, the following changes in travel demand are anticipated for highway, public transport and active mode users as outlined in Table 2-8. The quantified impacts, elicited from the economic appraisal performed, have also been included. Further details on the economic appraisal are presented in the Economic Dimension.

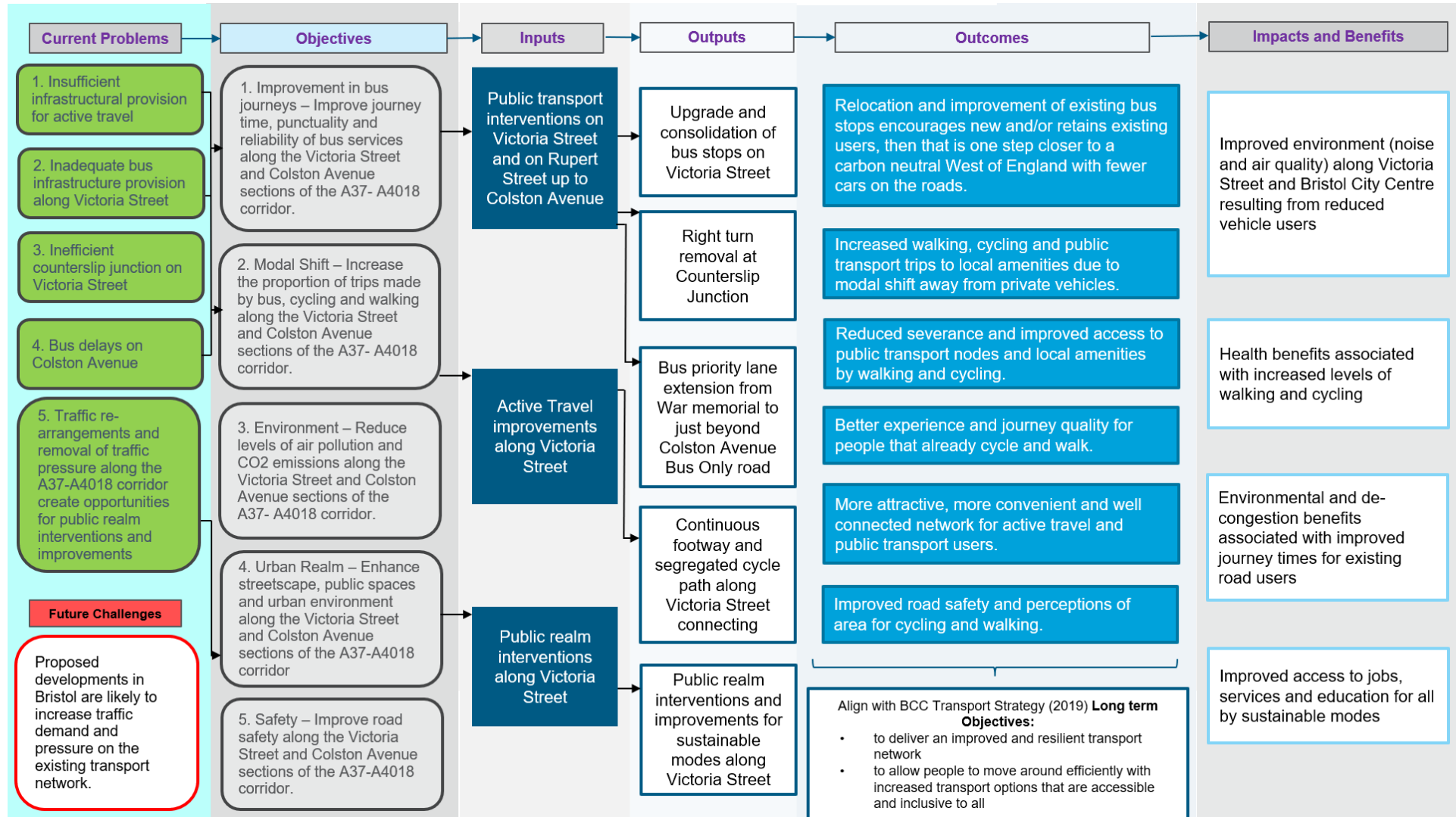
Table 2-8 - Demand changes and expected impact on users

Transport users	Impacts	Expected quantifiable impacts
Highway	Existing users will benefit from decongestion in the network due to demand shift to more sustainable modes as a result of the interventions proposed. The removal of right turn at Counterslip junction is not expected to lead to material impact to private car users as the traffic volume on Victoria Street has reduced significantly since the closure of Bristol Bridge to private vehicles making through movements.	Some decongestion benefits from modal shift are captured in AMAT based on MEC rates
Public Transport	Existing bus users will benefit from reduced delays (Colston Avenue) and experience welfare benefits through improvements in bus stop facilities (Victoria Street). The impacts of the bus lane removal on Victoria Street will have no material impact due to the absence of through traffic in private vehicles (except for access) and the changes at Counterslip junction will reduce delays to buses by allowing shorter cycle time for the signal. The bus lane extension on Colston Avenue will remove existing delays. Overall savings in journey time for bus passengers are expected.	Potential journey time impacts on PT users (Colston Ave) were quantified following the 1 st principle. Welfare impacts on PT users from stop improvements were also quantified.
	New public transport users attracted from the improvements due to the modal shift away from private vehicles.	-
Active travel and public realm interventions	Existing and new active travel users will experience journey time benefits and health benefits due to active mode infrastructure enhancements. Provision of better public realm will also improve journey ambience and also provide a space for people to dwell, rather than just travel.	Health benefits were quantified in AMAT. Welfare impacts from new public space also quantified.
	Increase in active mode users due to improvements in active mode infrastructure; modal shift away from private vehicles.	Benefits associated with shift to active modes were quantified in AMAT.

2.4.2. A logic chain for delivering the anticipated impacts

A logic map was developed as shown in Figure 2-11 based on the problem and objectives identified, the potential solutions proposed, and their anticipated impacts as outlined in previous sections. The map builds on the narrative established in the previous sections, captures the case for change, type of interventions and how these interventions would work to address problems identified and achieve the established objectives. It underpins the strategic narrative, as well as providing a linkage across the dimensions in this business case.

Figure 2-11 – Logic map



2.5. Policy Alignment

In determining the case for investment, alignment of the scheme with national, regional and local policies has been considered. The proposed scheme is well aligned with and will therefore contribute to or support numerous national, regional, and local policies and strategies, as outlined below.

Table 2-9 below provides a brief summary on the alignment between the policies/plans and the scheme specific objectives. A more detailed assessment of the alignment between the scheme and these policies can be found in Appendix A of this document.

Table 2-9 – Summary of Policy Alignment

Policies	Project specific objectives				
	Faster and more reliable bus journeys	Mode Shift	Environment	Urban Realm	Safety
National policies					
DfT Transport Investment Strategy	✓				
DfT Bus Back Better: National Bus Strategy for England	✓	✓	✓		
DfT Gear Change: A bold vision for walking and cycling		✓	✓		✓
DfT – Decarbonising Transport: A Better, Greener Britain		✓	✓		
DfT Cycle Infrastructure Design Local Transport Note (LTN) 1/20		✓			✓
Regional Policies					
WECA Future Mobility Zones Fund (2019)	✓	✓	✓		
WECA Joint Local Transport Plan 4 (2020)	✓	✓	✓	✓	✓
WECA Sustainable Transport Settlement (2021)	✓	✓	✓		✓
WECA Climate Emergency Action Plan (Sept 2020)	✓	✓	✓	✓	
WECA Transport Delivery Plan (2021)	✓	✓	✓		✓
WECA West of England Bus Strategy (2020)	✓	✓	✓		
WECA Bus Service Improvement Plan (2021)	✓	✓	✓		
Local Policies					
Bristol City Council Draft Corporate Strategy (2022-2027)	✓	✓	✓		✓
Bristol City Council Bristol Transport Strategy (2019)	✓	✓	✓		✓
Bristol City Council: The city centre Framework (2020)	✓	✓	✓	✓	
Bristol City Council One City Plan (2021)		✓	✓		
Bristol City Council Bristol Cycle Strategy (2015)		✓	✓		✓
First Bus and Bristol City Council Bus Deal	✓	✓			
Bristol Clean Air Zone (CAZ)		✓	✓		

2.6. Proposed interventions

2.6.1. Interventions at OBC Stage

Options for interventions surrounding improvements on cycling, walking, bus services, urban realm, etc. were proposed and assessed in the OBC stage. The details of these options, as well as the options assessment process (whereby options for the scheme were generated and then sifted), are presented in Section 1.12 of the Strategic Dimension of the previous OBC.

Following the option generation and sifting process a package of interventions has been developed around bus, walking, cycling and public realm improvements in the previous OBC stage which covers the North, Central and South sections of the corridor. These are outlined in Section 1.12 of the Strategic Dimension of the previous OBC. They were subsequently further developed by BCC to turn the strategic vision into a set of concrete and coherent proposals along the A37-A4018 corridor.

2.6.2. Interventions at FBC Stage

The previous OBC was developed based on the whole corridor and was submitted to Bristol City Council (BCC) decision makers in the Summer of 2022. Due to its size the corridor was split into three sections: North, Central & South. Following consideration of all the sections, BCC decision makers indicated support for some but not all interventions proposed.

The Central Section comprises of the route running north from Wells Road, passing Bristol Temple Meads, before travelling along Victoria Street, looping around Bristol Shopping Quarter before travelling along Rupert Street and then northwards via the A4018. The corresponding coverage of the proposed interventions is therefore within this area. They involved walking and cycling improvements, bus prioritisation measures, and road layout changes in various locations (e.g., Queens Road, Bristol Bridge, Baldwin Street, Park Street, etc.). Further details on these interventions are listed in Table 1-20 in the Strategic Dimension of the previous OBC.

The interventions of the Central Section in the OBC have informed the proposed interventions within this FBC. However, the scope of the interventions within this FBC has been narrowed down to focus only on Victoria Street and Colston Avenue. The types of interventions have also been re-considered and redesigned in light of the most current transport context, particularly in the post-COVID world. This is to ensure that the interventions address the latest demands and challenges (as reflected by the analysis in Section 2.3.1) most appropriately. The proposed interventions include the following:

Victoria Street (from Bristol Bridge to Temple Way/Gate)

- Segregated cycleway
- Junction improvements
- Bus Stop upgrades
- Public Realm improvements
- Reduction of on-street parking

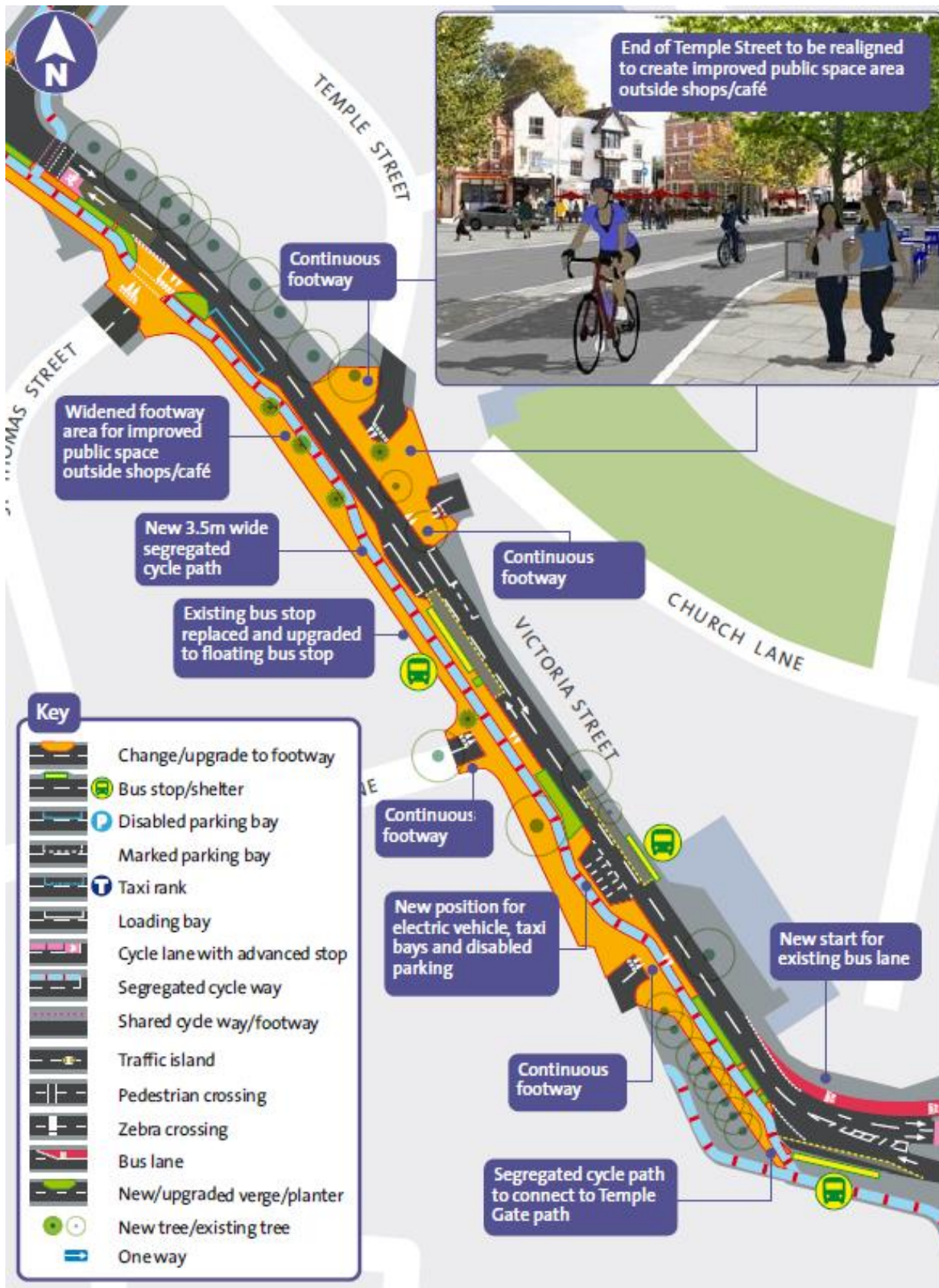
The proposed changes on Victoria Street are illustrated below in Figure 2-12 and Figure 2-13.

Figure 2-12 – Proposed changes on Victoria Street North¹¹



¹¹ Bristol Bridge elements shown in this figure are already being delivered through a separate scheme.

Figure 2-13 – Proposed changes on Victoria Street South



Contains sensitive information

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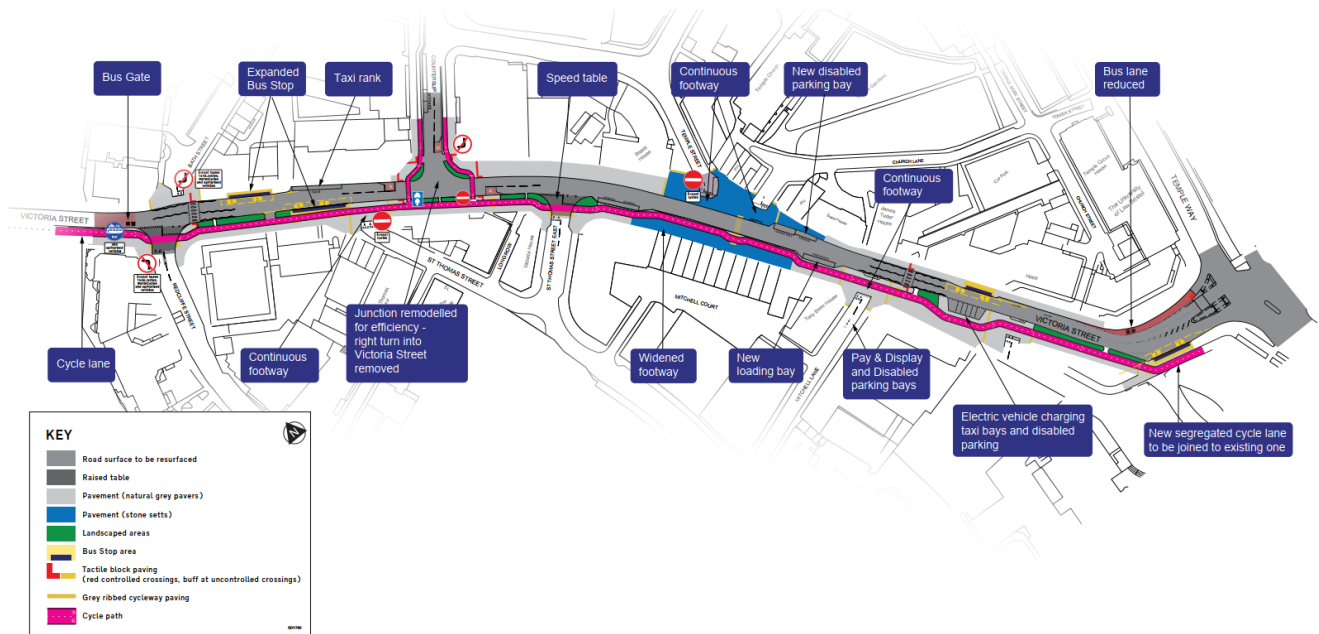
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Colston Avenue/St Augustine's Parade

- Extension of South-bound Bus Lane from War memorial to just beyond Colston Avenue Bus Only road

Figure 2-14 – Proposed changes on Victoria Street



The proposed interventions on Victoria Street are illustrated in Figure 2-14, and a technical scheme drawing included in Appendix C.1. The proposed interventions on Colston Avenue/St. Augustine Parade are illustrated in Appendix C.2.

The scheme works are complex due to the large volume of utility cables and pipes located under the existing surface. As part of the construction works, major utilities diversion is required and unavoidable as they need to be uncovered in order for the works to be completed. The scope of relevant work required based on investigation to date is provided in Section 5.2 of this business case. Significant investigations will be carried out through detailed design and the Detailed Estimates/Design (C4) process to confirm what known utility diversions will be necessary. Appropriate allowance for this has been considered in the cost estimate and quantitative risk analysis.

2.6.3. Inter-dependencies

Although the realisation of benefits from the proposed interventions in the scope of this FBC is not dependent on any other projects, there are several relevant schemes that have been committed or planned in the area or along the same corridor. These schemes will benefit each other from their successful delivery.

2.6.3.1. Temporary covid sustainable travel measures

The first inter-dependency is the interaction with other active mode schemes. As the UK relaxed covid restrictions, BCC introduced a number of new and temporary measures to support cycling, walking and future bus travel, including access to shops. Much of the infrastructure was installed in Bristol city centre, and included:

- Introducing bus gates on Bristol Bridge and at Baldwin Street
- Bringing forward some of the Local Cycling and Walking Infrastructure Plan (LCWIP)

The above projects are linked to the A37-A4018 bus corridor as they form part of bus route 2. Therefore, the implementation of improvements to the A37-A4018 bus corridor must be carefully managed in order to avoid negatively impacting on the schemes already delivered.

2.6.3.2. Bristol Bridge

The Bristol Bridge Project is a sub-project of the A37/A4018 CRSTS Corridor Project and relies on the same overall project corridor budget.

A section of the original A37/A4018 OBC design for Bristol Bridge and Victoria Street is being constructed on site during 2023/2024 having used the accelerated FBC process. This section contains Bristol Bridge and its junctions with Baldwin Street, High Street and Victoria Street as beneath. The design received QA stage 4 approvals and underwent public consultation.

Spatially, the Victoria Street project sits adjacent to the Bristol Bridge project which produces a design dependency. The Bristol Bridge project is currently being delivered on site with works due to complete in December 2023. Although unlikely, if the Bristol Bridge project was severely delayed it could potentially affect the delivery programme for the Victoria Street project which pending FBC approval is programmed to begin delivery on-site in the Autumn of 2024.

In 2020, bus gates were installed around Bristol Bridge at its junctions with Baldwin Street, High Street and Victoria Street. Only buses, taxis, motorcycles and cycles are now permitted to travel through the bus gate system and over the bridge. The bridge is no longer a route for general through traffic leading to significantly lower volumes of traffic. Work is taking place in late 2023 to remodel the Bristol Bridge junction and reallocate road space to pedestrians and cyclists, while providing a priority route for public transport between Temple Meads and the city centre.

The majority of interventions within this FBC brief are focused on the Victoria Street corridor that links Temple Quarter with the Old City and shopping district. Following the implementation of the Bristol Bridge Experimental Traffic Order in 2021, general traffic is no longer permitted to travel via the Bristol Bridge/Baldwin St./High St. junction. The A37/A4018 scheme has designed improvements that rationalise and reallocate road space, along Victoria Street and Bristol Bridge, that has since been made available following the removal of general traffic from this key junction.

All in all, maximising of the full benefits from the Bristol Bridge scheme is dependent on the completion of the wider A37/A4018 corridor project.

2.6.3.3. The remaining interventions in the A37/A4018 CRSTS Corridor Projects

The Victoria Street and Colston Avenue scheme is a sub-project of the wider A37/A4018 Corridor proposal, and its budget derives from the overall budget allocated to the wider A37/A4018 Corridor project. The anticipated benefits from the Victoria Street and Colston Avenue sub-project are not constrained by the programming of the other projects along the corridor and will operate to its own programme. However, delivery of the proposed interventions for the entire corridor will no doubt maximise the potential benefits from its individual components and lead benefits and behavioural changes across a much larger geographical extent.

2.7. Stakeholders Support

The successful delivery of the proposed improvements will involve working closely with a wide number of stakeholders, both from a project delivery point of view and from a wider project acceptability point of view. Key individuals that have been identified (among others) in agreement with BCC for engagement and management include bus operators elected officials, bodies with responsibilities for delivery of public services such as ambulance services, as well as local voluntary and business groups.

A range of stakeholders have been identified throughout the development of the A37/A4018 Victoria Street & Colston Avenue project, as well as the wider corridor study. Key partners that have been involved to date include:

- Bristol City Council;
- The West of England Combined Authority;
- The Redcliffe & Temple Business Improvement District (BID).

The key project delivery stakeholders are identified in

Table 2-10 below.

Table 2-10 – List of project stakeholders

Name	Organisation	Role	Notes
Nick Bouboussis	West of England Combined Authority	CRSTS (Strategic Corridor Programme Manager)	BCC reports progress to the funding bodies programme manager
Tom Swithinbank	Redcliffe & Temple BiD	BiD Co-ordinator Project Manager	BiD – Business Improvement District
Cllr Don Alexander	Bristol City Council	Lead Member for Transport	
Cllr Farah Hussain	Bristol City Council	Ward Cllr for Central Ward	
Cllr Ani Stafford-Townsend	Bristol City Council	Ward Cllr for Central Ward	
Doug Claringbold	First West of England Ltd	Bus Operator Bristol	
Nicholas Davies	Bristol Cycling Campaign	Contact for Cycle Campaign	involvement during wider A37/A4018 corridor project
Roger Gimson	Bristol Walking Alliance	Contact for Waking Alliance	involvement during wider A37/A4018 corridor project
Patrick Quinton	Avon & Somerset Police	Private Hire Taxi representative	involvement during wider A37/A4018 corridor project
Saif Hussain	Taxi Forum Chairman	Hackney Taxi representative	involvement during wider A37/A4018 corridor project

2.7.1. Public engagement

2.7.1.1. Public Engagement (September 2020 – Early 2022)

Early engagement (Summer 2020) and public consultation (December 2021 and January 2022) have been carried out to collect public opinions on the corridor-wide OBC. Details and outcomes on these activities can be found in Section 1.11.1 in the Strategic Dimension of the previous OBC.

2.7.1.2. Public Consultation (December 2021 – January 2022)

A public consultation was held in December 2021 – January 2022 on the proposed improvements for the bus route 2 (A37/A4018). The measures within the Victoria Street and Colston Avenue project formed part of the proposed improvements. The public were asked to provide their feedback on the proposals. The Redcliffe & Temple BID have been consulted on throughout the scheme’s development as the Victoria Street proposals fall within their catchment. The BID in turn have circulated information during the scheme’s development to its members. The Redcliffe & Temple BID have expressed support for the proposals.

2.7.1.3. Information Exercise (June 2023)

Following approval from BCC & WECA to proceed towards preparing a full business case for the A37/A4018 Victoria Street and Colston Avenue project, BCC has carried out an information exercise to make businesses and residents in Victoria Street and its immediate surrounds aware that the scheme is progressing. The exercise is being carried out to increase awareness ahead of statutory consultation, concerning the waiting and loading restrictions the proposals require, currently scheduled to take place in October 2023. The feedback received so far is generally supportive of the scheme whilst there are some concerns from specific retailers regarding the proposed loss of pay and display parking.

2.7.1.4. Statutory Consultation (September 2023)

The BCC Traffic Regulation Order (TRO) team is preparing plans and orders to process towards Statutory Consultation on the schemes waiting and loading restrictions during October 2023. Once the consultation has elapsed an Objection Report will be compiled and presented to BCC Officers and an Elected BCC Cabinet Officer for sign off.

2.7.2. Environmental sustainability and climate action considerations

Environmental sustainability has been considered throughout the scheme development process, primarily by ensuring the scheme objectives align with the overarching ambitions and existing policies of both BCC and the Combined Authority with regards to environmental sustainability. By encouraging further use of sustainable means of travel, the scheme supports the Combined Authority and BCC objectives.

Proposed interventions around walking, cycling and bus in the scheme will encourage modal shift from private vehicle travel to public transport/active travel. The latter are also low-carbon modes of travel, thereby contributing towards improved environment and sustainability.

2.8. Summary

This Strategic Dimension demonstrates the need for change along Victoria Street and Colston Avenue. It identifies a number of problems including the lack of good-quality segregated cycling facilities, poor-quality bus stops, insufficient bus prioritisation measures, and a need for improved walking facilities (such as urban realm improvements). These problems hinder the potential for modal shift towards bus use, walking, and cycling. As a result, high-levels of private vehicles commuting contributes towards issues in the locality such as poor air quality, carbon emissions, congestion and poor journey time reliability. The impact of not making this investment will be a further deterioration in journey times, further congestion along the corridor, and the risk that the local and combined authorities do not meet their targets around carbon emissions reduction and improvements in air quality. The case for change is also supported by a review of the alignment between the scheme and national, regional and local policy objectives.

Therefore all in all, there is a clear case for intervention to resolve the aforementioned issues and support future growth ambitions. The scheme has also been subject to both public engagement and consultations.

3. Economic Dimension

3.1. Overview

The purpose of the Economic Dimension is to demonstrate the Value for Money of the scheme through an assessment of the scheme's likely costs and benefits. A Value for Money assessment typically includes assessing all the economic, environmental, social and distributional impacts of a proposal, using either qualitative, quantitative or monetised information. These impacts are not limited to those directly impacting on the measured economy, nor to those which can be monetised. The economic dimension covers the following topics as part of the overall Value for Money discussion.

- Appraisal approach – definition of the Reference Case and the approaches for assessing the potential impacts from the proposed interventions
- General parameters and assumptions – a summary of the standard range of parameters defined in appraisal including the assumptions adopted
- Costs – whole life cost of the proposed scheme and derivation of the Present Value of Cost (PVC)
- Demand – Reference Case travel demand and forecast of Do Something demand
- Active mode appraisal – the approach for appraising impacts on active mode users and findings
- Bus stop consolidation and facility improvements benefits
- Highway impacts at Counterslip Junction
- Bus passenger journey time savings on Colston Avenue
- Amenity benefits from additional public space created
- Value for Money Statement.

3.2. Appraisal approach

This appraisal considers the potential comparative impacts between a Reference Case (without the proposed scheme) and the future situation (Do Something scenario) including the proposed interventions to enhance streetscape and safety, support faster and more reliable bus journeys and create modal shift towards sustainable modes.

A full range of expected outcomes and impacts are articulated in the logic map in Figure 2-11 of the Strategic Dimension.

Figure 2-1 shows the location of the interventions in the proposed scheme while Table 3-1 summarises outputs from the interventions and their anticipated transport outcomes and impacts as illustrated in the logic map, which are reflected in the scope of the economic appraisals undertaken and reported in the business case.

Table 3-1 – Summary of outputs and impacts

Project outputs	Project outcomes and impacts
Continuous footway and segregated cycleway from Bristol Bridge to Temple Way/Gate to tie in with existing wider cycling paths	Mode shift and increase in active travel trips to and from Temple Meads, employment clusters and other attractors in the area, leading to health and marginal external impacts including highway decongestion, road safety and environmental benefits.
Victoria Street public realm improvements, upgraded streetscape and urban environment	Improved urban realm quantified as amenity impact
Right turn removal at Counterslip Junction and reallocation of road capacity on Victoria Street to allow for the installation of segregated with-flow cycleways	Improved operation efficiency of the junction, shortening cycle time for the signal control but reduction of the road capacity to one lane for general traffic.

Upgrade and consolidation of bus stops on Victoria Street	Facility improvements in bus stops including the extension of bus shelters. Enhanced operational efficiency due to the removal of the intermediate inbound stop on Victoria Street.
Bus lane extension to just beyond the war memorial at Colston Avenue	Reduction of the delays since the bus lane extension across the stop line will ensure that a dedicated lane is available for buses turning into Colston Avenue

The monetised and non-monetised impacts from the appraisals were considered against the scheme's costs in line with TAG, which informed the Value for Money assessment presented at the end of this chapter.

3.3. General parameters and assumptions

The general appraisal assumptions and parameters adopted for quantifying the benefits and costs are summarised in Table 3-2. Application of these assumptions is documented in the following subsections for individual impacts quantified.

Table 3-2 – Assumptions for the treatment of benefits

Benefits to appraise	Parameters	Assumptions	Source
Bus stop consolidation and facility improvements	Appraisal period	20-year period	As per scope
	Opening year	2026	As per scope
	Discounting rate and year	2010 base year, discounted 3.5% p.a.	TAG Table A1.1.1
	Miscellaneous assumptions in addition to the following	TAG Databook May 2023 v1.21	DfT TAG
	Values of Time (VOT)	Average VOT weighted by journey purpose splits from TAG Databook; working Public Service Vehicle (PSV) passenger and non-working commuting and other market price values have been used	TAG Table A1.3.2
	Reference Case demand	Boarding passenger data only assumed	First Bus data for March 2022
	Demand growth	A demand growth of 5.1% has been adopted based on West of England's bus strategy to double the number of bus passengers by 2036. No demand growth has been assumed after 2036.	West of England Bus Strategy Adopted June 2020
Generalised Journey Time (GJT) savings for soft measure improvements	New bus shelters and CCTV at bus stops	TAG Table M3.2.1	
Active mode benefits	Appraisal period	20-year period	As per scope
	Opening year	2026	As per scope
	Discounting rate and year	2010 base year, discounted 3.5% p.a.	TAG Table A1.1.1
	Marginal External Costs	"Other Urban" local area type for the study area in Bristol	Area Lookup table in AMAT

	Reference Case demand	12625 pedestrian trips 1221 cycling trips	Vivacity count data
	Demand uplift	7.6% uplift for cycling trips 4.7% uplift for walking trips	Active Travel Uplift Tool (ATF4)
	Return journeys	90% of people making return trips	Default value in AMAT; assumption to convert between people and total trips
	Number of days for which intervention is applicable per year	365 days	The intervention is expected to yield benefits both during the weekdays and the weekends due to the strategic location of the scheme
Counterslip Junction right turn removal and capacity reduction for general traffic on Victoria Street	Traffic flow data	SCOOT and Count data in June 2019 and June 2021 for Tuesdays, Wednesdays and Thursdays	Bristol City Council
	Existing Traffic Signal Plan	Illustrative average time by stage Stage 1 = 35s, Stage 2 = 5s, Stage 3 = 15s, Stage 4 = 5s	Bristol City Council
	New Traffic Signal Plan	Illustrative average time by stage Stage 1 = 20s, Stage 2 = 12s, Stage 3 = 8s	Bristol City Council
	Cycling time	Estimate based on information available Existing: 72s, New: 60s	Bristol City Council
	Saturation Flow rate	Assumption of 1,800 vehicles per hour per lane	Assumption based on professional judgement
Colston Avenue bus lane extension	Appraisal period	60-year period	As per scope
	Scheme opening year	2026	As per scope
	Number of weekdays	252 weekdays per year exc. Bank Holidays	Data recorded for weekday only
	Travel time through Colston Ave Junction	18s – Straight Across 23s – Left Turn	Bristol City Council Survey (20/7/2023)
	Total number of buses passing through Junction	Maximal unobstructed speed of 18mph	Traveline National Dataset Q3 2022
Public realm improvements	Land value for policy appraisal	£15,031,000 per hectare	TAG Valuing Dependent Development Workbook ¹²

¹² [tag-workbook-valuing-dependent-development-workbook.xlsx \(live.com\)](https://www.live.com/tag-workbook-valuing-dependent-development-workbook.xlsx)

The assumptions for the treatment of costs in the economic analysis are presented in Table 3-3.

Table 3-3 – Assumptions for the treatment of costs

Costs to appraise	Parameters	Assumptions	Source
Costs	Annual inflation	20-year period	As per scope
	Scheme opening year	2026	As per scope
	Rebasing of price base	GDP deflators	TAG Databook May 2023 v1.21
	Discounting rate and year	2010 base year, discounted 3.5% p.a. for 30 years from 2021	TAG Table A1.1.1
	Optimism Bias	20%	TAG Unit A1.2 Scheme Costs
	Market price adjustment	19% uplift from factor prices	TAG Unit A1.2 Scheme Costs

3.4. Active mode appraisal

Impacts on existing and new cycling and walking users including the decongestion impact on users of other modes and the wider network as a result of mode shift are quantified using the DfT's Active Mode Appraisal Toolkit (AMAT), which considers three broad categories of impacts, as summarised in Table 3-4.

Table 3-4 – Impacts from increased use of active travel and mode shift

Impact categories	Sub-category	Description
Physical activity	Reduced mortality risk	Health benefits of increased physical activity
	Absenteeism	Marginal impact on overall productivity of the workforce due to reduced absenteeism, arising from improved health
Journey quality	Cycling and walking ambience and perceptions	Cyclists and pedestrians experience benefits based on 'willingness to pay' values of improved infrastructure
Marginal external costs	Road decongestion (user element)	Marginal changes in road users travel times due to changes in road congestion
	Other infrastructure investment	Reductions (or increases) in local or central government expenditure on highways maintenance, due to reduced (or increased) wear and tear on highways, due to reductions (or increases) in vehicle kilometres travelled
	Accidents	Marginal changes in the frequency of road collisions due to changes in vehicle kilometres travelled
	Local air quality, Noise, Greenhouse gases	Marginal changes in air quality, noise and greenhouse gas emissions due to changes in vehicle kilometres travelled
	Indirect tax	Marginal reductions in indirect tax attributed to reduced highways congestion due to mode shift from road to active modes, i.e. reduced fuel consumption by those who switch to active modes and slightly lower fuel costs to those continuing to travel by road as a result of decongestion

The key parameters are:

- The Reference Case and Do Something (DS) active travel demand.
- Walking and cycling journey characteristics (i.e. typical trip distances and speed).
- Quality of walking and cycling infrastructure before and after the proposed interventions.

3.4.1. Cycling infrastructure

For the purposes of this appraisal, the cycling infrastructure is “No provision” in the Reference Case and “Off-road segregated cycle track” in the Do Something scenario. This is determined on the basis that along Victoria Street there is currently no cycling infrastructure and the provision after the scheme would offer an off-road segregated route, as the cycleway will be separated for a small distance from the highway traffic.

3.4.2. Walking infrastructure

Table 3-5 outlines the assumed changes in the pedestrian environment along Victoria Street between the Reference and Do Something cases based on the best interpretation of the design. Specifically, the scheme will enhance the kerb level by providing continuous footways with 50mm kerbs between cycleways, footways and flush crossing. There will also be improvements in crowding due to the widening of footways. Pavement evenness shall also be enhanced with the new footways. New benches will be provided with the installation of one large York Stone bench and two small York Stone bench seats.

Table 3-5 – Pedestrian infrastructure along Victoria Street

Infrastructure categories	Baseline conditions along Victoria Street (Reference case)	Conditions along Victoria Street with scheme (Do Something)
Street lighting	Yes	Yes
Kerb level	No	Yes
Crowding	No	Yes
Pavement evenness	No	Yes
Information panels	No	No
Benches	No	Yes
Directional signage	No	No

3.4.3. Active travel demand

3.4.3.1. Reference case demand

To gain an estimate of pedestrian and cycle movements on Victoria Street, Vivacity Sensor Platform has been used. This is a system that runs on mounted sensors and provides count data per vehicle classification including pedestrians and cyclists. For the estimation of the active travel demand, the observed data (daily counts) for cycling and pedestrian movements from Monday 6th March to Friday 17th March 2023 were extracted for both weekdays and weekends. The following sensors were used given the location of the study area,

- S5_victoriaSt_path_north_bcc001 (ID: 16961)
- S5_victoriaSt_road_north_bcc001 (ID: 16962)
- S6_victoriaSt_south_path_bcc001 (ID: 16964)
- S6_victoriaSt_south_bcc001 (ID: 16963)

Their location is indicated in Figure 3-1, with the movements captured by individual sensors illustrated in Figure 3-2.

Figure 3-1 – Vivacity sensors along Victoria Street

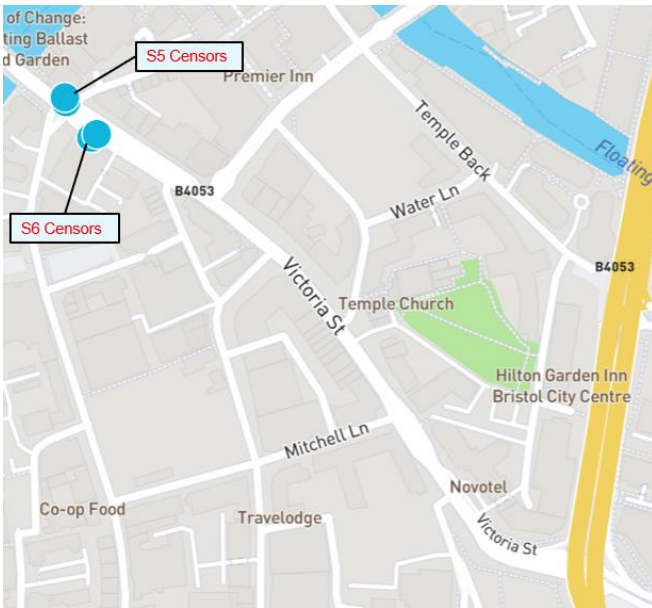
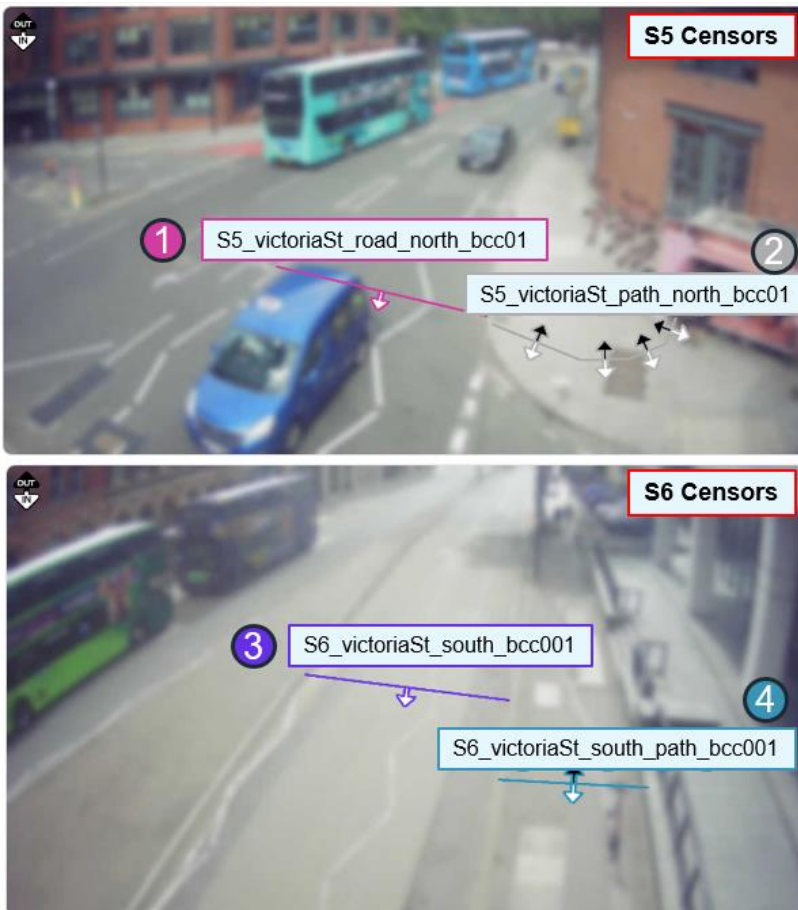


Figure 3-2 – Sensor movement capture



The trip data were extracted for the aforementioned sensors from Vivacity Sensor Platform. As shown in Figure 3-1 and Figure 3-2, sensors capture movements in one traffic lane and pavement. Weekday numbers of pedestrians and cyclists recorded during the period between 06/03/2023 and 17/03/2023 (excluding the

weekend) have been averaged in order to estimate the weekday active travel demand. Weekday pedestrian and cycling trips per sensor are presented in the table below.

Table 3-6 – Weekday Vivacity Pedestrian and Cycling Trips

Censor	Sensor ID	Pedestrian trips	Cycling trips
1	16,962	725*	1,420*
2	16,961	5,359	39
3	16,963	616*	1,414*
4	16,964	6,792	28

*Note: Pedestrian and cycling figures for Sensors 1 and 3 are inbound and thus, have been doubled to take into account of demand in both inbound and outbound movements.

The weekend demand has also been taken into account since the scheme is expected to be used 365 days per year. Weekend pedestrian and cycling trips per sensor are presented in the table below.

Table 3-7 – Weekend Vivacity Pedestrian and Cycling Trips

Censor		Sensor ID		Pedestrian trips		Cycling trips	
		Saturday	Sunday	Saturday	Sunday		
1	16,962	458*	332*	630*	*552		
2	16,961	4,621	2,987	31	35		
3	16,963	448*	322*	646*	644*		
4	16,964	7,125	4,618	34	22		

*Note: Pedestrian and cycling figures for Sensors 1 and 3 are inbound only. Therefore these have been doubled to take into account of demand in both inbound and outbound movements.

Cycling and walking demand extracted from censors 1&2 and 3&4 (separately for weekdays and weekends) has been summed and then combined in order to estimate an average daily walking and cycling demand. Subsequently, a weighted average has been calculated based on the number of weekdays and weekend days in a week. This led to 6,312 walking trips (one direction only) and 1,221 cycling trips. The walking trips were doubled to account for movements in both directions so that pedestrian movements are captured for both pavements along the route (as shown in Figure 3-2, Sensors capture the movements only in one traffic lane and pavement). This resulted in the Reference Case demand presented in Table 3-8.

Table 3-8 – Reference Case daily active travel demand

Demand	Walking trips	Cycling trips
Reference Case demand	12,625	1,221

3.4.3.2. Demand uplift

Analysis of current uptake and potential to growth with the Propensity to Cycle Tool

The Propensity to Cycle Tool (PCT) provides an evidence base and future projections of what walking and cycling uptake could be achieved in England and Wales given various policy scenarios in line with the Government's target to double cycling nationally by 2026¹³. Data from the PCT is available as Origin to Destination trips based on Census 2011 Journey to Work data between Lower Layer Super Output Areas (LSOA). The PCT then estimates for each Origin-Destination (OD) trip the potential pedestrian and cycle mode

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/364791/141015_Cycling_Delivery_Plan.pdf

share for each of the different policy scenarios profiles given the characteristics of the Origin-Destination trip. Four policy scenario profiles were used in the PCT, namely Government Target (Equity), Government Target (Near Market), Go Dutch and E-bike, representing varying levels of growth in cycling demand in the future.

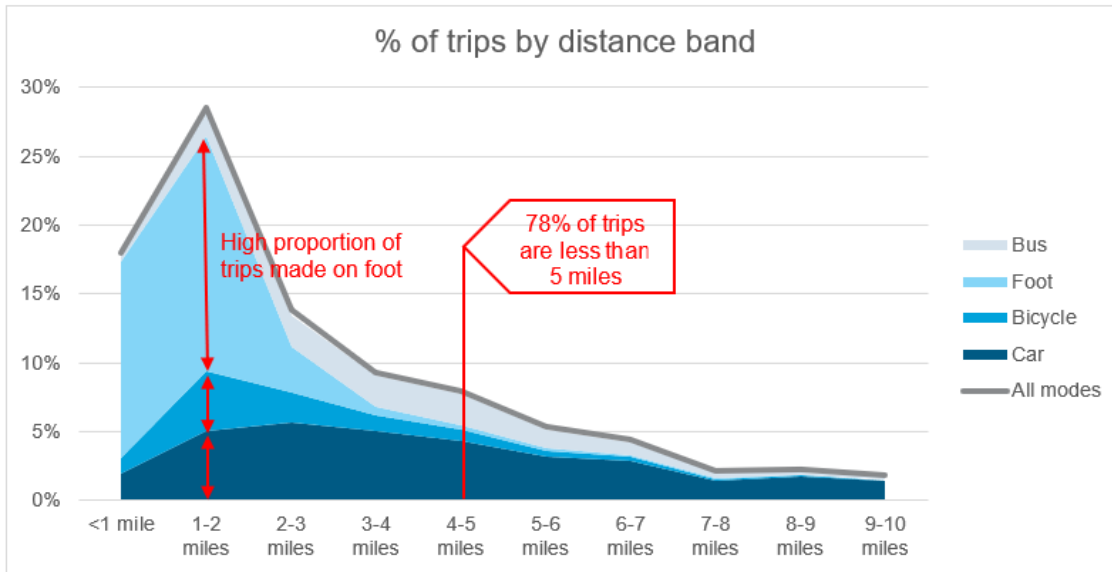
A bespoke group of LSOAs was selected for this analysis as shown in Figure 3-3.

The Origin-Destination travel to work data was extracted and summarised, by distance band, for trips starting from the LSOAs within the study area. These Census 2011 OD trips data indicates most trips in the areas around Victoria Street are shorter than 5 miles and 22% of these trips are by car. In the study area, there is a high proportion of short trips made on foot, as shown in Figure 3-4.

Figure 3-3 – Propensity to Cycle Tool - Study area

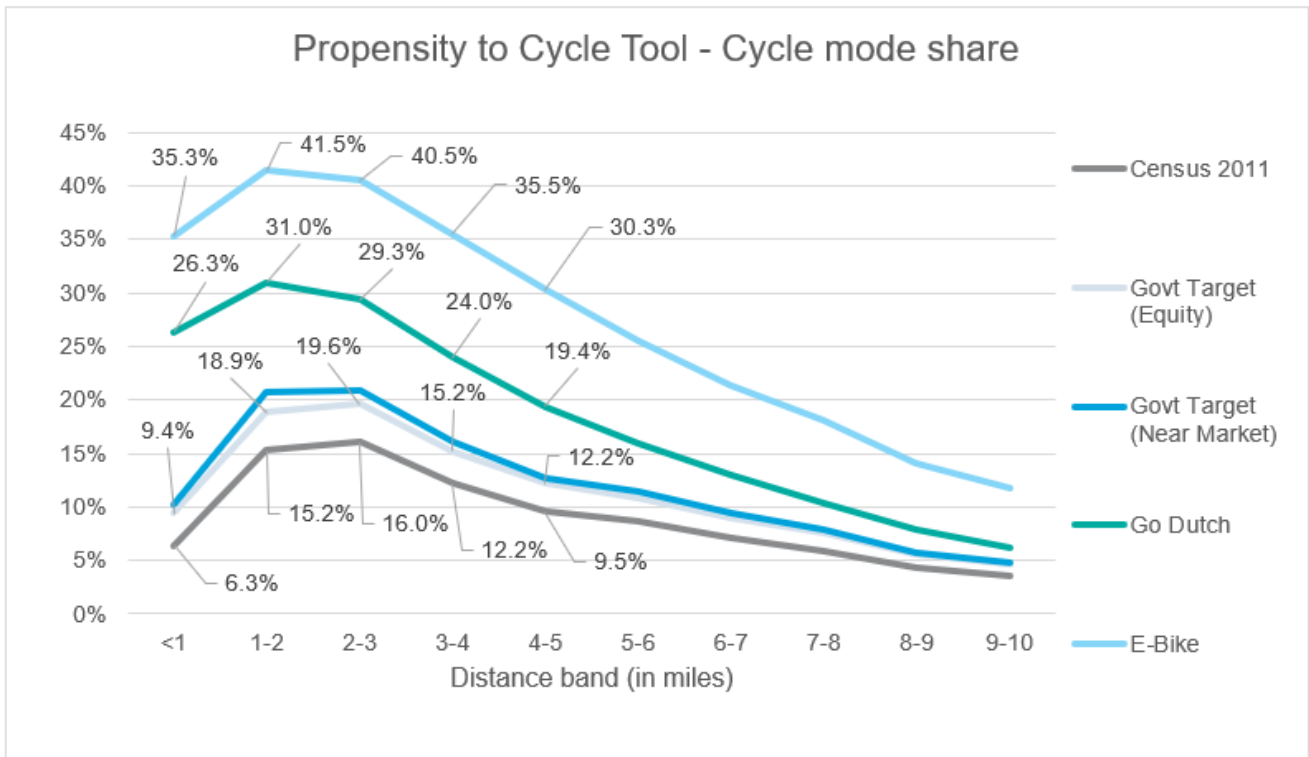


Figure 3-4 – Proportion of travel-to-work trips by distance band



Trips under five miles can be manageable by bicycle for most people, and shorter distance trips would also be suitable for walking¹⁴. 22% of short trips (less than 5 miles) around Victoria Street were made by car, as shown in Figure 3-4. This suggests a potential for mode shift from car use to walking and cycling. This potential mode shift is borne out in the PCT’s future mode share scenarios for Bristol city centre, shown in Figure 3-5.

Figure 3-5 – Propensity to cycle, by distance



¹⁴ DfT, Cycling and Walking Investment Strategy, 2017. Paragraph 1.16, available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918442/cycling-walking-investment-strategy.pdf.

For the topography and route choices around Victoria Street, the PCT forecasts show that the E-bike scenario generates the highest maximum potential mode share in each distance band, with the largest changes most likely to be for shorter-distance trips as expected (i.e., cycling mode share ranging from 30-41% for journeys shorter than 5 miles. Go-Dutch scenarios generate cycling mode share potential of around 19-31% for journeys shorter than 5 miles.

It is important to note that Figure 3-5 shows the estimates of maximum potential cycling mode shares, but in reality, the shifts in travel behaviour would vary depending on the policy environment and the level of infrastructure available to support the aspired change in travel behaviour. Importantly, what this shows is that even the relatively modest government target scenarios suggest that there is a strong potential for material increase in cycling use from the Reference Case levels of active travel, especially for journeys shorter than five miles.

Forecast growth with Active Travel Uplift Tool (ATF4)

The ATF4 tool has been released by Active Travel England (ATE) as part of the recent Active Travel Fund bid. This tool estimates the uplift in walking and cycling following an active mode intervention. It relies on input regarding the number of walking and cycling trips prior to the intervention and the allocation of scheme costs in different types of active travel interventions. Output from the tool is the forecast indicative uplift in active mode trips, which can then be fed into the AMAT for economic appraisal.

For the purposes of this appraisal, the cycling benchmark in the ATF4 tool that best describes the cycling interventions proposed as part of the scheme is “Area wide cycle network” while “Town centre walking infrastructure interventions” had been selected as the most appropriate walking benchmark.

Using the Reference Case demand presented in Table 3-8, a cost split of 15% and 41% for cycling and walking infrastructure, respectively, different levels of demand uplift were extracted from ATF4 as shown in Table 3-9. The ATF4 provides the central estimates to input into AMAT based on the intrinsic cycling and walking potential and car ownership in the authority.

Table 3-9 – Demand Uplift estimates extracted from the ATF4

Demand Uplift Estimates	Walking	Cycling
Low	4.8%	3.1%
Medium	7.2%	5.1%
High	11.2%	10.1%

Choice of forecast growth for economic appraisal

Forecast uplifts from both the PCT and ATF4 tools were considered. Based on the observed levels of walking and cycling in Victoria Street and the fact that the vast majority of trips within the local area are of short distance as well as the propensity to cycle in this area derived from the PCT, the medium level demand uplift estimate from the ATF4 has been used for cyclists (5.1%) and pedestrians (7.2%).

Consequently, the future cycling and walking demand, as presented in Table 3-10, will be used as inputs in the Active Mode Appraisal Toolkit.

Table 3-10 – Reference Case and Do Something walking and cycling trips

Demand	Walking trips	Cycling trips
Reference Case	12,625	1,221
Do Something	13,534	1,283

3.4.4. Active mode benefits

Table 3-11 outlines the monetised impacts arising from the aforementioned inputs and changes in cycling and walking infrastructure, as specified above.

Table 3-11 – Active travel benefits

Category	Active Mode Appraisal benefits ('000s)
Congestion benefit	£203.97
Infrastructure maintenance	£1.01
Accident	£32.81
Local air quality	£1.45
Noise	£2.19
Greenhouse gases	£14.06
Reduced risk of premature death	£2,972.78
Absenteeism	£638.79
Journey ambience	£2,209.12
Indirect taxation	-£1.19
Total	£6,073.96

3.5. Bus stop consolidation and facility improvement benefits

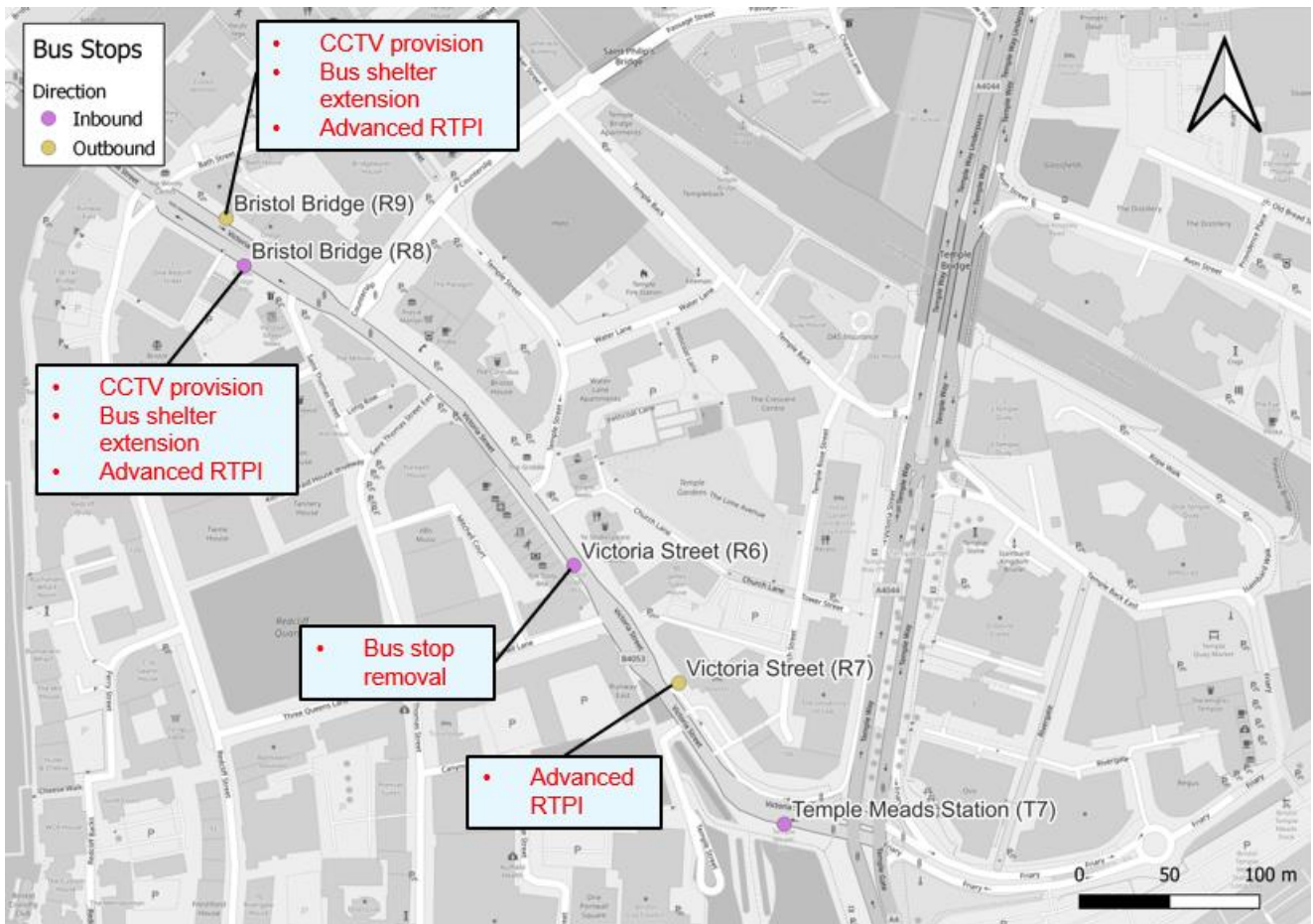
The existing bus stop alignment on Victoria Street includes five bus stops with their respective facility improvements as indicated in Figure 3-6, namely:

- Bristol Bridge (stop R9)
- Bristol Bridge (stop R8)
- Victoria Street (stop R6)
- Victoria Street (stop R7)
- Temple Meads Station (stop T7)

As part of the Temple Circus project, the Temple Meads Station (T7) inbound bus stop was installed at the bottom of Victoria Street. The distance from the T7 stop to the R6 is 190m while the distance from the R6 to the R8 is 255m. The proposed removal of the R6 stop will result in a distance of 445m between stop T7 and R8 meaning that the stops will remain well spaced as the ideal spacing for bus stops is approximately 400m¹⁵.

¹⁵ Accessible bus stop guidance, Transport for London. Source: [Accessible bus stop design guidance \(nacto.org\)](https://nacto.org)

Figure 3-6 – Bus stop provision along Victoria Street



As shown in Figure 3-6, the remaining bus stops come with the following facility improvements (Table 3-12).

Table 3-12 – Facility improvements on Victoria Street bus stops

Bus Stop	Proposed changes
Bristol Bridge (stop R9)	<ul style="list-style-type: none"> - Dedicated CCTV provision from no provision - Bus shelter extension from 4-bay to 16-bay - Advanced Real Time Passenger Information (RTPI) system from standard RTPI provision
Bristol Bridge (R8)	<ul style="list-style-type: none"> - Dedicated CCTV provision from no provision - Bus shelter extension from 6-bay to 16-bay - Advanced RTPI system from standard RTPI provision
Victoria Street (R7)	<ul style="list-style-type: none"> - Bus shelter extension from 4-bay to 16-bay - Advanced RTPI system from standard RTPI provision

To quantify the benefits that arise from the proposed facility improvements, the segmented values of soft bus interventions provided in Table M3.2.1 of TAG Databook were used. It should be noted that as a conservative approach, no benefits were claimed from the RTPI improvements at the aforementioned stops since the bus stops R8 and R7 already have the standard RTPI system installed. Consequently, the perceived generalised time saving was estimated by taking the segmented values of new bus shelters (1.08 generalised minutes) and CCTV at bus stops (3.70 generalised minutes).

Table 3-13 – Segmented values of soft bus interventions in generalised minutes (TAG Databook v1.21)

Soft Measure	Bus Users
Audio Announcements	1.22
CCTV at Bus Stops	3.70
CCTV on Buses	1.66
Climate Control	1.24
New Bus Shelters	1.08
New Bus with Low Floor	1.19
New Interchange Facilities	1.27
On-Screen Displays	1.90
RTPI (at bus stops)	1.47
Simplified Ticketing	0.84
Trained Drivers	2.46

First Bus provided the monthly boarding data per bus stop for March 2022. It has been assumed that the passengers currently using Victoria Street R6 (stop to be removed) will be equally split between R8 and T7 after its removal (Table 3-14).

Table 3-14 – Annual boarding data per bus stop (2022)¹⁶

Bus Stop	Reference Case	Do Something
Bristol Bridge (stop R9)	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Bristol Bridge (R8)	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Victoria Street (R6)	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Victoria Street (R7)	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Temple Meads Station (T7)	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]

The assumptions on future bus demand growth were based on West of England's Bus Strategy¹⁷ vision to double the passenger by 2036. This led to a 5.08% annual increase in demand while no growth has been assumed after 2036. An appraisal period of 20 years has been assumed as this benefit was only justified by perceived quality enhancement. The forecast benefits from the bus stop facility improvements are presented in Table 3-15.

Table 3-15 – Bus stop facility improvement benefits

Bus Stop	Facility improvement benefit ('000s)
Bristol Bridge (stop R9)	£691.20
Bristol Bridge (R8)	£478.57
Victoria Street (R7)	£52.14
Total	£1,221.92

3.6. Highway impacts at Counterslip Junction

SCOOT and Count data for June 2019 and June 2021 from Bristol City Council (BCC) have been used to calculate the traffic demand for arms A, B and C of the Counterslip Junction as shown in Figure 3-7.

A high-level spreadsheet-based approach had been used. It considered the 12-hour traffic flows along Victoria Street and Counterslip. Only neutral weekdays were used for the analysis (Tuesday, Wednesday and Thursday). The most recent data (2021) have been used for the analysis below while 2019 data were used as a sense check.

¹⁶ This information is commercially sensitive and should be redacted after the FBC is reviewed by WECA decision makers.

¹⁷ [West of England Bus Strategy \(westofengland-ca.gov.uk\)](https://www.westofengland-ca.gov.uk/)

Figure 3-7 – Counterslip Junction Arms

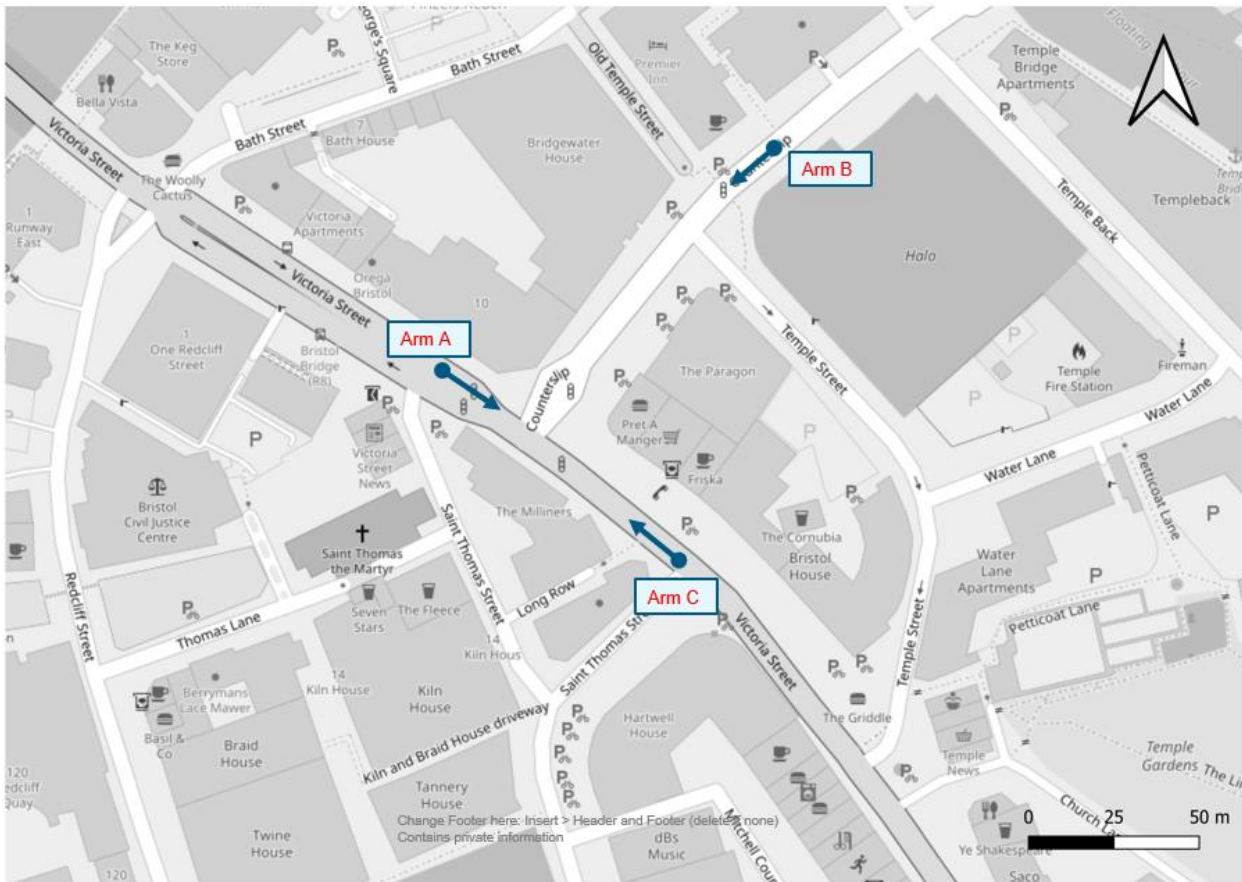


Table 3-16 presents the average hourly traffic flows for each time period.

Table 3-16 – Average hourly traffic flow data per time period and year

Arm	AM		IP		PM	
	2019	2021	2019	2021	2019	2021
A	521	185	535	222	483	248
B	518	412	441	378	446	373
C	164	166	157	153	146	151

The estimated existing and new cycle time, as well as the traffic signal plan from BCC, were used to calculate the green-time ratio for each arm. Combining this with the assumed saturation flow of 1,800 vehicles per hour per lane at the stop line, the capacity of each arm at this junction before and after the proposed interventions was estimated. Figure 3-8 and Figure 3-9 show the existing and new traffic signals plans. The removal of one stage from the junction helps to simplify the signal plan and hence reduce the cycling time by reducing the number of different stages in each signal cycle.

Figure 3-8 – Illustrative existing traffic signal plan

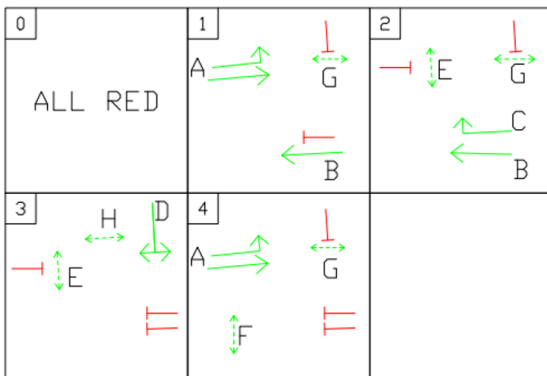
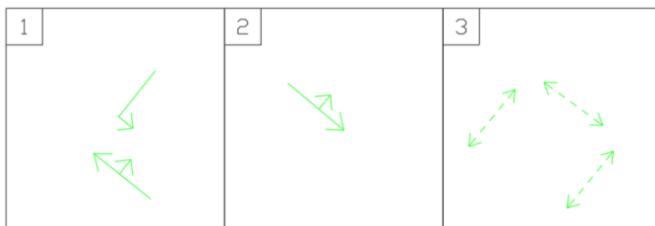


Figure 3-9 – Illustrative future traffic signal plan



Based on the duration of each traffic signal stage as presented in Table 3-17 and the change in cycling time from 72 seconds to 60 seconds, the existing and new capacity and subsequently the volume over capacity (V/C) ratio were estimated by comparing the recorded flows against the capacity, as presented in Table 3-18.

Table 3-17 – Illustrative green time duration in traffic signal plans

Stage	Reference Case	Do Something
1	35	20
2	5	12
3	15	8
4	5	-

Table 3-18 – Volume over Capacity ratio for the existing and future scenarios per arm

Time Period	Arm	V/C	
		Reference Case	Do Something
AM	A	11%	51%
	B	110%	69%
	C	8%	28%
IP	A	13%	62%
	B	101%	63%
	C	8%	25%
PM	A	14%	69%
	B	100%	62%
	C	8%	25%

As shown in Table 3-18, the V/C for the Arm B (Counterslip Junction) is estimated to be equal to or above 100% for all three time periods in the Reference Case scenario. The proposed change is likely to bring significant improvements to this arm from a V/C perspective. On the contrary, Arms A and C on Victoria Street are expected to see increases in the V/C, which, however, is not expected to materially affect the operation efficiency of the junction since the traffic flows per hour on these arms are far lower than their capacity (as indicated by V/C ratios well below 85%). Furthermore, the proposed right turn removal will result in shorter cycle times for the signal control and thus, reduce the amount of waiting time for buses on Victoria Street. This will be balanced out by a capacity reduction to one lane for general traffic along Victoria Street that is however, not expected to worsen the existing traffic conditions since the closure of Bristol Bridge to private vehicles has removed most of the private car traffic along Victoria Street.

Subsequent to the illustrative analysis reported above, LinSIG modelling has also been undertaken following engagement with the WECA Grant Assurance team. Modelling results shows that the proposed scheme, with the cycle lanes and the banned right turn out of Counterslip, will have no detrimental impact to bus journey times whilst delivering all the significant benefits to pedestrians and cyclists. The junction retains a PRC of +54% in the busiest time of day, which is the PM peak. The existing junction layout and stage sequence results in the spare capacity being unused, which results in it being inefficient in dealing both with the low vehicle flows and the still high pedestrian flows. The proposed layout means the movements with the highest vehicle demand (the right turn into Counterslip and the left turn out of Counterslip) run together, providing a more balanced and, thus far, more efficient staging arrangement. Buses will comfortably get through the junction in 1 cycle of the stage sequence, and the reduction of stages from 4 to 3 provides much greater flexibility for the signals in reacting to both the approaching traffic and to the pedestrian and cycle crossings.

Overall, a neutral impact from the proposed changes at Counterslip junction has been assumed for the purpose of this appraisal.

3.7. Bus passenger journey time savings on Colston Avenue

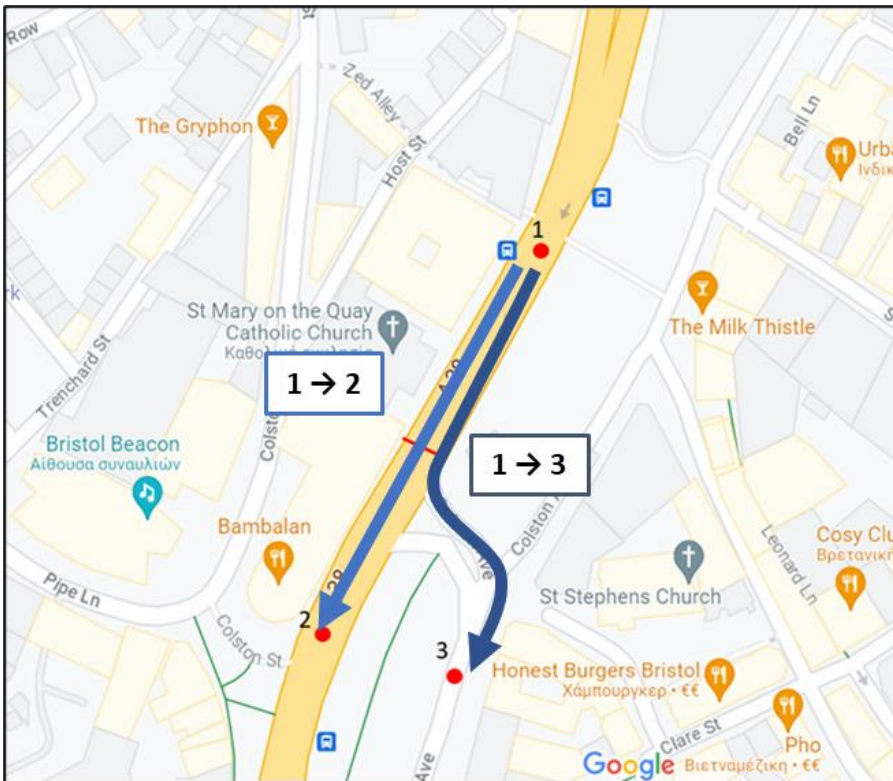
Proposed changes to Colston Avenue involve extending the current bus lane beyond the stop line to avoid blockage to the bus-only left turn movement by private vehicles moving to the left lane too early at the junction. At present, the left-turn movement is restricted to buses and cycles only as a result of the existing bus gate. However, private vehicles tend to move to the left-hand lane before they clear the junction in order to position themselves for onwards travel. At busy time, this manoeuvre may block access for buses turning left which leaves buses at a lower priority, increases delays and reduces reliability of public transport. Potential benefits from extending the current bus lane beyond the stop line to avoid delays to buses at the junction have been assessed. Findings are presented below in this section.

This time saving benefits has been estimated using bespoke spreadsheet analysis based on observed and obtained data for the average time for buses to pass through the junction under current conditions, in comparison to the time expected for buses to pass through unobstructed should the lane be converted as a bus-only lane.

3.7.1. Bus Travel Times

The average journey time has been determined from buses that pass through the junction both continuing straight along Colston Avenue and making the left turn into Colston Avenue. The average time excludes instances where a bus was held by a red signal. The start and end points that were used to measure journey times through the junction has been demonstrated on Figure 3-10. Journey 1 to 2 represents the bus travelling straight across the lights and 1 to 3 represents a left-turning bus.

Figure 3-10 - Points used to record Bus Journeys through Colston Avenue Junction



An approximate distance has been determined for each movement, which along with the observed time taken to complete this journey was used to estimate the average speed at which buses pass through this junction. The data was recorded during the Inter Peak period, therefore, to account for Peak hour traffic volumes, the observed journey time has been subject to a 25% uplift to create an expected peak journey time.

Table 3-19 - Bus Times through Colston Avenue Junction

Journey	Approx. Distance / m	Average Off-Peak Journey Time / s	Approx. Off-Peak Speed / mph	Expected Peak Journey Time / s	Approx. Peak Period Speed / mph
1 → 2	135	18	17	23	13
1 → 3	150	23	15	29	12

Source: Bristol City Council, Recorded between 12:00 – 16:30 (20/7/2023)

3.7.2. Bus movements and frequency

The number of buses moving through the junction was obtained through interrogation of the Traveline National Dataset (TNDS) for bus services passing through along the section of Colston Avenue to the north of the junction. The dataset provides the unique services as well as the frequency of each of these services across different periods across a 24hr period.

Table 3-20 – Hourly Bus Frequency Passing Southbound (Q3 2023)

Period	No. Unique Bus Services	Total Bus Frequency / hour	1 – 2 Bus Frequency / hour	1 – 3 Bus Frequency / hour
AM (07:00 – 08:59)	31	69	21	48
IP (09:00 – 15:59)	29	60	21	39
PM (16:00 – 17:59)	29	58	21	37
OP (18:00 – 23:59)	27	36	14	22

Source: Basemap/TNDS

3.7.3. Travel time savings

The result of the average speed calculation from Table 3-19 highlights that there is opportunity for a travel time saving since vehicles travelling from 1 – 2 have potential to reach 20mph to complete this movement, should the buses be unobstructed. Buses completing the movement from 1 – 3 may be subject to slower speeds to ensure they complete the turn safely, therefore a maximal unobstructed speed of 18mph has been assumed for that movement.

These assumptions provide a basis to determine potential time savings. Table 3-21 shows that there could be a typical saving of 3 seconds for buses travelling between point 1 – 2 and 4 seconds between points 1 – 3.

Table 3-21 - Proposed bus time savings after addition of Bus Lane

Journey	Proposed Speed / mph	Approx. Time / s	Off-Peak Time Saving / s	Peak Time Saving / s
1 → 2	20	15	3	8
1 → 3	18	19	4	10

Combining the estimated time-savings per bus and the number of buses provides the total potential savings, which is shown below on Table 3-22.

Hours highlighted in light blue have used the peak time saving with the remaining hours using Off-Peak time saving to align with Table 3-20.

Table 3-22 - Savings Made by Buses Per Year

Period	Hour	1 - 2 Bus Total	1 - 3 Bus Total	1 – 2 Daily Savings Per Bus / Bus.s	1 - 3 Daily Savings Per Bus / Bus.s	Total Savings / Bus.hr	Total Yearly Savings / Bus.hr
AM	07:00 - 08:00	21	48	152	485	0.18	45
	08:00 - 09:00	21	48	152	637	0.22	55
	09:00 - 10:00	21	39	60	232	0.08	20
IP	10:00 - 11:00	21	39	60	232	0.08	20

	11:00 - 12:00	21	39	60	232	0.08	20
	12:00 - 13:00	21	39	60	232	0.08	20
	13:00 - 14:00	21	39	60	232	0.08	20
	14:00 - 15:00	21	39	60	232	0.08	20
	15:00 - 16:00	21	39	60	232	0.08	20
PM	16:00 - 17:00	21	37	152	521	0.19	47
	17:00 - 18:00	21	37	152	521	0.19	47
	18:00 - 19:00	14	22	42	135	0.05	12
TOTAL		241	467	1069	3923	1.39	349

Over a typical year it was estimated that buses could save a total of 349 hours as a result of extending the bus lane at the junction. Potential savings expected at the weekend have not been considered for this assessment.

These time savings have been converted to monetary values using TAG Databook v1.20.2 (May 2023) Table A1.3.6 – “Forecast values of time per vehicle” over a 60 Year Period for PSV (Occupants).

Table 3-23 - Total Value of Time Savings – 60 Years (2010 Prices)

	AM	IP	PM	Total
2010 Prices	£1,105,730	£1,023,077	£1,045,200	£3,174,007
2010 Prices, Discounted	£246,287	£227,877	£232,805	£706,970

Converting the savings into a value of time per vehicle and deflating and discounting to 2010 prices, the savings are estimated to provide a benefit of **£706,970**.

This result is subject to limitations in regard to the observed times. Repeat recordings of times for buses to cross the junction between marked locations on multiple days could improve the reliability of the data to inform this figure presented.

3.8. Amenity benefits from additional public space

Changes in the amenity value of land have also been quantified as the scheme will deliver new public space through a range of public realm improvement and green infrastructure including trees. These changes are expected to deliver public space with higher perpetuity value and thus lead to benefits through the increase in the amenity value of land.

Quantification of the benefits is based on the relevant information in the TAG workbook for valuing dependent development, which provides landscape values as part of the externalities to consider (i.e. externality cost of developing on different land types).

The relevant values for public space (per hectare) were extracted from the TAG workbook and presented in Table 3-24 below. The perpetuity value of public space is £15,031,000 per hectare.

Table 3-24 – Externalities

Land type	Value per hectare, per year (2010 prices) (£'000)	Present Value per hectare (2010 prices, perpetuity value) (£'000)	Comments
Urban Core (Public space, City Park)	£75.15	£15,031	Central Urban area: examples include public spaces and city parks.

Measurement of public space where there is a concentration of new public realm and green infrastructure due to the scheme has also been undertaken. This is illustrated in Figure 3-11 and Figure 3-12 below. New continuous footways have been excluded from the measurement in order to achieve a robust assessment. The total space measured including the walkable public realm is 885m².

As the changes in amenity value is part of externality impacts in the TAG guidance for land value calculation, this benefit stream has not been included in the core BCR. Instead, it was considered in the adjusted BCR in the value for money assessment.

Increase in the amenity value was therefore estimated to be £1,330,244, as presented in Table 3-25, which is the product of the space created and value of space per hectare (i.e. 885 / 10,000 x £15,031,000).

Table 3-25 – Amenity benefit in 2010 prices and values

Land type	Amenity improvement benefit ('000s)
Urban Core (Public space, City Park)	£1,330.25

Figure 3-11 – Illustrative configuration of Victoria Street with the public realm improvements (top view)



Figure 3-12 – Illustrative configuration of Victoria Street with the public realm improvements (side view)



3.9. Impacts due to Construction

The actual programme of works will not be known until a Principal Contractor is appointed. It will also be the Principal Contractor’s responsibility to submit their own Traffic Management proposals to safely complete the

works. These proposals will also need to be approved by BCC Network Management. However, the project team envisions the following:

Table 3-26 – Impacts due to Construction

Work phase / TM requirements	Impact on road users
It is envisaged at this stage that the majority of the works will be carried out under two-way traffic signals on the stretch of road being worked on at the time. Localised footway closures will be required	Some journey time increases for vehicular traffic including buses Pedestrians may be required to use some temporary footways and temporarily relocated crossings. There are no existing cycle facilities affected for the majority of the site
Works to the Junction of Victoria Street and Counterslip will require temporary 3-way signals plus a pedestrian phase	Some journey time increases for vehicular traffic including buses. Pedestrians may be required to use some temporary footways and crossings. Existing cycle facilities terminate before this junction so are not directly affected
Works to tie-into existing cycle facilities at the ends of the site on Victoria Street and Counterslip	Cyclists may not be able to use the ends of the existing facilities while localised works are underway
Works to resurface Victoria Street will require full road (carriageway) closures	This work will likely be carried out during nights and will require bus service diversions for at least 10 nights. All other vehicular traffic will not have access to the road during closures. Pedestrian footways will remain open
Works to complete continuous footways and raised tables on side roads will require full road (carriageway) closures	This will affect vehicular traffic users who will have to follow diversion routes for up to 5 days on each side road. There are no existing bus services on these streets. Pedestrian footways remain open or temporary footways provided
Works to existing bus stops	While work is carried out on the existing bus stops, bus passengers will be required to use temporary stops, located as close as is feasible to the current stop.

3.10. Costs

This section discusses the estimated capital costs of implementation, considers the net impacts of whole life costs, and summarises the treatment of costs for appraisal.

3.10.1. Capital Costs

Table 3-27 outlines the cost estimates of the individual scheme elements which are relevant for economic appraisal (i.e., excluding sunk costs). A breakdown of the cost elements is provided in Table 3-28. Details of the sunk costs (excluded from the Value for Money assessment in line with TAG) are presented in the Financial Dimension in the next section. A commuted sum was agreed to cover the maintenance cost of the public realm element of the proposed interventions. This is excluded from the table below but covered in the subsequent section.

Table 3-27 – Estimated costs excluding Sunk Costs (2023 Prices)

Element	Colston Avenue	Victoria St	TOTAL
Direct Construction Costs	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Bus Stops	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Traffic Signals	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Street Lighting / Signs	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Landscaping / Suds	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
CCTV	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Utilities Work	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
TRO / TTRO	[Please note that this information has been redacted]	[Please note that this information has been redacted]	[Please note that this information has been redacted]

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Post-Scheme	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Site Supervision	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Project Management (BCC)	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Internal Recharges	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Monitoring & Evaluation	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Commuted Sum for Additional Public Realm Maintenance	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
TOTAL	£61,699	£3,806,170	£3,867,869

3.10.2. Operating and Maintenance Costs

It is anticipated that any operational, maintenance and renewal costs, additional to what would be normally expected in the Reference Case, are negligible for most of the proposed scheme except the public realm interventions. For the latter, a commuted sum was agreed and therefore included as part of the scheme costs in the economic appraisal. Any general lifetime maintenance will be funded through BCC's existing maintenance budget as usual. For other elements of the proposed scheme, the change of use from areas of road into footway, cycle lanes and public realm will generally incur less maintenance costs, given that there is a slower rate of wear from pedestrians and cyclists than vehicles. Updates to traffic signals and lighting to latest technologies (e.g., LED) will increase reliability, generating fewer faults and reduce electrical consumption.

3.10.3. Present Value of Costs

The appraisal of costs follows the approach set out in TAG Unit A1.2 – Scheme Costs. The general assumptions relevant for the economic assessment of costs are summarised as follows:

- The base cost estimates as presented in the sections above are based on 2023 prices in factor costs unit of account.
- These future year scheme costs have been rebased to 2010 prices using the GDP deflator and discounted to Present Value Costs (PVC) in line with TAG guidance¹⁸.
- Optimism bias was increased to 24% from the standard 20% value recommended in TAG. This reflects the higher P_{mean} value estimated in the QRA process. This is likely attributed to higher risk elements of the project such as diverting utilities and potential changes in cost following tendering of the construction contract
- The assumed scheme opening year is 2026, with a 20-year appraisal period ending in 2045.

Table 3-28 summarises the total outturn costs applied for appraisal and presents the PVC for the scheme including QRA risk of 24% in place of 20% Optimism Bias used at FBC Stage for Road Projects. These costs form the basis of the Value for Money appraisals, discussed in the following sections.

Table 3-28 – Present Value of Costs, including Optimism Bias

Cost category	Estimated costs, current prices (£'000s, factor prices)	Outturn costs (£'000s, factor prices)	Present Value Costs (£'000s, 2010 market prices and values, including 24% OB)
Colston Avenue	£61.70	£88.52	£44.29
Victoria Street	£3,738.81	£5,409.25	£2,637.77
Commuted Sum for Public Realm Interventions	-	£67.37	£46.14
TOTAL	£3,800.51	£5,565.14	£2,728.20

3.11. Economic Appraisal Conclusion

3.11.1. Monetised costs and benefits

The Analysis of monetised costs and benefits (AMCB) table in Table 3-29 presents an overall summary of the monetised transport user and non-user impacts, including the impacts accruing from active modes interventions, bus stop improvements on Victoria Street and the journey time savings to bus passengers at Colston Avenue due to the bus lane extension. The monetised values of these impacts set against the scheme's present value costs, to derive the scheme's Benefit to Cost Ratio (BCR). The amenity benefit quantified in Section 3.8 was considered in the adjusted BCR in the subsequent step and the final Value for Money assessment.

Table 3-29 – Analysis of monetised costs and benefits

Category	Present Values (£'000s)
Congestion benefit	£203.97
Infrastructure maintenance	£1.01
Accident	£32.81
Local air quality	£1.45

¹⁸ [TAG Unit A1.2 Scheme Costs](#)

Category	Present Values (£'000s)
Noise	£2.19
Greenhouse gases	£14.06
Reduced risk of premature death	£2,972.78
Absenteeism	£638.79
Journey ambience	£2,209.12
Indirect taxation	-£1.19
Bus stop facility improvements	£1,221.92
Journey Time Savings to bus passengers	£706.97
Present Value of Benefits	£8,003.88
Present Value of Costs	£2,728.21
Net Present Value	£5,275.67
Initial BCR	2.93
Amenity impacts from new public space	£1,330.24
Adjusted BCR	3.42

3.11.2. Non-monetised impacts

In the interests of proportionality, the environmental impacts and distributional impacts have been considered qualitatively as summarised in Table 3-30 and Table 3-32, respectively. Findings from the assessment are provided in Table 3-30.

Table 3-30 – Environmental impacts

Category	Qualitative assessment	Quantitative assessment
Noise, Air quality and Greenhouse Gas (GHG)	The scheme encourages mode shift away from the use of private motorised vehicles for short local trips, in favour of increased walking and cycling. This would reduce traffic flows within the vicinity of the scheme and, hence, lead to a beneficial impact on the environment through reduced noise, less GHG emission and improved air quality.	Noise: £2.19k Air quality: £1.45k Greenhouse gases: £14.06k
Landscape	No significant impact on landscape.	-
Townscape	The scheme could result in slight beneficial townscape impacts given the public realm improvements proposed along Victoria Street.	-
Heritage of Historic resources	No significant impact. Most of the site lies within the Redcliffe Conservation Area. As per BCC policy, no heritage materials are proposed to be removed from the site – with all new materials either maintaining or upgrading quality. The scheme has received design input by BCC's Public Realm team, who are also a QA consultee. This had led to a section of particular heritage value with a number of listed building being designed in Pennant Stone.	-

Biodiversity	As part of the scheme 4 additional trees will be planted and this could result in slight beneficial biodiversity impacts.	-
Water environment	The scheme could result in slight beneficial water environment impacts as in areas separating the cycleway from the highway there will be significant areas of SUDS/rain garden planting. The addition of the SUDS/rain gardens will present a positive impact for wildlife and habitats.	-

A summary of the social and distributional impacts is presented in Table 3-31 and Table 3-32 correspondingly. Further details are provided in the Screening Proforma in Appendix D. It should be noted that given the location of the scheme, impacts on transport users and residents are likely to be positive and widely distributed rather than impacting on specific vulnerable groups.

Table 3-31 – Social impacts

Category	Qualitative assessment
Collisions	The provision of an off-road segregated foot and cycleway is likely to contribute to safety improvements as new cycling facilities that provide a greater level of separation from motor vehicles typically result in reductions in the risk of collision.
Physical activity	Increases in pedestrian and cycling flows are anticipated due to the provision of foot and cycle ways and thus, increasing physical activity in the area. This is in line with the Propensity to Cycle Tool that shows that up to 22% of short trips currently made by car could be made by bike if better facilities were provided.
Security	The scheme includes changes to formal surveillance (CCTV provision) resulting to a positive impact on security.
Severance	The scheme is expected to remove barriers to walking and cycling by providing a continuous footway and to provide a pleasant environment that increases the likelihood of making trips by cycle or on foot. The provision of adequate new walking and cycling infrastructure is expected to provide a wide range of mobility options to travellers and allow more residents to choose walking/cycling as a transportation mode. The reduction in vehicle kilometres through mode switch is anticipated to alleviate severance.
Journey quality	The scheme provides extensions to bus shelters and RTPI improvements which are expected to improve journey quality for public transport users. In addition, provision of segregated footways and cycleways is expected to deliver better and more pleasant journeys for pedestrians and cyclists along the corridor.
Option and non-use values	Option values and non-use values relate to the implementation or withdrawal of a public transport service. As the scheme does not include changes to public transport routes or services provided in the area, no significant impacts are anticipated on this regard.
Accessibility	The provision of walking and cycling infrastructure is expected to improve accessibility by allowing services and activities to be reached on foot and cycle. The provision of foot and cycle paths will also help those who do not own a car to reach facilities by foot or cycle. In addition, the bus stop upgrades and active travel improvements along Victoria Street will improve accessibility to the Temple Meads station.
Personal affordability	The modal shift from highway to active travel and public transport associated with the scheme will have a positive impact on congestion levels in the area resulting to a slight reduction in vehicle operating costs.

Table 3-32 – Distributional impacts

Category	Qualitative assessment
User Benefits	User benefits are expected to be gained from higher speeds travelling along the area and reductions to road users' journey time benefits due to a better bus stop provision and active travel improvements.
Noise	The modal shift from highway to active modes and public transport associated with the scheme will reduce traffic flow within the vicinity of the schemes and, hence, lead to reduced noise in the vicinity of these routes.
Air quality	The modal shift from highway to active modes and public transport associated with the scheme will reduce traffic flow within the vicinity of the schemes and, hence, lead to reduced emissions in the area.
Collisions	The scheme will provide better provision on walking and cycling infrastructure and thus, a positive impact on reducing collisions is expected.
Security	The scheme includes changes to formal surveillance (CCTV provision) resulting to a positive impact on security.
Severance	A reduction in traffic flows could have a positive impact on transport users and residents on how they can access amenities.
Accessibility	The bus stop upgrades and the active travel improvements along Victoria Street will improve accessibility to the Temple Meads station.
Affordability	The modal shift from highway to active travel and public transport associated with the scheme will have a positive impact on congestion levels in the area resulting to a reduction in vehicle operating costs.

In addition, an Equality Impact Assessment has been carried out to identify and evaluate the potential impacts on various characteristic groups which may be affected by this scheme. The full assessment is presented in Appendix L and may be updated at later stages.

3.12. Value for Money Statement

In addition to setting out the methodology for monetising and appraising scheme impacts, TAG guidance also provides a framework for categorising and ranking projects by the perceived value-for-money they potentially offer the taxpayer. This allows funding bodies to compare projects against each other on a like-for-like basis when making investment decisions. The DfT's "Value for Money Framework" sets out each of the Value for Money categories that projects should be categorised into. These are set out in Table 3-33.

Table 3-33 – Overview of DfT Value for Money categories by scheme benefit-to-cost ratio

VfM Category	Implied by....
Very High	BCR greater than or equal to 4
High	BCR between 2 and 4
Medium	BCR between 1.5 and 2
Low	BCR between 1 and 1.5
Poor	BCR between 0 and 1
Very Poor	BCR less than or equal to 0

As summarised in **Table 3-29**, this appraisal estimates that the interventions in Victoria Street and Colston Avenue would have benefits totalling £8.0m, and costs totalling £2.7m, over a 20-year appraisal period and in Present Value terms. The initial BCR for the scheme comes to **2.93**. The amenity benefit quantified will add approximately another £1.3m to the forecast benefits which results in an adjusted BCR of **3.42**. Therefore,

according to the DfT Value for Money categorisation, this scheme will offer **High** Value for Money. The AMCB (Table 3-29), PA (Section I.1), AST (Section I.2) and TEE (Section I.3) tables are set out in Appendix I.

It is worth noting that the majority of benefits which accrue to the scheme arise from the health impacts of increased physical activity among the local population, journey ambience benefits and bus stop facility improvements impacting public transport and road users. There are also marginal improvements in air quality, noise and road safety arising from reducing people’s use of the private car for very short local journeys.

The appraisal has assumed a short appraisal period and conservative levels of demand uplift for both the cycling and pedestrian assessments for the purposes of quantifying an achievable level of economic benefits.

3.12.1. Sensitivity testing

To consider the resilience of the Value for Money conclusion, the potential effects of a lower and higher estimation of costs as well as a longer appraisal period for the AMAT and higher pedestrian and cyclist demand uplift are brought together in this section.

In response to feedback from WECA investment fund local assurance team about the appropriateness of a 20-year appraisal period, an additional sensitivity scenario was undertaken to demonstrate how the benefits would change if a longer 40-year appraisal period is applied. It should be noted that the PVC would effectively remain the same as that for a 20-year appraisal because it has been assumed that all capital expenditure for scheme implementation would be incurred before the scheme opening year, and that there would be no net increase in lifecycle costs. A further scenario, highlighting an increased risk assessment of the project, at P₈₀, which increases the expected scheme PVC has also been shown.

Consideration of amenity benefits from the proposed scheme also adds another dimension to the sensitivity tests. Initial and adjusted BCRs are presented in Table 3-34 below for each of the aforementioned tests.

Table 3-34 – Summary of sensitivity tests

Category	+10% PVC	-10% PVC	40-yr appraisal period	High Demand Uplift from ATF4	Pre-Mitigation Risk (47% OB Uplift)
Congestion benefit	£203.97	£203.97	£382.60	£337.45	£203.97
Infrastructure maintenance	£1.01	£1.01	£1.85	£1.67	£1.01
Accident	£32.81	£32.81	£63.31	£54.28	£32.81
Local air quality	£1.45	£1.45	£2.58	£2.40	£1.45
Noise	£2.19	£2.19	£4.22	£3.62	£2.19
Greenhouse gases	£14.06	£14.06	£21.66	£23.26	£14.06
Reduced risk of premature death	£2,972.78	£2,972.78	£5,827.27	£4,802.62	£2,972.78
Absenteeism	£638.79	£638.79	£1,183.94	£1,018.55	£638.79
Journey ambience	£2,209.12	£2,209.12	£4,094.40	£2,259.21	£2,209.12
Indirect taxation	-£1.19	-£1.19	£2.72	-£1.98	-£1.19
Bus stop facility improvements	£1,221.92	£1,221.92	£1,221.92	£1,221.92	£1,221.92

Journey Time Savings	£706.97	£706.97	£706.97	£706.97	£706.97
Present Value of Benefits	£8,003.88	£8,003.88	£13,513.44	£10,429.97	£8,003.88
Present Value of Costs	£3,001.03	£2,455.39	£2,728.21	£2,728.21	£3,234.25
Net Present Value	£5,002.85	£5,548.49	£10,785.23	£7,701.76	£4,769.63
Initial BCR	2.67	3.26	4.95	3.82	2.47
Amenity improvements	£1,330.24	£1,330.24	£1,330.24	£1,330.24	£1,331.24
Adjusted BCR	3.11	3.80	5.44	4.31	2.89

This high-level comparison of BCRs suggests that in the event that the scheme costs increase by 10%, the initial BCR would still be well above 2, indicating that a High Value for Money category is still maintained.

Further sensitivity tests considering a 10% decrease in PVC, a longer 40-year appraisal period and higher demand uplifts in cyclists and pedestrians have been undertaken and resulted in BCRs higher than 4. This suggests that the robustness in the conclusion of High Value for Money category is strong as amenity benefits have only been accounted for in the adjusted BCR.

A sensitivity test with higher Optimism Bias was also conducted, where the value was uplifted to 47%, equivalent to the risk allowance prior to the consideration of any mitigation. The BCR was still estimated to be above 2, which suggested High Value for Money.

In light of the findings from the sensitivity tests, it is ascertained that the High Value for Money conclusion in the core scenario is robust.

3.13. Summary

This Economic Dimension has demonstrated the Value for Money of the scheme through an assessment of the scheme's likely costs and benefits. This chapter has presented the parameters associated with appraisal and assessments of benefits determined for a number of expected impacts including those associated with:

- Mode shift to cycling and walking
- Consolidation and improvement of bus stop facilities along Victoria Street
- Changes to the highway layout and priority at Victoria Street's junction with Counterslip
- Bus passenger time savings through the introduction of bus only lanes for southbound vehicles on Colston Avenue
- Changes in the amenity value of land through a range of public realm improvements and green infrastructure.
- Would have benefits totalling £8.0m, and costs totalling £2.7m, over a 20-year appraisal period.

The results of benefit analysis generate a total PVB of **£8.0m**. With PVC estimated at **£2.7m**, this gives an adjusted BCR of **3.42** which represents a High Value for Money.

Attribute	Value (£k)
Present Value of Benefits	£8,003.88
Present Value of Costs	[Please note that this information has been redacted for commercially sensitive reasons]
Net Present Value	[Please note that this information has been redacted for commercially sensitive reasons]

Initial BCR	2.93
Amenity improvements	£1,330.24
Adjusted BCR	3.42

4. Financial Dimension

4.1. Overview

The purpose of the Financial Dimension within this business case is to demonstrate the affordability and funding of the package of measures associated with the proposed improvements to Victoria Street and Colston Avenue. Included in this section is a breakdown of the expected costs associated with constructing the scheme and consideration of any whole-life operational and maintenance costs, the expected means of funding have also been identified and have been discussed within this dimension.

Construction of the scheme is set to take place over the course of 15 months, commencing at the end of October 2024 (Q4) to the end of January 2026 (Q1). The start date and construction period are subject to change as a result of the tendering process and appointment of a contractor.

4.2. Scheme Costs

Scheme costs for the project have been provided by BCC. These outline the expected capital costs required to construct the scheme, with a cost base in 2023.

Costs presented in this business case have been based on LOT5 rates which fall under the current contract rates agreed by BCC/WECA. It is expected that this project is expected to go out to tender in 2024 upon project approval and therefore rates may be subject to change.

4.2.1. Sunk Costs

Initial preparation ahead of the project including site surveys, investigations, detailed utilities design, project management and consultancy fees have been allocated separate funding from WECA. £159,238 has been spent or committed by the end of November 2023. An additional amount of £140,202 is planned to be spent between now and the business case approval to cover activities such as radar scanning and finalisation of designs. The total sunk cost aggregates to £299,440. A breakdown of this total cost (the sum of costs spent, committed, and planned ahead of business case approval) is presented in Table 4-1.

Table 4-1 - Itemised Sunk Costs

Item	Spent / Committed	To be Committed before FBC Funding	TOTAL
Site Investigations	£23,301	£55,000	£78,301
Utilities Design	£43,236	£10,000	£53,236
Additional Design Fees	£39,563	£25,000	£64,563
Consultant Fees	£22,772	£25,202	£47,974
BCC Internal Recharge	£30,366	£25,000	£55,366
TOTAL	£159,238	£140,202	£299,440

4.2.2. Inflation

Inflation represents forecast increases to real costs, likely to occur between the completion of this business case to the opening to the scheme. This increase may cover changes in real cost of materials and services, as well as background inflation.

In order to choose an appropriate uplift for inflation, BCIS TPI indices have been reviewed (as shown in Table 4-2). Across the three years, the average cost uplift ranges between 3 to 10% (relative to 2023) depending on the year of expenditure. These rates were deemed low considering the risk of higher inflation as a result of the recent pandemic and conflict in Ukraine amongst other background factors. Experience from projects currently in progress within Bristol have also identified a gap between estimated costs and actual base Civil Engineering costs. In light of these, a higher inflation uplift has been adopted in the estimate which gives approximately 10%

uplift over the three-year period. The equivalent annual growth rate is approximately 5%. All rates considered and / or used are shown in Table 4-2.

Table 4-2 - Inflation from 2023 Prices

Year	BCIS TPI (for illustration)	Inflation Uplift if BCIS Indices were used	Inflation Uplift Used in Cost Estimate
2023	387	1	1
2024	398	1.03	1.05
2025	412	1.07	1.10
2026	426	1.10	1.15

4.2.3. Risk

A value of risk has been applied to the base costs. This risk has been informed by a Quantitative Risk Assessment (QRA) undertaken by AtkinsRéalis in conjunction with BCC. The scheme is subject to a number of high value risks. These include expected changes to rates following the tendering process which will be conducted after the conclusion of this business case and uncovering/moving utility lines buried beneath Victoria Street.

Table 4-3 - QRA Risk Scenarios

	P50	P80
Pre-mitigation	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
% Of Base Cost	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Post-Mitigation	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
% Of Base Cost	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]

The P₈₀ risk, representing a value that total costs will not be expected to exceed 80% of the time, has been used to determine the outturn costs. Measures have been identified to mitigate current risks identified will be implemented for construction of this project and therefore the post-mitigation figure will form the central case for affordability. Details of these measures can be found in the QRA report in Appendix H.

4.3. Operational & Maintenance

4.3.1. Public Realm Scheme Maintenance

While the main scheme is not expected to incur additional maintenance costs, a commuted sum for maintenance items associated with the public realm scheme have been identified as presented in Table 4-5 above. Details of the estimated sum are supplied in Table 4-4, inclusive of inflation and are expected only to be incurred in the short-medium term following completion of the project.

Table 4-4 - Public Realm Scheme Commuted Sum

Item	Cost (£)
Suds Planting (inc. supply of plants, planting, and ground prep) [350sqm]	£57,000
Trees (x5) (Inc. supply, planting, and accessories)	£5,000
Additional Maintenance to Rain Garden (1 Year)	£3,740
Tree Maintenance (2 Years)	£1,625
TOTAL	£67,365

Source: BCC

4.3.2. Lifetime Costs

Other than the commuted sum for public realm interventions, no additional lifetime costs (Operational, maintenance and renewal expenditure) are expected. With or without the proposed scheme, any general lifetime maintenance will always be funded through BCC's existing maintenance budget. The construction work for this scheme will transform the existing space to latest standards and therefore will reduce short-term requirements for maintenance on Victoria Street.

It is therefore anticipated that any additional operating costs to what would be expected for the existing space are negligible as a result of the proposed scheme. The change of use from areas of road into footway, cycle lanes and public realm will generally incur less maintenance costs given that there is a slower rate of wear from pedestrians and cyclists than vehicles. Updates to traffic signals and lighting to latest technologies (e.g., LED) will increase reliability, generating fewer faults and reduce electrical consumption.

4.3.3. Estimated Outturn Costs

The total costs required for the completion of the scheme are shown in Table 4-5.

Table 4-5 – Victoria Street - Total Scheme Costs (2023 Prices)

Attribute	Colston Ave (LOT5)	Vic St (LOT6)	Total
Sunk Costs			£299,440
Direct Construction Costs	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Bus Stops	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Traffic Signals	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]

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Street Lighting / Signs	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Landscaping / Suds	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
CCTV	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Utilities Work	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
TRO / TTRO	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Post-Scheme	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Site Supervision	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Project Management	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Monitoring & Evaluation	[Please note that this information has been redacted for commercially sensitive reasons]		[Please note that this information has been redacted for commercially sensitive reasons]
Internal Recharges	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Inflation	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Risk (P80)	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
Commuted sum for Additional Public Realm Maintenance	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]	[Please note that this information has been redacted for commercially sensitive reasons]
TOTAL (exc. Sunk Costs)	£88,536	£5,476,607	£5,565,143
TOTAL (inc. Sunk Costs)			£5,864,583

Source: BCC, Risk is applied post-mitigation

The original base cost was estimated in 2023 prices. Taking onboard the agreed commuted sum of public realm maintenance, inflation and risk, the estimated outturn cost is **£5,565,143** without consideration of sunk costs, and **£5,864,583** inclusive of sunk costs.

4.4. Spend Profile

Costs have been estimated on an annual basis to understand the real change to costs in future years. It is expected most of the costs associated with this scheme will occur during 2025 (71% of total costs). 14% of the total cost will be used on early materials and construction costs in 2024. Final costs for fit-out, which is expected to be 12% of total costs, will be incurred in 2026.

The spending profile for the construction period for each financial year in the time span of project delivery is presented below in Table 4-6.

Table 4-6 - Spend Profile - Financial Year

Year	Estimated Spend
Spending up to 2023/2024	£299,440
2024/2025	£2,199,111
2025/2026 (capital scheme delivery)	£3,298,667
2025/2026 Post-Scheme Completion (commuted sum)	£67,365
TOTAL	£5,864,583

4.5. Sources of Funding

The funding source for scheme delivery is anticipated to be the West of England Combined Authority. Funding is expected to be primarily secured from central government sources, including the CRSTS fund with the annual funding ask as detailed in Table 4-6. There is scope for match-funding through local government sources, such as surplus funding from the Bristol Clean Air Zone however this is subject to confirmation of the zone. Match-funding will only be applied to the A37/A4018 pot as a whole as other projects are considered rather than for this project in particular, so a figure is not available at present.

4.6. Summary

The scheme is set to take place from the end of October 2024 to the end of January 2026. However, the start date and construction period are subject to change depending on the tendering process and appointment of a contractor.

The scheme is expected to be funded by WECA, which secures funding primarily from central government sources (i.e., CRSTS fund) and potentially local government sources as well.

Scheme costs for the project provided by BCC have a cost base of 2023. Sunk costs, including the production of this FBC, initial preparation ahead of the project, including site surveys, investigations, and detailed utilities design, which will have been allocated separate funding from WECA ahead of the commencement of construction. The expected capital costs required to construct the scheme have been treated with inflation and risk.

Inclusive of a maintenance of the public realm scheme of £67,365, the total base cost is **£3,867,879** (in 2023 prices). Accounting for inflation and risk, the estimated outturn cost is **£5,864,583**. This includes a sunk cost of **£299,440** and maintenance cost (of the public realm scheme) of **£67,365**.

It is expected most (71%) of the costs associated with this scheme will occur during 2025 in the main construction phase. Early materials and construction costs (14% of the total cost) will incur in 2024 which final fit-out costs (12% of total costs) will incur in 2026.

5. Commercial Dimension

5.1. Overview

The Commercial Dimension sets out the approach taken to consider the operational and commercial viability of the proposed scheme and sets out the process BCC will take in procuring services and materials to deliver the scheme. It also covers the approach for contract and risk management in order to ensure the achievement of good commercial outcomes for the project.

This chapter is structured as follows:

- Output-based specification
- Procurement strategy
- Sourcing options
- Payment mechanisms
- Pricing framework and charging mechanisms
- Risk allocation and transfer
- Contract length
- Contract management
- Human resource issues

This Commercial Dimension forms part of the Full Business Case for the A37-A4018 Victoria Street/ Colston Avenue. The DfT's Transport Business Case Guidance¹⁹ provides guidance on the level of detail required for each section of the commercial dimension at Full Business Case stage.

5.2. Output-based Specification

The outputs of this scheme are as described in the Strategic Dimension with the scheme drawings presented in Appendix C. The cost of its implementation is set out in the Financial Dimension.

In summary, the scheme will deliver:

- **Bus user experience improvements**, in the form of:
 - Introduction of bus prioritisation measures (e.g., closing roads to other vehicles other than buses, new bus lanes, increasing the opening hours for some bus lanes, etc.)
 - Upgrading bus stops (e.g., installing bus shelters at stops where they are currently absent, installing real-time passenger information (RTPI) monitors at selected stops, etc.)
- **Cycling infrastructure**, in the form of:
 - Segregated cycle tracks
- **Pedestrian infrastructure**, in the form of:
 - Improved public realm

As part of the scheme, major utilities diversion is required and unavoidable in order for the works to be completed. The scope of these utilities diversions includes the following:

- BNET Works Adjustments
- Bristol Water
- Openreach
- Vodafone
- Wessex Water
- Wales and West Gas

¹⁹ <https://www.gov.uk/government/publications/transport-business-case/transport-business-case-guidance>

- WPD
- Virgin Media
- Sky
- Verizon
- City Fibre
- Colt

5.3. Procurement Strategy

Bristol City Council operates a Framework Contract for Procuring Highway Works – Bristol Highway Assets and Associated Works Framework (BHAMA WF). The contract runs between 2021 and 2024 and will be used to tender for contracts for this scheme. The contract consists of several lots. The lots which will be used to procure the goods and services required to deliver this project are:

- **Lot 1 – Machine Laid Surfacing Framework**
- **Lot 4 – High Friction Surfacing Framework**
- **Lot 5 – Highway Works Framework (for works under £150K)**
- **Lot 6 – Highway Works Framework (for works over £150K) - open competition between pre-approved contractors**
- **Lot 12 – Traffic Management Framework**

BCC also appoints contractors through long-term maintenance contracts for the supply and installation of signalling equipment and the supply and installation of street lighting equipment (including illuminated signs and other electrical connections such as bus shelters).

Contracts under this framework operate under NEC4 Terms and Conditions with a Schedule of Rates based under Lot 5. The contract will be let under open competition in Lot 6 so there may be impacts on costs. Option B is generally used (Priced Bill of Quantities) for procurement under this Lot, with the flexibility to use Option A or any other options. Inflation indices are applied to the Schedules of Rates in year 2 of the contract.

The benefit of using BHAMA WF is that all the contractors have already been approved in line with government policies based on cost, health and safety, finance, insurances and social value. This reduces the time needed for procurement for the delivery of individual schemes and will also reduce costs.

The signals and street lighting maintenance contractors are used to deliver new equipment as this ensures that the new equipment that is supplied for this project is automatically included in BCC's asset register and is to BCC's adoptable standard. BCC also holds a contract with Clear Channel for the supply of Bus Shelters.

All Lots except Lot 6 have a preferred contractor which was awarded 'Preferred Contractor' status based on a combination of Cost, Quality and Social Value. All projects are offered to the 'Preferred Contractor' in the first instance. There is however a mechanism in place to offer to the second placed contractor if the 'Preferred Contractor' is unable or unwilling to deliver the project. Permission to invite the second placed contractor to undertake the work is subject to permission from the BCC Contract Manager.

As part of the standard C4 Detailed Estimates and Design process, work on the necessary utilities diversion will be undertaken by asset owners/ contractors and this will be paid by the scheme promoter, BCC. Cost will be included as part of the established project cost. There is no market process in place for the procurement.

Furthermore, it is recognised that there will be numerous additional requirements required by the contract. Clauses outlined in Appendix O/1 in BCC's Highways and Associated Works Framework for Lot 5 and Lot 6 (see Appendix J) cover topics from management of the contract and data management to general environmental requirements and site waste management, which the contract will need to comply with. The contract is also expected to conform with standard NEC4 Z clauses including Z4 – Discrimination, Z6 - Compliance with legislation, and Z9 – Sustainability. Further details of the clauses are presented in BHAMA WF's Lot 5 and Lot 6 clauses (see Appendix K). Finally, site specific requirements that BCC considers beneficial may also be added to the pre-construction Information or the scope as appropriate.

5.4. Sourcing options

The winning contractors operating on the Framework Contract will all be selected based on price, quality and social value. BCC goes to the 'Preferred Contractor' and if the 'Preferred Contractor' turns down the work there is a process in place for offering the work to second-placed contractor. Tenders are evaluated based on price, social value and quality.

The 'Preferred Contractor' approach for allocating work within the Framework Contractor was chosen on the basis of lessons learnt from past framework procurement exercises. This applies to the main works contract for Victoria Street, since this will be awarded via open competition under Lot 6. On previous contracts, work was allocated on a job-by-job approach based on price. While in theory this was designed to drive down costs, and engage a wider range of contractors, in practice the same contractor won most of the jobs, and in a number of instances contractors bid for work at low prices in order to win the work without having the capacity to deliver. Therefore, even under the price-based approach, a single contractor ended up doing most of the work. Additionally, having a contractor with 'Preferred Contractor' status allows the contractor to have a degree of certainty over the amount of work they will have and allow the contractor to resource accordingly.

There are regular monitoring meetings to go through the BCC programme and when the contractor is under-resourced BCC will prioritise the work that they have been offered to iron out peaks and troughs in workload.

At this FBC stage, information on suppliers has been finalised and presented below.

- Streetlighting contractor: Centregreat
- Traffic Signals contractor: Yunex
- Bus Shelter contractor: Clear Channel
- Traffic Sensors: Vivacity Labs Limited
- Victoria Street Lot 6 works: To be confirmed once tender is complete
- Colston Avenue Lot 5 works: To be offered to the preferred contractors in the agreed order. Lot 5 contracts may be awarded only based on cost as the contractors have already been vetted and deemed acceptable against several delivery criteria such as quality, social value, and compliance with health and safety regulations.

5.5. Payment mechanisms

Contractors submit monthly applications for payment based on a measure of the work that has been completed. Variations to the existing works package may be costed based on the contractor's submitted framework rates unless there is a reason why these would not be applicable. The contracts are managed in line with the NEC4 contract with the use of early warning notices and performance measurement indicators.

To measure performance of contractors against targets, monthly progress meetings are held, often with key stakeholders such as the network management and signals teams and a culture of mutual co-operation is fostered to successfully complete contracts. There is also the threat of delay damages written into the tender to incentivise suppliers to deliver on-time.

All correspondence between BCC and its contractors (e.g., early warning notices, requests for information, account information, payment certificates, drawings, etc.) is uploaded on to a shared file management site. It is the contractor's project manager's responsibility to manage the flow of correspondence – both generating correspondence from BCC and responding on incoming correspondence from the contractor. When correspondence is put on the site, notification is sent by email to let the other party know it has been uploaded. Early warning notices and performance measurement index registers are kept up to date by the contractor's project manager.

The contractor's project manager will regularly produce a highlight report for the attention of the BCC project manager. This will include updates on progress against the programme and any changes in forecast costs.

5.6. Pricing framework and charging mechanisms

The form of tender spells out the contract period, boundaries of the site, contractual arrangements, the arrangements for adjudication, preferred currency, and the contract period. Both parties to the contract sign a purchase order which sets out limits on invoicing. Purchase orders are managed through BCC's internal finance system). Costs and associated progress against the programme are monitored through the contract

period and BCC works with the contractor to identify any potential cost or time savings that can be exploited as the project progresses.

The contractor submits monthly remeasure accounts which are checked by the BCC site team and a payment certificate is issued against which the contractor invoices.

5.7. Risk allocation and transfer

BCC projects are well planned and supervised to ensure that the projects are well managed and therefore that risk is minimised.

Many of the risks (such as working around buried services) are apportioned to the contractor via the contract where they can be more effectively managed by the contractor.

The supply chain responsible for delivering the work will operate in accordance with the principles as set out in NEC3/NEC4. The NEC3/NEC4 operates an early warning system where both parties notify each other of any matter that could increase the prices, interfere with the timescales or impair the effectiveness of the works. An early warning register shall be maintained during the construction phase. Where change occurs, these are recorded as compensation events and the contractor may be entitled to additional payment and extension to the programme. A compensation event register shall be maintained during the construction phase.

As the project progresses the current risk register (please see management case for more information) shall be updated on a regular basis. The risk register includes items to do with funding, planning, legal, environmental, political and construction phase risks. It shall be maintained by the project manager, principal designer and the principal contractor, with appropriate support where required by the wider project team.

The specification that the BHAMaWF is based on (the Specification for Highway Works) has been developed to transfer most of the common risks across to the contractor. Common risks typically include risks such as excavating around and damaging utilities as well as third-party claims. The Method of Measurement (MoM) has also been modified to transfer or mitigate against many of the more common construction risks and where there have been previous disputes with contractors the MoM has either been tightened or additional items inserted to allow the contractor the opportunity to cost the item appropriately.

Where there is an unknown or unforeseeable occurrence on site that could affect the programme or scheme cost then an early warning notice will be issued by the relevant contractor and depending on the issue a "Risk Mitigation Meeting" would normally be organised by BCC, and BCC will then work with the contractor to agree a way forward.

5.8. Contract length

BCC plans to break the project up into 2 separate contracts using the BHAMaWF. As a small project of relatively low value the Colston Avenue Bus Lane extension will be procured utilising Lot 5 of the Framework. The Victoria Street scheme will be procured utilising Lot 6 of the Highways Framework.

Splitting delivery and letting 2 separate contracts allows the potential for the Colston Avenue Bus Lane extension to be delivered at a much faster pace. Information on key contracts and the dates that they will be let on is not currently available.

5.9. Contract management

Each project will be resourced with an NEC4 project manager and also a site manager for larger contracts. Design support will also be provided by BCC Engineering Design.

A tender report will be prepared for each contract in the programme and signed for acceptance by the relevant BCC Director under Delegated Authority. The level of authority is dependent on the size of the contract and will be in line with BCC Financial Regulations.

Nominated project manager from BCC will be responsible for overseeing the delivery of the project. Administration of contracts is a task that could easily be brought in from the private sector. In monitoring the contract, a pre-contract meeting will be held along with regular progress meetings. Invitees will depend on the stage of the works but might include, for example, Network Management, Lighting team, and Utilities. The contractor will be responsible for regularly updating the programme (so third-party dependencies can be monitored and managed). There will be target dates for key stages, such as when there are major changes to Traffic Management arrangements so press releases, consultation with businesses etc can be undertaken.

Contractors would normally issue requests for extensions of time along with a programme which would account for unforeseen site conditions or delays due to late third-party dependencies. Monthly highlight reports will be issued to the project management team to report on programme, cost and risk.

5.10. Summary

BCC has in place a robust procurement framework which has been successfully used for other projects and will be used for the A37-A4018 corridor. The framework contract used for those schemes, and the A37-A4018 corridor is the BHAMaAWF. This framework contract has been running since 2021 and is therefore well established. Lots 1, 4, 5, 6 and 12 will be used to deliver the services required.

The framework contract runs under NEC4 Terms and Conditions, and works will be awarded to a preferred supplier. Rates and payment terms are already agreed under the framework contract and works proposals will be assessed for their compliance against cost, quality and health and safety criteria.

The payment framework for the contract is well-established, and the commercial performance of the contract will be monitored on a monthly basis, jointly by the principal and the contractor. Performance damages are included in the framework contract and will be used to ensure delivery by the contractor on-time and on-budget.

There are also robust procedures in place to effectively manage risk, with the principle being that risk is allocated to the contractor where possible, to effectively manage and minimise risk. Contracts will be allocated on a package-by-package basis (i.e., not all works will be allocated in one go) in order to allow for cost overspends to be clawed back.

On the basis of the assessment provided in the commercial case, BCC is confident that the project can be delivered within the existing commercial framework contract, and that the relevant processes and procedures are in place in order to effectively manage the delivery of the project, thereby minimising risks of overspend and delays.

6. Management Dimension

6.1. Overview

The Management Dimension presents the deliverability of the scheme by covering the following: the proposed governance structures; delivery programme with key dependencies and milestones; how the project's risks will be managed; plans for effective communications and stakeholder engagement; as well as plans for monitoring and evaluation.

6.2. Promoter and Delivery Arrangements

BCC is a Unitary Authority responsible for all planning matters across the City including planning and facilitating for development growth and transport infrastructure. As a result, BCC is responsible for both developing and delivering the scheme with a formal role as scheme promoter. As the Highways Authority, BCC will be responsible for the operation and maintenance of assets upon completion of the scheme. BCC is also responsible for developing and approving works and traffic orders required to implement the scheme. Given its role as the transport planning authority, BCC has experience of delivering several similar schemes.

If approved, WECA will be the funder of this scheme with funding allocated under the CRSTS.

BCC has its own internal resource to fill the Design and Project Management Services. Bristol Engineering Design will undertake the Design Services, supported by specialists in the Street Lighting Team and Traffic Signals Teams. Project Management (PM) and PM support roles are also filled internally. Bristol City Council has engaged with a third-party contractor who will undertake any roles that can't be internally resourced.

6.3. Project Governance and Delivery

6.3.1. Project Governance

The governance approach to delivering the scheme involves a multi-disciplinary team of representatives from BCC. BCC is responsible for the delivery of the scheme itself, through a team of BCC designers and their team of contractors. Principle Public Transport Officer and Project Manager Thor Sever will be the BCC lead reporting to the Transport Strategy Manager and BCC Programme Manager Pete Woodhouse and CRSTS Programme Manager Nick Bouboussis (WECA).

The Combined Authority will provide the funding for the scheme through CRSTS subject to a decision in its Regeneration, Development and Transport monthly meeting after the FBC is reviewed by the assurance team led by the Head of Grant Management & Assurance, Pete Davis.

Malcom Parsons, the Combined Authority's Head of Capital Delivery will be the Senior Responsibility Owner (SRO) for this project. Nick Bouboussis, CRSTS Programme Manager, reports into Malcolm and also leads the Strategic Corridor Programme Review Board, consisting of representatives from the Combined Authority and the other Unitary Authority's within the Combined Authority, including BCC Programme Manager Pete Woodhouse.

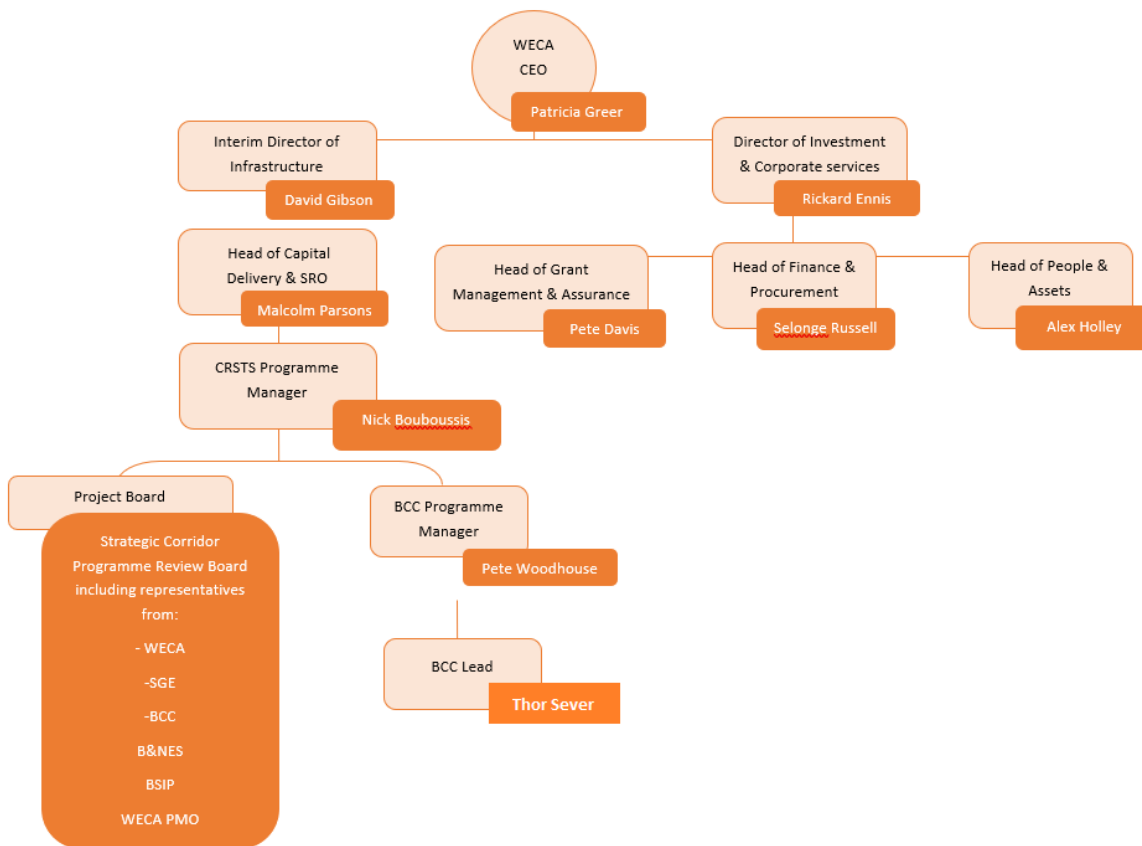
The project team currently meet on a weekly basis to discuss project progress and it is recommended that this continues when construction commences, revising frequency accordingly.

As the project progresses through the construction stages, any changes to scope, programme, cost or risks etc will be captured by the BCC PM and escalated to the CRSTS Programme Manager and the Strategic Corridor Programme Review Board.

The project will be managed internally at service level by BCC with oversight of the CRSTS programme manager at WECA adhering to the WECA governance structure shown in Figure 6-1 below.

Figure 6-1 illustrates the project governance structure of this scheme.

Figure 6-1 - Project governance structure



6.3.2. Delivery

6.3.2.1. Delivery Arrangements

This section outlines how the governance and delivery arrangements will evolve as the scheme moves into the delivery phase. The A37/A4018 Victoria Street & Colston Avenue project will not begin procurement of the main civils contract for the Victoria Street section until funding has been confirmed. It will be up to the preferred contractor to establish the construction programme and sequence the utility diversions in the best and most efficient way possible. It is not possible for BCC to programme this level of detail at the time of submission of this FBC.

Given the complex nature of the proposed interventions on Victoria Street proposals, additional efforts have been mobilised to ensure successful delivery of the scheme. Once in the delivery phase the project will be governed as follows. The BCC Project Manager and appointed NEC4 Project Manager will manage the project on a day-to-day basis. Monthly reporting on contract performance will be undertaken by the NEC4 PM - a summary of which will be included within the Project Manager's monthly highlight report. The highlight report is submitted to the Bristol Project Management Office (PMO) then to the WECA PMO. Meetings will be held regularly between the PM and NEC4 PM, as often as required, but on a monthly basis as a minimum. Every 2 weeks the BCC CRSTS Strategic Corridor SRO meets with the project PM to assess project progress and discuss how to handle current risks and issues. In addition, BCC CRSTS PM's meet bi-weekly with the WECA CRSTS Programme Manager and Project Control Officer to discuss the performance of the CRSTS projects. Any project issues that require BCC management to resolve can be taken to the Transport Management Team, which is attended by all managers from the BCC Highways & Transport function on a weekly basis.

6.3.2.2. Evidence of similar projects

BCC has a proven track record of delivering major transport infrastructure alongside considerable experience in:

- Delivering major transport schemes
- Successfully obtaining consents for major infrastructure schemes
- Developing and maintaining good working relationship with key partners and stakeholders
- Internal resourcing and governance requirements for major schemes

A few examples of BCC's successes in delivery transport infrastructure schemes are outlined in sections 6.3.2.2.1 and 6.3.2.2.2.

BCC has a proven track record of delivering major transport infrastructure projects and programmes of a similar nature and scale to the proposed scheme. Moreover, there is project management and project delivery expertise embedded within the City Transport Service across the Transport Delivery Team (TDT), Public Transport Team and others. The service area utilises the learning from these projects and programmes to continually improve project and programme delivery. Examples of major infrastructure projects including the Greater Bristol Bus Network (GBBN) infrastructure improvements and Streetspace Schemes are summarised below.

6.3.2.2.1. Greater Bristol Bus Network (GBBN) and subsequent Bus Lane Enforcement

The Joint Local Transport Plan 3 (JLTP3), adopted in 2011, identified bus priority measures as a strategic goal for the city to improve public transport. This was to facilitate faster and more reliable public transport, delivered via the GBBN and Showcase projects. Bus priority measures have since been implemented on many major strategic corridors in the city including: A4 Bath Road; A37 Wells Road, A38 Gloucester Road, A420 Church Road, A4018 Whiteladies Road, A432 Fishponds Road, and A4 Hotwells-Anchor Road.

GBBN was an £80m project implemented by all four West of England authorities with major public transport provider FirstGroup plc (First) as partner. The DfT grant total was just under £40m, with First investing £22m in new vehicles to supplement the investment from the four authorities. Following on from the FBC submission in March 2007, the design and implementation phase of the programme ran from 2008 until May 2012. In total, across the subregion, 10 priority bus corridors were upgraded, eight of which ran cross-boundary between two of the partner authorities. With a Project Manager appointed in each authority and one from First, reporting to an Independent Programme Director, monthly meetings for the duration of the project ensured good communications and a positive environment of working in partnership to deliver the ambitious programme on time and to budget.

The enforcement of these lanes is vital to achieving faster and more reliable public transport. This is principally done through an Approved Enforcement Device system using fixed cameras and signage. Penalty Notices are then issued by BCC for contraventions of TROs applying to bus lanes. BCC has issued an average of over 4,000 Penalty Charge Notices (PCN) per month since the integration of the latest lane in April 2018.

This demonstrates the BCC Operational Enforcement Team's ability to operate and enforce bus lanes and bus gates. In addition, BCC operates a dedicated Appeals Team to review and assess contested contraventions of both the Bus Lanes and Resident Parking Zones. The Appeals Team, since 2018, has processed an average of over 500 appeals per month related to Bus Lane PCNs. These resources, experience and skills will be vital to the successful delivery of traffic restrictions and then transitioning to business as usual.

6.3.2.2.2. Streetspace Schemes

In June 2020, emergency funding was awarded to BCC for the immediate implementation of measures aimed at facilitating social distancing. This project was called Streetspace Schemes.

The Streetspace Schemes were implemented to open-up road space usually reserved for parking and movement of general traffic to cyclists and pedestrians to:

- Enable better social distancing, especially in local shopping areas
- Encourage people to travel by bike or walk
- Reduce air pollution

Traffic lane closures, segregated cycle routes and pedestrian paths were all included as part of the initial Streetspace measures, all offering improvements to air quality as well as enabling social distancing.

BCC used its experience from other schemes, and plans already partially drawn up, as part of the future aspirations to implement schemes in a very short timescale. This demonstrates the ability and expertise of BCC to respond rapidly and flexibly to delivery requirements.

6.3.3. Assurance and approvals plan

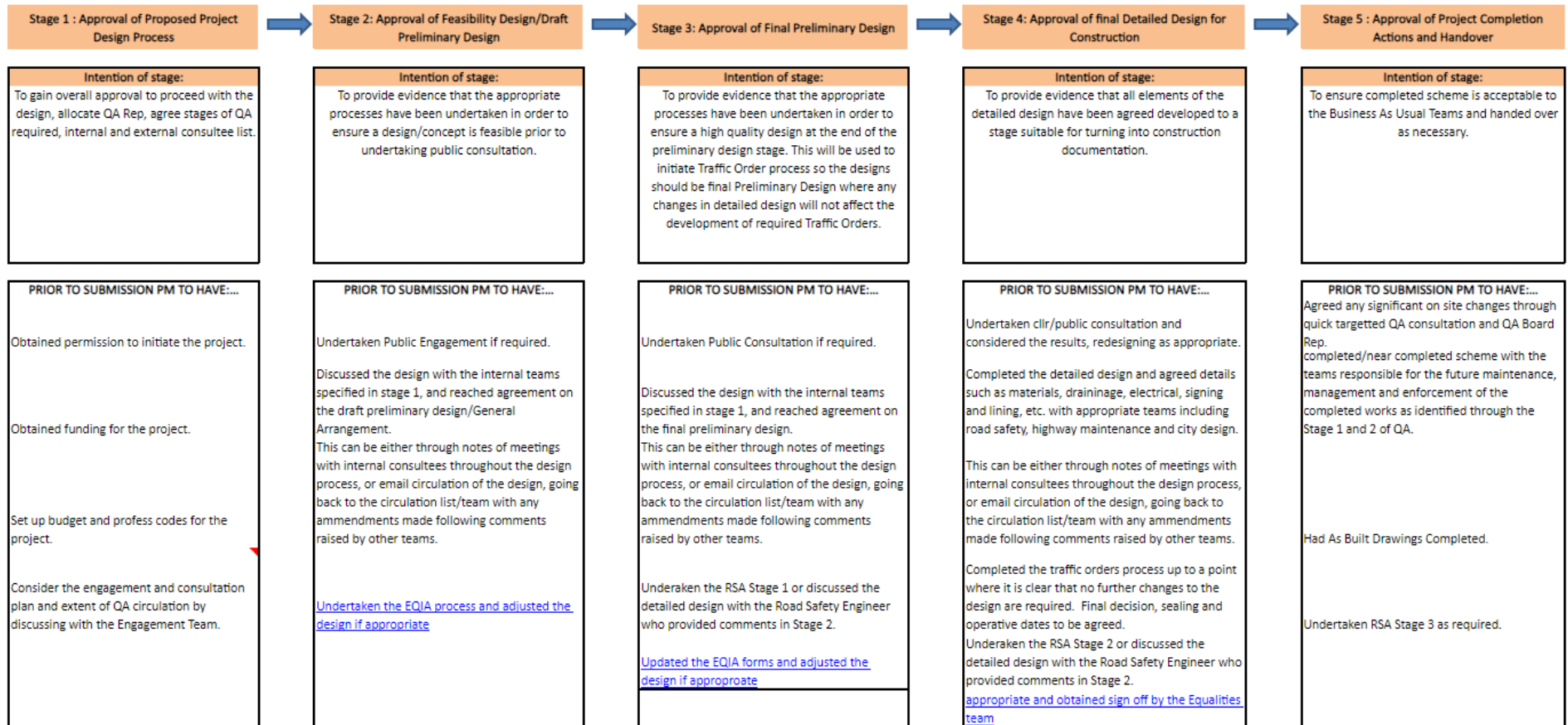
6.3.3.1. Bristol City Council (BCC)

The project board will provide assurance for the whole project. The project will be subject to BCC's internal audit processes as well as the Combined Authority's audit processes in accordance with the funding requirements. Regular reviews of the risk register will be undertaken, and lessons learnt sessions are held from other similar projects and the information from these are disseminated to the project team.

Quality Assurance for the design process within BCC is presented in Figure 6-2 below.

Figure 6-2 – Quality Assurance Process

QA Process



6.3.3.2. WECA

Any funding awarded to this project will be allocated from the West of England Investment Fund and assurance activities will take place in line with the West of England Investment Fund Assurance Framework.

All investment decisions made by WECA are the responsibility of the WECA Committee.

The specific roles and responsibilities related to the management and administration of the WECA Investment Fund and decision making, and which will govern the assurance and approvals process for this project are as follows:

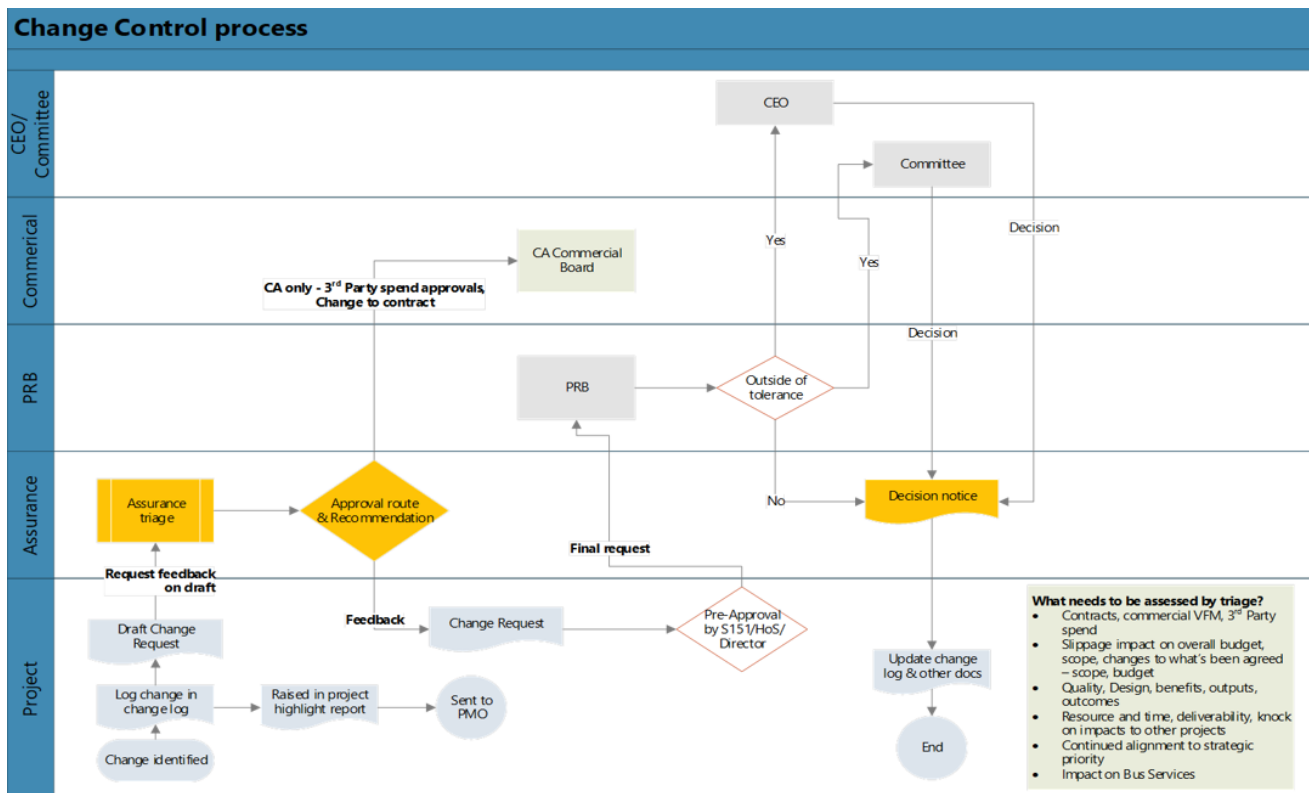
- **WECA Committee** – is responsible for making the Final Investment Decision for funding the new eastern entrance, on the basis of the evidence presented in this business case.
- **WECA Investment Panel** – comprising the Chief Executives of WECA and the constituent authorities, this panel will provide oversight of the programme and make recommendations on business case submissions to the WECA Committee.

The Combined Authority’s Investment Panel are supported by an Investment Team (and their independent technical reviewers) who are responsible for completing due diligence on the business case and providing the Investment Panel with independent advice on the results of due diligence exercises completed on the business case.

6.3.4. Change Management

The change management process is governed by the funding body WECA. If a change is required, a change request will be compiled and submitted according to the process presented in Figure 6-3 below. The decision is ultimately made by WECA and centre on changes to cost, time, scope or quality.

Figure 6-3 - Change Control Process



6.3.5. Implementation of work streams

The package of works comprises the remaining key work streams, each of which will assist towards the overall implementation of the scheme and its objectives. The key workstreams required for implementing the project are as follows:

- Approval of FBC following WECA assurance process

- Approval of FBC by BCC Cabinet
- Investment decision by WECA Chief Executive to award funding
- Procurement
- Scheme construction
- Monitoring and Evaluation

6.3.6. Key issues for implementation

There are a number of key issues for implementing this scheme which are set out in more detail below.

- Interfaces between this project and others which need managing: The Bristol Bridge project is directly relevant. The same BCC PM reports on both the Bristol Bridge project and the Victoria Street & Colston Avenue project. The immediate area of the project is currently experiencing a high degree of large-scale private development. Co-ordination with the BCC network team will be important to ensure that the necessary road space is available to enable construction of the scheme.
- Utilities and diversions: Utility diversions will be managed by BCCs in-house engineering team and all affected utility companies have already been contacted via the New Road & Street Works Act C2/C3/C4s design process. Victoria Street is known to have a complex utility network under the highway. The management of the utility challenge will be one of the key issues for implementation.
- Key stakeholder issues which need accounting for: All stakeholders have been mapped and a strategy for managing them written between the BCC PM and Engagement team lead. A tracker is kept of all interactions, stakeholders' interest and influence and this is updated regularly. Stakeholders with highest interest and influence are managed more closely with personalised communication and dedicated meetings, where necessary, e.g., First Group.
- Budgetary issues, which could affect delivery: Long with the management of utility diversions inflation is the main budgetary issue that could affect delivery, and this is being tracked.
- Given the extent of utilities diversions and subsequent infrastructure works along Victoria Street, it is important to engage transport users, residents and businesses at early stages to ensure that they are fully aware of the impacts of the works and the associated diversions. All utility works will be designed by and agreed with the statutory undertakers before the tender process. Once a contractor is appointed, they will be required to include all diversionary works by utilities in their construction programme and to coordinate with the utility company contractors. BCC is experienced in this type of work and it is to be expected in a city centre location. The impacts on road users will likely be similar to those set out in Table 3-26.

Issues and risks are identified and recorded in the risk register. Regular risk workshops will be held to revalidate risks, score them, and agree appropriate mitigating actions to reduce their potential impact on the programme.

6.4. Programme Plan

As mentioned, the overall A37 / A4018 project will be delivered in three distinct work packages:

- WP1 – FBC 1: Victoria Street & Colston Avenue bus lane;
- WP2 – FBC 2: Southern section; and
- WP3 – Revised Outline Business Case.

As this business case focuses on WP1, Table 6-1 below sets out the key programme milestones for delivering this particular work package. The full programme is set out in Appendix G, providing a detailed critical path with key milestones for all three work packages.

Table 6-1 - Key programme milestones²⁰

Milestone	Planned Date
Submission of Change Request to WECA	January 2023
Approval of Change Request by WECA Committee	March 2023
Procurement and appointment of FBC Consultant	March - April 2023

²⁰ Based on the programme presented in Appendix G.

Business Case Work	April- November 2023
Detailed Design	April - August 2023
TRO Process & Statutory Consultation	March 2023 - January 2024
WECA Assurance	November 2023 – January 2024
Decision Pathway	November 2023– February 2024 2023
BCC Cabinet & WECA RDT	February and March 2024
Procurement	April to June 2024
Tender for construction	June 2024
Construction starts ²¹	October 2024
Construction ends ²²	January 2026

As part of the construction, the Colston Avenue works will be delivered under Lot 5 (under £150,000 in value) of the BCC Highways framework contract. This way the extension of the bus lane can be delivered quickly without having to go through a more complex procurement process. This will allow the benefits associated with the extension of the bus lane to be realised well ahead of the delivery of the Victoria Street section. Procurement will be pursued under Lot 5 once BCC have received the notification of funding approvals.

Utility diversion designs (NRSWA C4 Detailed Estimate) is currently underway. The final designs will be agreed before the tender process and will include an estimate of time required to carry out the diversions and lead times. These will be provided to tenderers to allow them to price the works and then again to chosen contractor to allow them to programme the works and coordinate with the utility companies (NRSWA C5 Scheme Commencement). They will also help to ensure that the contractors construction programme allows adequate time for the diversionary works. The sequencing cannot be anticipated at this point, beyond the fact that utility works will mostly take place during the earlier works phases.

Given the complexity added to the construction works by the necessary utility works, additional risks such as delays and over-runs have been accounted for. Utility work overrunning would cause increased time to the construction programme and likely increased cost, so this should be included in the contingency for the project. This risk will be mitigated by ensuring early agreement (before the contract tender) with utilities companies and by carrying out a Ground Penetration Radar survey, which the project team also plan to carry out before going out to tender. Additionally, as part of the sunk cost expenditure associated with the scheme BCC will look to carry out a full radar scan of the utilities within the area of the Victoria Street works. This will help provide a utility map that includes depths as well as a more exact lateral position of the service infrastructure under the ground. This will provide the civils contractor with data that will allow for better planning of the works, which will make the programme more efficient while de-risking problems both programme and financial that may occur during construction, due to the presence of utilities. The radar scanning will be undertaken prior to confirmation of funding.

6.5. Risks, Constraints and Dependencies

6.5.1. Risk

6.5.1.1. Risk management strategy

The BCC Risk Management Assurance Policy²³ sets out the framework for the council's approach to systematic management of risk. The council is committed to maintaining effective control of public funds and efficient deployment and use of resources to achieve value for money.

The risk management strategy of this scheme will be implemented in line with BCC's Risk Management Framework²³. This is an integral part of how projects are developed and delivered every day.

²¹ The 16-month construction programme covers the time needed for utility diversions.

²² The 16-month construction programme covers the time needed for utility diversions.

²³ [Risk Management Assurance Policy \(BCC, 2019\)](#)

When potential risks are identified, it is important that the project team ascertains what might go wrong, what the potential consequences may be, what could trigger the occurrence and deciding how best to minimise or maximise the risk materialising. There are times however, when things will go wrong despite attempts to prevent them, which could result in 'issues' that need resolution. Proactive risk management of these will ensure the impact is kept to a minimum. BCC's approach therefore provides for both risk and issues management and maintenance of both risk and issues registers for regular review, monitoring and reporting in line with the policy set out in the Risk Management Framework.

6.5.1.2. Risk registers

The Council maintains registers to record and monitor risks at various levels. Standard risk register templates are to be used for recording risk. They include provision for recording future risks as well as risks that have already occurred which have caused 'issues' to be addressed. Where more detailed plans are in place, the risk register need not duplicate these but simply cross refer.

A risk register (presented in Appendix F) and a Quantified Risk Assessment (QRA) have been completed for the scheme following the single point probability analysis documented in Section A5.14 of the Green Book. This approach is focused on deriving the 'expected value' of a risk by multiplying the probability of this risk occurring by the costs associated with the risk materialising.

The main purpose of a QRA is to support the scheme costing to cover the construction of the scheme, by predicting the level of risk contribution, having a defined level of confidence. QRA allows for uncertainty in unplanned and unforeseen additional cost items that cannot be included in the project costs. It helps focus attention on priority areas. Consideration is given to both cost risks (financial) and schedule risks (delay).

The project risk register has identified the main risks, mitigation measures and owners. The risk register was reviewed by BCC's design and costing teams and the QRA updated accordingly on a regular basis. The management strategy will enforce a systematic approach to responding to the various risks during the project lifecycle and will continuously look to avoid, mitigate, transfer, or accept risks. In many cases, additional technical work or surveys, or early discussions with partners, will reduce or mitigate risks. Risk control measures, such as preventive, corrective, directive or detective measures will be in place to treat risks. Delivery and contractor teams will be responsible for managing their risks and reporting any newly identified risks to the PM. Risks escalated to Medium or High which could impact on the progress or financial position of the project will be referred by the BCC PM.

Risk assessments and experience from other similar projects have identified inflation and utilities as the two major risks on the project, impacting its value for money and affordability. However, due to the overall benefits of the scheme, the impacts are not detrimental to the project although this requires registering.

In terms of inflation, Table 6-2 below shows that for recent projects, their estimated base civil costs at the time of funding acceptance are lower than the actual contract that was let. Issues with the supply chain in the post-pandemic period, as well as inflation caused by the Ukraine war and government policy, all combined to deliver unusual inflationary pressures that were borne out with the higher than estimated base civils costs.

Table 6-2 - Recent BCC Projects and their estimated and actual base civil costs

Project	Funding Body	Estimated base civil costs within Funding Bid	Actual base civil costs on contract award	Comments
Bristol Bridge	Transforming Cities Fund/CRSTS	£402k September 2022	£501k March 2023	
Old Market Gap	ATE	£482k September 2022	£657k March 2023	(Was £280k on old 2017 framework but revised to £482k on the new 2021 framework)

In terms of utilities, there are currently £1,024,896 of base costs attributable to utilities within the A37/A4018 Victoria Street & Colston Avenue FBC. Recent experience on the CRSTS-funded Bedminster Green project (still currently in delivery) has resulted in an increase of real utilities costs at 50% greater than initially estimated with a further 20% inflation on the original C4 quotes themselves. The Victoria Street corridor is a significant

utility conduit within the city and can be expected to be as challenging as conditions found on the Bedminster Green corridor.

6.5.1.3. Escalation of risk

The council’s Risk Management Assurance Policy relies on escalation of risks from service/operation level through to strategic Corporate Risk Report to ensure the Corporate Leadership Board (CLB) and Members are aware of the most significant risks.

As part of this process consideration can be given to the actions proposed to manage the risk, whether the tolerance level recorded is appropriate and whether it is aligned to the correct service area. Additionally, in reviewing the Corporate Risk Report both the Corporate Leadership and Cabinet may identify risks to which the assessment may need to be revised or risk transferred.

Risk with high risk score (14 to 28/ amber and above) on the risk matrix need to be escalated at Executive Directorate Management meetings for consideration for inclusion in the Corporate Risk Report (CRR). All risks scoring 20 to 28 (high, critical / significant risk) will automatically be escalated to the CRR. Issues that have arisen that are significantly impacting on the council are recorded within the CRR.

The Executive Director Management will determine where risks are monitored via the Directorate Risk Report and Service Risk Registers. Escalations must be flagged in a timely manner to enable discussion prior to the next quarterly Executive Team Risk meeting.

Directorate Management Teams will consider what core risks need to be escalated to the Corporate Risk Report and if so, the Strategic Director must ensure this escalation occurs through the reporting process.

Where a significant and urgent risk emerges outside of the reporting period which you believe needs to be discussed as soon as possible complete a Risk Escalation Report to the appropriate manager for discussion and action.

6.5.1.4. Responsibility for risk management

Effective Risk Management requires that there is clarity of the responsibilities for risk, and ownership of the risks identified. This policy requires that the elected Mayor, Members and managers at all levels assist in, and take responsibility for, identifying, considering and controlling risk and opportunities (and the better use of resources) in all their activities and areas of responsibility.

Below provides a summary of who is responsible for risk management across the organisation.

Table 6-3 - Overview of those responsible for risk management across BCC

Group / Individual	Responsibilities
Members	
Elected Mayor and Cabinet	<ul style="list-style-type: none"> • Determine overall risk tolerance for the Council and for each corporate risk. • Ensure consideration of risk in decision making. • Quarterly review of Corporate Risk and Issues Registers. • Mayor to sign the Annual Governance Statement. • Approve the Risk Management Policy.
Cabinet Member Leads	<ul style="list-style-type: none"> • Oversee risks relating to their portfolio. • Oversee risk management policy (Cabinet Member Resources).
Scrutiny	<ul style="list-style-type: none"> • Challenge decisions made by Cabinet where risks have been not properly considered. • Task and finish groups can request risk information for areas in line with their roles.
Audit committee	<ul style="list-style-type: none"> • Provide independent assurance to the Council on the effectiveness of risk management and internal control by: <ul style="list-style-type: none"> - Reviewing the Corporate Risk Register to ensure it is reflective of the strategic risks to the delivery of the Council’s objectives and management of risk is effective.

	<ul style="list-style-type: none"> - Scrutinising the Annual Governance Statement to ensure it is a correct reflection of internal control, risk management and governance. - Receiving reports from Internal Audit, External Audit and other inspection bodies indicating strengths and weaknesses in internal control, risk management or governance.
Officers	
Programme Sponsor	<ul style="list-style-type: none"> • The sponsor is accountable for ensuring that the work is governed effectively and delivers the objectives that meet identified needs. The project sponsor is responsible for overseeing the delivery of the scheme benefits.
Senior Responsible Officer	<ul style="list-style-type: none"> • The SRO is accountable for the project meeting its objectives, delivering the projected outcomes and realising the required benefits. They are the owner of the business case and accountable for all aspects of governance.
Chief Executive - Head of Paid Service	<p>Overall responsibility to:</p> <ul style="list-style-type: none"> • Ensure the Annual Governance Statement is an accurate reflection of internal control, risk management and governance (Head of Paid service to sign.) • Oversee corporate and cross cutting risks (CRR) and resolve conflicts and competing demands for resources.
Strategic Director – Resources	<ul style="list-style-type: none"> • Lead a quarterly review of Corporate Risks with the Strategic Leadership Team and the Cabinet. • Arrange for the annual review of the risk management policy. • Support the roll-out of a risk management framework across the Council, including advice and training, including to Members. • Report progress with risk management to Members, particularly the Audit Committee, and to Strategic Directors.
Executive Director – Growth & Regeneration	<ul style="list-style-type: none"> • Overall responsibility for Civil Contingency and Business Continuity Planning (informed by the Corporate Risk Register, Directorate Risk Register, and by liaison with Civil Protection unit, and: • Act as the Business Continuity lead officer. • Ensure that strategic decisions do not undermine organisational resilience or adversely affect the ability of the Council to respond and maintain the delivery of critical services, during emergencies and disruptions. • Act as the Senior Information Risk Owner (SIRO) for the Council.
Strategic Directors – All	<ul style="list-style-type: none"> • Ensure there are effective risk management arrangements in their directorate in line with this policy. • Maintain the Directorate Risk Register, ensure it is reviewed at least quarterly by the Directorate Leadership Team and that risks are escalated to the CRR where appropriate. • Approve actions/plans with residually high risk i.e., those outside the City Council’s risk tolerance and where necessary are escalate to SLT. • Ensure key decision reports contain balanced and considered risk assessments.
Monitoring Officer	<ul style="list-style-type: none"> • Provide assurances regarding overall legal risk management of the Council for the Annual Governance Statement and input to risk registers as required.
Service Director – Finance	<ul style="list-style-type: none"> • Identify and monitor key revenue budget and capital programme risks. • Ensure appropriate external insurance cover, and as s151 Officer provide assurances regarding overall financial risk management of the Council for the Annual Governance Statement.
Service Directors – third and fourth tier / service managers	<p>Ensure that risks to services are properly managed and that:</p> <ul style="list-style-type: none"> • Service team risk and issues registers are maintained as needed and reviewed regularly.

	<ul style="list-style-type: none"> Any significant new risks identified through the business planning process are fed through to the line manager and escalated for consideration by the Directorate Leadership Team. The Risk Management Framework is embedded in their Service areas, and that staff are aware of the underlying risk management principles.
Internal audit	<ul style="list-style-type: none"> Plan audit work to take into account key risks, and how effectively they are managed providing assurances for the Annual Governance Statement, the Corporate Risk Register and Audit Committee. Undertake periodic reviews of the effectiveness of risk management. Undertake proactive fraud prevention and detection work based on an assessment of fraud risk to the Council. Prepare, on behalf of the Mayor and Head of Paid Service, the Annual Governance Statement.
Civil Contingency Manager / Civil Protection Unit	<p>Ensure:</p> <ul style="list-style-type: none"> Service continuity risks affecting a critical service are addressed in a Business Continuity Plan and reflected in the Directorate Business Continuity Plan. The Directorate Leadership Teams are aware of emerging new high risks to business continuity planning. Ensure Corporate Continuity Planning takes account of risks in the Corporate, Directorate and Service Planning Risk Registers, as well as external risks in the Community Risk Register. Promote and assist contingency planning and business continuity at Corporate, Directorate and Service Delivery level to mitigate risks outside the Council's risk tolerance.
Strategic Intelligence and Performance Team	<ul style="list-style-type: none"> Support the development of strategic and service planning which ensures robust consideration of risk in achievement of objectives.
Councillor(s) Support Officers	<ul style="list-style-type: none"> Monitor inclusion of a risk assessment in all reports to Cabinet requiring a decision.
Corporate Safety Team	<ul style="list-style-type: none"> Provide technical and advisory assistance to Strategic Directors, Managers and staff to promote and maintain effective safety, health, and welfare services. Conduct audits of health and safety arrangements, including the completion of Health and Safety risk assessments.
All Staff	<ul style="list-style-type: none"> Be familiar with the Risk Management Policy. Maintain an awareness of risks, and feed into the formal processes, including alerting management to: <ul style="list-style-type: none"> Risks which are not effectively managed, or the level of current risk is unacceptably high (amber or above). Issues that arise or near misses.

6.5.2. Project Dependencies

The successful delivery of the project will depend on the effective management of several project and programme dependencies. There are several dependencies that need to be acknowledged in the delivery of the proposed intervention, including:

- Bristol Bridge works:** The Bristol Bridge project is currently being delivered at the time of writing. The Bristol Bridge project connects directly to the northern section of the Victoria Street project with both designs sharing the bi-direction segregated cycleway that runs along the western bridge deck and the western side of Victoria Street. This project is due to complete in December 2023 with the Victoria Street project due to commence on site in summer/autumn 2024.
- Statutory Consultation:** The consultation on the bus lane amendments, movement restrictions and waiting and loading restrictions is due to take place in October 2023. An objection report will need to be compiled and signed off by BCC decision makers in order for the scheme to implement movement, waiting and loading restrictions and formalise the road humps (continuous footways) that would be necessary to implement the scheme.

- BCC cabinet or delegated approval of the scheme is required (i.e. any schemes with a construction cost in excess of £500,000 is a key decision that needs cabinet approval). This is anticipated in February 2024 before the funding decision to be made by Combined Authority Directors during the same month.
- WECA CRSTS programme: This project forms part of the A37/A4018 corridor project which in turn falls into the WECA CRSTS programme. All WECA CRSTS projects need to have substantially completed delivery by March 2027.
- Resources and infrastructure required from third party suppliers: Ensure third parties are engaged at an early stage, and timescales, expectations and risks are all understood.
- Securing funding agreement from WECA to accommodate cost overruns: Ensure WECA Programme Management and BCC Senior Management and Finance are engaged and secure appropriate agreements for sign-off.

6.6. Stakeholder Engagement

6.6.1. Early stakeholder engagement

As part of original project covering all three sections of the wide A37/A4018 transport corridor, the council conducted early engagement in partnership with WECA on introducing significant improvements to the A37/A4018 transport corridor following the number 2 bus route in July to September 2020. Over 245 stakeholders and 1200 local businesses were engaged, and 1261 comments were received from the public through the survey, mapping tool, emails, and phone calls. The main themes from the early engagement were:

- Nearly 80% of respondents agreed with taking road space away from the car and providing more walking, cycling and bus infrastructure.
- Over 70% strongly agreed that safe crossing points and feeling safe were key for the transport corridor and were closely followed by clean air and places to walk and cycle.
- 60% of respondents felt bus priorities to speed up journey times were fairly or very important.

The number 2 bus route falls within the geographical scope of the scheme extent. It passes through Victoria Street and Colston Avenue, areas where the proposed bus improvement interventions will be implemented. Therefore, the outcome of this engagement continues to be relevant to this FBC and should be taken into account throughout its development.

6.6.2. Public consultation

6.6.2.1. Approach to public consultation

Between 29 November 2021 and 28 January 2022, Bristol City Council in partnership with WECA conducted consultation on proposed transport improvements to the number 2 bus route which follows the A37 and A4018 roads.

- Information on the scheme was presented to the public in the following ways:
- Letters to properties along the route and to those affected by possible road closures
- Posters in local bus services
- Posters were put up in the local area to raise awareness of the survey
- Online survey was compatible with word reader software
- Local stakeholders and community groups were asked to help raise awareness of the survey
- Promoted the survey via online social media platforms which appeal to different age ranges
- Officers conducted two 'town hall' virtual meetings with local businesses, stakeholders, and residents to present the three possible schemes and hear feedback.
- Officers held several drop-in sessions and on street surveys across the entire route during the consultation period

For this consultation, the project was split into three distinct sections (a Northern, Southern and Central section), to allow stakeholders to provide comments only on the sections that affected them.

For each location, the format of the survey followed a simple design:

- the proposal with a key showing the proposed changes
- supporting text outlining what we are proposing and why we are proposing this
- followed by questions

The public were consulted through a number of different avenues, which included:

- a virtual consultation
- face-to-face engagement and promotion (including drop-in sessions door knocking and on-street events)
- direct consultation with key stakeholders via email

6.6.2.2. Consultation results

In November 2021 to January 2022 we ran an engagement survey which showcased the proposals for each section of the route, including Victoria Street. Feedback showed that 78 per cent of respondents strongly agreed or agreed with the proposed transport changes.

Some of the supportive comments noted that since bus gates have been installed on Bristol Bridge traffic is already significantly reduced and improvements to the public realm were welcomed, as it makes the street a friendly destination as well as a through route. Some strongly welcomed the dedicated segregated protected cycle lane along Victoria Street and thought the wider paved areas for cafes and pedestrians were brilliant but wanted it made clear who has right of way on continuous pavements at junctions.

However, some felt the removal of the right turn into Victoria Street from Counterslip was not required and would make access to Redcliffe Street difficult. There were also some concerns raised about the floating bus stop and the risk of collision between cyclists and pedestrians getting on and off buses. Others voiced concerns about loss of parking on the street. Through conversations with local business and the Redcliffe and Temple Business Improvement District, we have created a parking plan that shows locations of the on-street car parking that will remain if these proposals are taken forward.

6.6.2.3. Future consultation

Further consultation on this scheme includes the upcoming statutory consultation to be held in late October 2023 as part of the Traffic Regulation Orders (TRO) process. It will be on the traffic regulations including moving, loading and waiting restrictions.

6.6.3. Other stakeholder engagement – Victoria Street Information Exercise

An information exercise to inform stakeholders in the Victoria Street area of the upcoming statutory consultation (October 2023) was carried out in June 2023. This work was supported by the Redcliffe and Temple Business Improvement District. The exercise highlighted how the specific project for Victoria Street was separated from the original corridor project with its own trajectory. 2098 letters were sent to businesses and residents within the local area and retail frontages were visited by the BCC project team to inform them of the proposals and the upcoming statutory consultation.

6.6.4. Communications Plan

Given the extent of utilities diversions and subsequent infrastructure works along Victoria Street, one of the highlighted key issues for implementation includes engagement and communication with stakeholders to convey the anticipated impacts and manage expectations. Targeted stakeholder groups should include transport users (e.g. bus users, pedestrians and cyclists who pass through the area), residents, and businesses (e.g. shops, restaurants, student accommodation and a hotel located on Victoria Street). A communications plan has been developed to outline all engagement activities prior to the start of, during, and after the project and the relevant details. This is presented in Table 6-4 below.

Table 6-4 - Communications Plan

Who	How	Inform/involve/consult	When
West of England Combined Authority	Briefings	Consult and gain buy-in	As necessary, and at key decision points
BCC Cabinet	Briefings	Inform, involve, consult and gain buy-in	As necessary, and at key decision points
BCC Transport Management Team	Briefings	Consult and gain buy-in	As necessary, and at key decision points
Public	Press releases and website	Inform, raise awareness	As project progresses
Redcliffe and Temple Business Improvement District	Regular meetings	Inform, involve, consult and gain buy-in	As project progresses
Media and social media	Press releases. Twitter account	Inform	As project progresses
Bus and coach operators	Inform	Consult and gain buy in	As project progresses
Emergency services	Regular meetings	Consult and gain buy in	As project progresses
Statutory bodies – Environment Agency, Natural England and English Heritage	Regular meetings	Inform, consult and seek approval	As necessary to achieve licenses

Details and dates of the press releases for the various planned milestones of the project are presented below in Table 6-5.

Table 6-5 - List of releases

Release	Content	Timing
Press release	Announcement of successful funding bid	Post WECA RDT meeting of February 2024 and prior to the start of the construction works
Press release	Announcement of works beginning.	Late 2024 (post contractor appointment and programme agreement)
Blog/ press release	Ongoing updates of the progress of the project	During the construction programme
Press release	Announcement of completion of works	Post project completion

6.7. Benefits realisation

To ensure that project benefits are successfully realised, several systems are in place. These systems are largely not project-specific, as the Council has several different projects focusing on improvements to sustainable travel provision. For instance, through the Engagement team, officers are employed to engage with businesses, communities, and schools to communicate improvements to sustainable travel infrastructure, as well as encouraging its use. These officers provide on-site roadshows, door knocking of associated businesses, and printed materials to raise awareness of completed schemes. This will help to raise awareness of the new walking and cycling infrastructure post-construction.

Beyond these well-tested methods, continuous improvement is also underway to ensure we realise the benefits of each of our schemes. Going forward, the Council has formalised a new engagement approach that increases the importance of both early engagement and benefits realisation, two key areas that result in higher resident satisfaction, greater likelihood of project success, and can always be improved.

This new approach has been applied to the improvements going forward. A benefits realisation plan has been drawn up and included in Appendix E. Closely aligned to the approach to monitoring and evaluation, the benefits realisation plan has been developed to ensure that the objectives of the scheme will be met.

6.8. Monitoring and Evaluation

Monitoring and evaluation are essential parts of any infrastructure project. This provides an opportunity to improve performance by reviewing past and current activities, with the aim of replicating good practice in the future and eliminating mistakes in future work. BCC have a responsibility to report on how funding is being utilised and how its expenditure represents value for money to the taxpayer and how spending aligns with the scheme objectives. This section outlines the Monitoring and Evaluation Plan for the A37/A4018 Victoria Street project.

The scheme will be monitored against a set of standard measures. The various monitoring measures are considered in terms of the key stages of the scheme, these are:

- Inputs (i.e. what is being invested in terms of resources, equipment, skills and activities undertaken to deliver the scheme);
- Outputs (i.e. what has been delivered and how it is being used, such as infrastructure built, bus services delivered);
- Outcomes (i.e. intermediate effects, such as changes in traffic flows, modal shifts); and
- Impacts (i.e. longer-term effects on wider social and economic outcomes, such as supporting economic growth).

6.8.1. Rationale and logic model

The development of a Monitoring and Evaluation Plan is informed by the benefit realisation plan above and the logic map for the proposed intervention.

The logic map is presented in the Strategic Dimension in Figure 2-6. The objectives of the scheme are:

- **Faster and more reliable bus journeys.** Improve journey time, punctuality and reliability of bus services along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.
- **Mode shift.** Increase the proportion of trips made by bus, cycling and walking along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.
- **Environment.** Reduce levels of air pollution and CO₂ emissions along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.
- **Urban realm.** Enhance streetscape, public spaces and urban environment along the Victoria Street and Colston Avenue sections of the A37-A4018 corridor.
- **Safety.** Improve road safety along the Victoria Street and Colston Avenue sections of the A37-A4018 corridor.

As part of the evaluation, we will monitor whether the scheme has achieved these objectives. Further information on the approach to this are set out in the subsequent sections below.

6.8.2. Monitoring and Evaluation Plan

Shown below in

Table 6-6, the monitoring and evaluation plan is set out with reference to that of the A4 Portway Park & Ride, a scheme with similar format which has been approved by WECA Management Assurance.

Table 6-6 - Components of Monitoring

Item	Project Input/ Output/ Outcome	Measurement	Data Collection Report	Frequency	Data source
Outturn costs	Output	Monetary	1 year after 3 years after	Annual	BCC
Scheme Objective 1: Improvement in bus journeys – Improve journey time, punctuality and reliability of bus services along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor	Output/ Outcome/ Impact	Real-time information units and commercial operators pertaining to delay and occupancy data	1 year after 3 years after	Annual	BCC
Scheme Objective 2: Modal Shift – Increase the proportion of trips made by bus, cycling and walking along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor	Output/ Outcome/ Impact	Traffic data	1 year after 3 years after	Annual	BCC
Scheme Objective 3: Safety – Improve road safety for active travel mode users along Victoria Street and Colston Avenue.	Output/ Outcome/ Impact	Road collision history data Traffic data	1 year after 3 years after	Annual	BCC
Improved journey time by bus for users	Outcome	Realtime information for bus services Passenger surveys	1 year after	Quarterly	Bus operators
Increased bus patronage	Outcome	Bus patronage data Passenger surveys	1 year after 3 years after	Quarterly	Bus operators
Improved active travel	Outcome	Pedestrian and cyclist counts	3 years after	Annual	BCC

6.8.3. Data Collection Methods

As part of the programme of monitoring, data will be collected (before and after scheme construction), to assess how the impacts of the scheme are progressing in relation to predictions. This data will be analysed to better understand the consequences and causality of the scheme measures.

To ensure the benefits have been realised post scheme opening and monitoring and evaluation will be carried out. The monitoring and evaluation will assess the scheme impacts on, but not limited to:

- Real-time information units and commercial operators pertaining to delay and occupancy data
- Traffic data
- Road collision history data

Real-time information units and commercial operators pertaining to delay and occupancy data

This information has been used to calculate the benefits in this business case and can be used in the opening year one as a basis for the baseline report. This would focus on data collection from bus stops between Rupert Street and St Augustine’s Parade/Colston Avenue/Broad Quay.

Traffic data

At present there are 2 x Traffic (Vivacity) sensors in operation at the north end of Victoria Street that were installed by the Bristol Bridge project. The sensors use artificial Intelligence to count shapes and break them down into traffic classes such as Bus, HGV, Cars, bicycles, scooters and pedestrians. The sensors are in operation 24 hours a day and seven days a week and have been operating since December 2020. In addition, as part of sunk costs prior to the funding provided by this business case, it is recommended that a suite of 8 Vivacity sensors is installed along the Victoria St corridor to supplement the 2 sensors already in situ. Together the sensors would provide data that would allow for a complete picture of active travel on Victoria St following delivery of the scheme. This data source would form a comprehensive foundation for reports in year 1 and 3 for the uptake of Active Travel. The sensors would focus on the highway, cycleways and footways allowing for in depth analysis on the scheme’s interventions.

Road collision history data

Road collision history data has been used as part of the data base for this business case. Road collision history data will be harvested for the reports in year 1 and 3 that will allow for comparison in terms of how the schemes interventions are affecting road safety on the corridors. In addition, 2 of the traffic sensors on Victoria Street will be fitted with Near Miss analysis technology. This function will flag near misses between cars, pedestrians and cyclists at particular count lines which will provide further evidence as to how the scheme is operating from a safety point of view.

6.8.4. Data collection and baseline

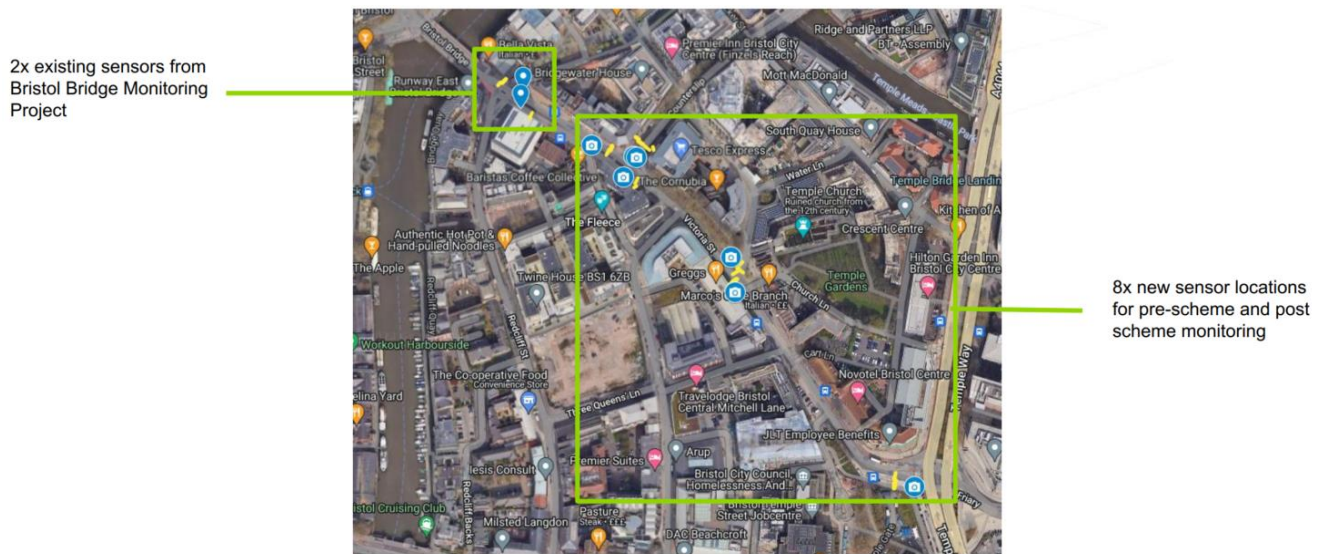
Vivacity Traffic Sensors will be installed on site to capture the before and after picture. The sensors use artificial intelligence technology to count shapes which enables the data to break down into class such as bus, cyclist, walker etc. The sensors also record information on a 24/7 basis. The proposed details regarding the installation of these sensors are presented in Table 6-7 below. The locations also illustrated in Figure 6-4.

Table 6-7 - Proposed installation of Vivacity Traffic Sensors

Location	Data Collection	Number of sensors	Location Considerations
Victoria Street/ Bath	<ul style="list-style-type: none"> • Tracks • Near Miss (floating bus stop) 	2 (existing)	Countlines will be set up initially for pre-scheme monitoring and can be adjusted once new infrastructure is in place
Victoria Street/ Counterslip	<ul style="list-style-type: none"> • Classified Counts • Tracks 	2	Countlines will be set up initially for pre-scheme monitoring and can be adjusted once new infrastructure is in place
Victoria Street/ Temple Street	<ul style="list-style-type: none"> • Classified Counts • Tracks 	2	Countlines will be set up initially for pre-scheme monitoring and can be adjusted once new infrastructure is in place
Victoria Street/ Temple Way	<ul style="list-style-type: none"> • Classified Counts • Tracks • Near Miss (floating bus stop) 	1-2	Countlines will be set up initially for pre-scheme monitoring and can be adjusted once new infrastructure is in place

N.B.: Final sensor locations and data fields subject to technical approval and site visits

Figure 6-4 - Locations of Proposed Vivacity Traffic Sensors



In terms of calculating the benefits of this scheme they will be of particular importance in capturing data of how the new segregated cycleway is used, the pedestrian footfall in the larger footway areas and the use of the new bus stops.

6.8.5. Reporting

It is currently assumed that data collection and reporting of monitoring and evaluation findings will be revised at two time points, from just before the scheme is constructed to 1 year following scheme completion. These findings will be presented in the following two reports:

- Baseline report (due 2024/25): This report will present data recorded along the corridor before the scheme is opened to the public,.
- ‘One year after’ report (due 2027): This report will be completed approximately 1 year after the scheme is opened.
- ‘Three years after’ report (due 2029): This report will be completed approximately 3 years after the scheme is opened.

6.8.6. Resourcing and governance

A BCC Officer will be appointed to oversee the monitoring and evaluation and to produce the reports, with potential consultant support. Pre-scheme data should be collected once Full Scheme Approval has been granted. BCC will provide the contact details of the nominated officer once the project has received funding approval. BCC will be responsible for risk management and quality assurance.

6.8.7. Dissemination

Reports will be shared with stakeholders and decision-makers via email, meetings, and briefings.

6.8.8. Summary

Responsible for both developing and delivering the scheme with a formal role as scheme promoter, BCC has in place a robust project governance approach which involves a multi-disciplinary team of representatives from BCC including BCC designers and contractors, Senior Public Transport Officer, Project Manager, Transport Strategy Manager, BCC Programme Manager, CRSTS Programme Manager. BCC’s experience in delivering similar transport infrastructure should be helpful for this scheme.

The delivery of the wider A37/A4018 project will be managed internally at service level by BCC with oversight of the CRSTS programme manager. Meanwhile, WECA will be responsible for making investment decisions and

governing the change management process. Assurance activities will take place in line with the West of England Investment Fund Assurance Framework.

The remaining key work streams (e.g. approval of FBC following WECA assurance process by BCC Cabinet, investment decision by WECA Chief Executive to award funding, procurement, scheme construction, monitoring and evaluation) are outlined in the Management Dimension, with key dates planned in the programme.

The risk management strategy of this scheme will be implemented in line with BCC's Risk Management Framework, which sets out procedures of risk escalation and responsibility for risk management. A risk register has been produced, detailing the main risks, mitigation measures and owners.

Stakeholder engagement activities include an information exercise to inform stakeholders in the Victoria Street area of the upcoming statutory consultation (October 2023) in June 2023. A further upcoming statutory consultation will be held in late October 2023 as part of the TRO process.

To monitor the delivery of the scheme and ensure that the expected benefits are realised, Benefits Realisation Plan and Monitoring & Evaluation Plan have been produced, detailing the appropriate indicators that will need to be assessed. Relevant data will be sourced from historic data and collected using Vivacity Traffic Sensors; and results will be reported in the first and third years following the opening of the scheme.

Appendices



Appendix A. Policy Review

A.1. National Policies

A.1.1. National Policies

The following strategies and policies of national importance published by the Department of Transport (DfT) have been considered due to their relevance to this scheme.

- DfT Transport Investment Strategy (2017)
- DfT Bus Back Better: National Bus Strategy for England (2021)
- DfT Gear Change: A bold vision for walking and cycling (2020)
- DfT Transport Decarbonisation Plan (2021)
- DfT Cycle Infrastructure Design Local Transport Note (LTN) 1/20 (2020)

The scheme will aim to promote cycling and walking (DfT Gear Change and DfT LTN 1/20) and increase bus patronage numbers by cutting bus journey times along the route (DfT Bus Back Better). By facilitating modal shift away from car to more sustainable modes of transport (DfT Transport Decarbonisation Plan, DfT Transport Investment Strategy), the scheme will help further the objectives of the above policies.

A.1.1.1. DfT Transport Investment Strategy

The DfT Transport Investment Strategy was published in July 2017 and sets out four priorities. The transport objectives' fit with these is outlined below.

1. Create a more reliable, less congested, and better-connected transport network that works for the users who rely on it

The scheme aims to benefit existing transport users as well as new users who will switch to either bus or active mode use due to the improvements along the corridor. Remaining road users will benefit from a reduction in congestion and therefore improved journey time reliability.

2. Build a stronger, more balanced economy by enhancing productivity and responding to local growth priorities

The scheme aims to facilitate planned developments in the local area, connecting developments in the Temple Quarter (e.g., the new University of Bristol campus, future employment, and residential developments in the area) to the rest of the city, particularly the Old City Shopping District and the main University of Bristol Campus.

3. Enhancing our global competitiveness by making Britain a more attractive place to trade and invest

The scheme is not expected to have a direct impact on trade flows or international connectivity. However, interventions in the Victoria Street corridor will link the Temple Quarter with the Old City Shopping District, contributing towards nationally significant growth aspirations in the Temple Quarter.

4. Support the creation of new housing

While new housing developments are located in the north of the city, increased transport demand within the city of Bristol is expected from these new residents generally. The scheme will support the delivery of housing through (amongst other measures) alleviating such additional pressure on the transport network.

A.1.1.2. DfT Bus Back Better: National Bus Strategy for England²⁴

Bus Back Better was published in March 2021 to improve bus services across England and to rebuild back better following the COVID-19 pandemic. There are five key facets of the policy:

²⁴https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/980227/DfT-Bus-BackBetter-national-bus-strategy-for-England.pdf

The introduction of new operating models (for example Local Transport Authorities (LTAs) and Bus Operators enhanced partnerships).

- Improving customer experience (through enabling faster, more reliable and fully integrated services).
- Increasing the focus on improving efficiency and reducing emissions.
- Introducing multimodal tickets and high-quality passenger information.
- Providing Government funding for LTAs to produce ambitious Bus Improvement Plans.

In response to Bus Back Better, the Combined Authority released a Bus Network Recovery and Bus Infrastructure Programme in June 2021, updating its key activities and work programme to reflect changing priorities due to COVID and Bus Back Better through the development of a Bus Service Improvement Plan (BSIP). According to the BSIP, the LTA must:

- **DfT Cycle Infrastructure Design Local Transport Note:** Be updated annually and reflected in the Joint Local Transport Plan.

The BSIP will aim to achieve a more co-ordinated network with convenient and reliable bus services and affordable fares. The A37-A4018 transport corridor scheme will aim to build on the BSIP by providing targeted infrastructure that will improve bus service journey times and reliability and improve passenger facilities.

A.1.1.3. DfT Gear Change: A bold vision for walking and cycling²⁵

DfT's 'Gear Change' report was published in July 2020. This policy describes the plan of the UK Government to improve access to, and the quality of, cycling infrastructure within the UK. The key points of the vision document are:

- Better streets for cycling and people (more and better-quality cycle routes, more 'school streets' to protect cycling children).
- Cycling at the heart of decision making (increase in short-term and long-term funding for improving cycling).
- Empowering and encouraging Local Authorities (increased funding for Local Authorities, as well as more powers and better assistance).
- Enabling people to cycle and protecting them when they do (better access to cycling training and protection from bike theft).

Following publication of the vision document, DfT now expects consideration is given to improvement of facilities for walking and cycling in all transport schemes that are seeking DfT or devolved funding from Mayoral Combined Authorities (MCAs – in this case the funding body for this scheme - the Combined Authority) and Local Enterprise Partnerships (LEPs).

The proposed intervention along the A37-A4018 corridor within this FBC will help to achieve the vision as set out in the Gear Change publication. Segregated cycle paths along Victoria Street are aimed at cyclists and will help make cycling a more attractive mode of transport and therefore help increase cycling's mode share in the city.

A.1.1.4. DfT - Decarbonising Transport: A Better, Greener Britain

In June 2019, parliament passed legislation requiring the government to reduce the UK's net emissions of greenhouse gases by 100% relative to 1990 levels by 2050. Doing so would make the UK a 'net zero' emitter.

Accelerating the shift to zero emission vehicles is one of the priorities in creating an environmentally sustainable economy. Coupled to a commitment to end the sale of new petrol and diesel cars and vans from 2030 (a decade earlier than initially planned), it forms one of the points in the Government's Ten Point Plan for a Green Industrial Revolution, published in November 2020.

The DfT published 'Decarbonising Transport: A Better, Greener Britain' in July 2021. The plan sets out in detail the actions required to significantly reduce emissions from transport to achieve carbon budgets and net zero emissions across all modes of transport in the UK by 2050 and covers commitments, timings and actions related to two main themes: 'Decarbonising all forms of transport' and 'Multi-modal decarbonisation and key enablers'. The main themes are split into the following commitments:

²⁵https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf

- Increasing walking and cycling: Aim to have half of all journeys in towns and cities cycled or walked with over £2 billion invested over the next 5 years in order to help make cycling or walking a natural first choice for many journeys.
- Increasing walking and cycling: Deliver of a world class cycling and walking network in England by 2040.
- Delivering decarbonisation through places: Increase in active and public travel funding.
- Delivering decarbonisation through places: drive decarbonisation and transport improvements at a local level by making quantifiable carbon reductions a fundamental part of local transport planning and funding.

By investing in infrastructure for walking, cycling and bus travel, this scheme will support the aims of the DfT Transport Decarbonisation Plan.

A.1.1.5. DfT Cycle Infrastructure Design Local Transport Note (LTN) 1/20

The Cycle Infrastructure Design Local Transport Note (LTN) 1/20 was published by DfT in July 2020 alongside the Gear Change vision document. The document provides local authorities and engineers with design guidance to enable the delivery of high-quality cycling infrastructure and schemes and was introduced to create more inclusive environments and to improve safety for cyclists as well as pedestrians.

The principle focus of the design guidance is the segregation and directness of routes, stating that networks should be designed to be:

- Coherent
- Direct
- Safe
- Comfortable
- Attractive

DfT expects that designs for schemes seeking DfT or devolved funding will follow LTN 1/20 guidance unless robust justification can be made for not doing so.

The A37/A4018 proposals are progressing through the Department for Transport's (DfT's) Transport Appraisal Guidance (TAG) framework, alongside BCC and the Combined Authority's internal processes. As part of their gateway review process BCC and the Combined Authority intend to meet with Active Travel England (ATE). It is anticipated that ATE will provide analysis and guidance with regards to active travel and implementation of LTN1/20 in relation to the A37/A4018 proposals and discussions will take place as to how to balance competing policies that govern the reallocation of road space including the national Bus Strategy: Bus Back Better, Gear Change LTN1/20 and policies concerning pedestrians and trees on highways and footways.

A.2. Regional Policies

We have considered the following strategies and policies of regional importance published by the West of England Combined Authority (WECA), and which are relevant to the scheme.

- WECA Future Mobility Zones (2017)
- WECA Joint Local Transport Plan 4 (2020)
- WECA Sustainable Transport Settlement (2021)
- WECA Climate Emergency Action Plan (2020)
- WECA Transport Delivery Plan (2021)
- WECA Local Cycling and Walking Infrastructure Plan (2020-2036)
- WECA - West of England Bus Strategy (2020)
- WECA Bus Service Improvement Plan (2021)

A.2.1. WECA Future Mobility Zones Fund (2019)

The WECA Future Mobility Zones (FMZ) Fund was launched in October 2019. The policy outlines the Combined Authority’s plan to invest in and improve travel across Bristol, through a focus on four Future Mobility Zones (FMZs).

Similar to the proposals included in this business case, the FMZ will address the Joint Local Transport Plan (JLTP) objective of supporting sustainable and inclusive economic growth by using smarter transport measures to unlock capacity on the network, thereby allowing the development of further jobs and housing.

One of the main opportunities highlighted is Bristol's bus patronage ‘bucking the national trend’ by growing 50% in five years, and by 30% across the region prior to 2019.

The objectives of the FMZ are to:

- improve connectivity
- make more efficient use of existing transport capacity
- improve air quality and therefore public health
- drive forward investment in the region

Four FMZs are proposed in the document. One of these is the Bristol Centre Zone, which encompasses several areas of the A37-A4018 transport corridor, including Victoria Street. The proposals in this business case will help to complement the Centre Zone FMZ by encouraging the uptake of walking, cycling and bus use.

A.2.2. WECA Joint Local Transport Plan 4 (2020)

The JLTP4 was published in March 2020 and outlines the plans for the West of England Region from 2020-2036. The document sets out how the region will meet the key challenges that will appear during this time.

It sets out several challenges that are faced by the region. These are:

- **Congestion** caused by high levels of car dependency. Over 2 in 3 commutes in the region are currently made by car. Conversely, only 1 in 11 commutes are by public transport, while 2 in 5 commutes are less than 2km in distance. This suggests that there is strong potential for growing the number of trips made by public transport and by active modes such as by bike or on foot. The report states that the annual cost of congestion is £300m.
- **High forecast trip demand.** It is expected that by 2036 the region will see an increase in trips of 25%, this will lead to higher levels of congestion than currently seen today. One of the key drivers behind this strong predicted growth is the expected population growth in the region from 1.1m in 2016 to 1.3m in 2036.
- **Poor air quality.** The JLTP4 reports that over 300 premature deaths a year in the region are linked to high NO2 emissions in the region.
- **Greenhouse gas emissions.** Transport is responsible for 32% of carbon dioxide (CO2) emissions in the West of England, compared to 26% nationally. The four local authorities and the Combined Authority have declared climate change emergencies with the aim to be carbon neutral by 2030. The JLTP4 confirms that transport is the largest contributor to greenhouse gas emissions.

Table 6-8 below sets out the objectives and outcomes that the JLTP4 seeks to achieve by 2036.

Table 6-8 - JLTP4 objectives and outcomes

Objective	Outcome
Take action against climate change and address poor air quality	Reduce carbon emissions to net zero by 2030
	NOx, particulates and carbon emissions are reduced
	Air quality in the Air Quality Management Areas (AQMAs) is improved
	Air quality remains better than national standards outside the AQMAs
	The transport network is resilient and adaptable
	Technological advances to improve air quality and monitoring are embraced
	Improved efficiency and reliability on local, national and international transport networks

Support sustainable and inclusive economic growth	Delivery of new housing and jobs is supported
	Access opportunities to employment growth areas and education is provided for all
	Transport assets are maintained and managed, and demonstrate value for money
	The high-quality transport network generates inward investment
	Congestion and demand on the network is better managed through technological changes.
Enable equality and improve accessibility	Connectivity is increased and transformed, enabling seamless “door-to-door” movements of people and goods
	Access for those with both visible and hidden disabilities is improved
	Access to services and opportunities for residents in rural, remote and deprived areas is improved
	Better information to aid travel decisions is provided
	Low carbon transport and opportunities for reducing the need to travel are maximised
	New public transport systems, smarter ticketing and faster payment options are enabled
Contribute to better health, wellbeing, safety and security	There is a step change in the number of healthy, low carbon walking and cycling trips
	There is a continued reduction in the number of road casualties on the transport network
	Road safety for transport users is improved, particularly for those most at risk
	Personal safety on the transport network is improved and there is less crime and fear of crime
Create better places	Journey experience is enhanced through an integrated and connected transport network
	The impact of the transport network on the built, natural and historic environment is minimised
	Streetscape, public spaces and urban environments are enhanced
	The transport network support neighbourhood renewal and the regeneration of deprived areas

The JLTP4 sets out a number of ambitious targets for the period to 2036, which the A37-A4018 transport corridor improvements will help contribute towards. These targets include:

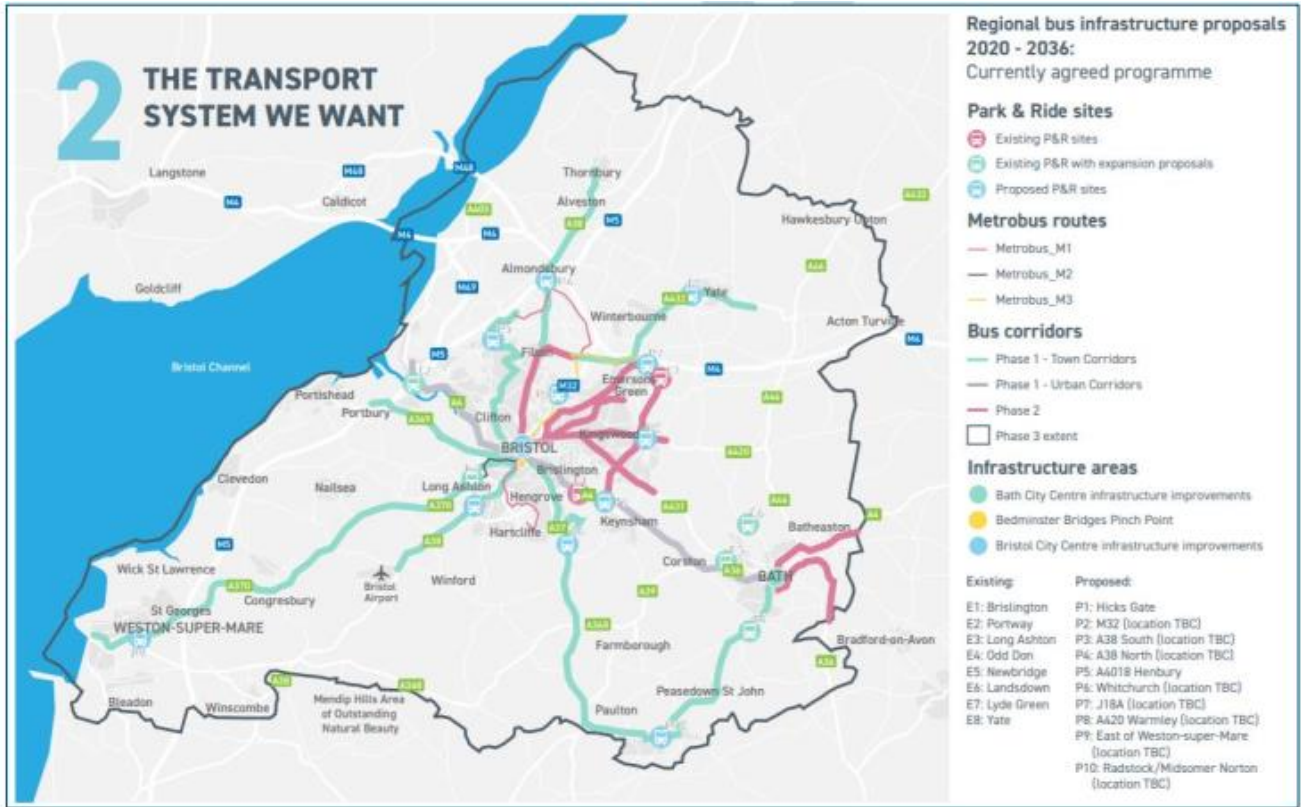
- **Modal shift** – To reduce single-occupancy car commuting from 59% to 45% against a backdrop of forecast growth in housing and employment.
- **Air quality** – To ensure levels of NO₂ across all of the WoE monitoring sites are below the annual mean air quality objective of 40µg/m³. There are two monitoring stations close to the corridor – one on Colston Street and another on Bond Street South.
- **Carbon emissions** – To ensure that transport in the West of England is carbon neutral by 2030.
- **Bus passenger satisfaction** – To increase overall levels of passenger satisfaction in the overall journey from a base of 85% (2018) to 95% (2036).

A.2.3. WECA Sustainable Transport Settlement (2021)

The Combined Authority Sustainable Transport Settlement was published in 2021. The document describes a coherent programme of investment in public transport, cycling and walking between 2022 and 2027 with the aim of decarbonising transport and driving growth and productivity through infrastructure investment.

Figure 6-5 below shows the public transport corridors prioritised for funding in the Settlement, which shows that the A37-A4018 transport corridor has been identified as within Phase 1 – Town Corridors, therefore prioritised for funding.

Figure 6-5 - Improvements to strategic public transport corridors



The Settlement sets out several objectives that the identified infrastructure will help to deliver. These objectives centre around: -

- Carbon emissions. To secure the region’s future with a 30% gross reduction in carbon emissions by 2027, measured against a 2021 baseline, leading to a carbon net zero position by 2030.
- Air quality. To achieve legal air quality across the West of England by 2025, measured by the requirements in the EU Directive 2008/50/EC Strategic investment. To deliver 100 additional miles of strategic public transport corridors by 2027, measured against a 2021 baseline.

Public transport corridors are seen as critical features of a programme to deliver the benefits of the Sustainable Transport Settlement. The Sustainable Transport Settlement sets out a number of goals that will be supported by the A37-A 4018 scheme. These are that: -

- Bus services will be quicker, more reliable, and more frequent. This scheme includes bus prioritisation measures.
- Cycling and walking will be safer, more convenient, and more enjoyable. This scheme includes segregated cycling tracks.
- By making it easier to access and use public transport, this will get people out of cars, reduce car use and tackle highway congestion. This will improve local air quality, support transport decarbonisation, and improve the health and wellbeing of people in our communities.

A.2.4. WECA Climate Emergency Action Plan (Sept 2020)

The Combined Authority published its Climate Emergency Action Plan in September 2020. The document reaffirmed its commitment to achieving net zero (carbon neutrality) by 2030. The Climate Emergency Action

Plan identified 5 challenge areas, the most relevant to this scheme being a ‘Low carbon transport system’ – Decarbonisation of transport system, increase in use of PT alongside walking and cycling.

The Action Plan identified a number of measures that were key to achieving decarbonisation goals for the transport sector. These include:

- Reducing the number of car trips. The proposed scheme will encourage modal shift from car to bus, walking and cycling as it makes the latter modes more attractive through shorter bus journey times and safer walking and cycling trips.
- Increasing active travel. The proposed scheme will help to increase cycling and walking through the provision of active mode infrastructure.
- Increasing the uptake of public transport by making it more attractive through shorter bus journey times.
- Appendix A of the Action Plan sets out the actions that will be taken to enable low carbon transport. These are set out in more detail in Table 6-9 below.

Table 6-9 - Summary of WECA Climate Emergency Action Plan actions

Theme	Action or opportunity	Description
Reduce the number of car trips	Take steps towards implementing the demand management measures within JLTP4 [as appropriate] and ensure that they are a central feature of JLTP5	Suggestions for demand management within JLTP4 include management of parking provision, reallocation of road space to sustainable transport, road user charging, workplace parking levy. Revenue raised from demand management measures could be reinvested in active travel & public transport.
	Use appropriate levers that local authorities have to make it less attractive for cars to enter the city centre.	This could include measures such as speed limits, traffic calming, pedestrianisation, fewer routes and parking charges, whilst also making it more attractive to use alternative travel options.
Increase active travel across the region, capitalising on recent behaviour change (created by the covid-19 lock down period)	Work with the unitary authorities to take steps towards implementing cycling and walking lanes and improve maintenance (raising additional funds where necessary)	The Local Cycling and Walking Infrastructure Plan covers some of this but there is a funding shortfall to deliver all improvements to cycle routes detailed in the plan.
	Work with unitary authorities to support the pedestrianisation of streets (potentially including mixed mode street use) building on the social distance measures put in place as a result of the covid-19 pandemic.	Pedestrianisation of the streets for local shopping areas could encourage more people to leave their car at home and walk or cycle instead.
Increase the uptake of public transport	Consider how to support the development of better transport interchanges and bus prioritisation including the reallocation of road space, enhanced local rail services and the development of smart ticketing / journey planning tools.	To make people’s journeys easier, transport interchanges should facilitate the easy transfer of one mode to another. Reallocating road space to buses will improve the reliability and speed of services and increase their attractiveness over car use.
	Continue to develop mass transit proposals	Continue to plan a mass transit system, other public transport improvements and consider the expansion of metro bus.

	Continue to work with providers to improve and promote reliability to increase uptake.	Work with bus and rail operators to promote reliability, accessibility and convenience to increase uptake.
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A.2.5. WECA Transport Delivery Plan (2021)

The WECA Transport Delivery Plan was published in February 2021. The document outlines the current funded transport projects that will be progressed over the next 5 years across the West of England region. The programme of transport delivery has been developed to address challenges set out in JLTP4.

The document focuses on delivering a post-COVID recovery of the transport system, addressing climate change, reducing car dependency, reducing congestion and addressing poor air quality.

Five objectives outlined in the Transport Delivery Plan are to:

- Take action against climate change and address poor air quality
- Support sustainable and inclusive economic growth
- Enable equality and improve accessibility
- Contribute to better health, wellbeing, safety and security
- Create better places.

The document sets out how the Combined Authority are working with Bristol City Council to deliver dedicated continuous bus priority measures to ensure reliable, faster journeys by public transport, through investing in the expansion of bus priority measures and bus stop infrastructure across the region and further improvements to bus facilities to increase passenger numbers and improve journey reliability.

The scheme supports the aims of the Plan to combat climate change and poor air quality by improving walking and cycling infrastructure as well as bus efficiency and therefore encouraging mode shift. These changes are expected to reduce levels of air pollution and CO2 emissions along the corridor. By encouraging active travel, they also contribute to better health and wellbeing.

The Infrastructure Delivery Programme section of the document sets out the infrastructure investments which are required in order to achieve the Delivery Plan’s objectives. These include both bus and active mode corridors along the A37 and A4018. WECA Local Cycling and Walking Infrastructure Plan (2020-2036)²⁶.

A.2.6. WECA West of England Bus Strategy (2020)

The West of England Bus Strategy, adopted in June 2020, outlines the Combined Authority’s vision for improving bus services in the region in response to population growth, inequality of access to bus services, the impact of COVID-19 and the ongoing climate change crisis. As stated in the document,

“Our vision is for bus services people can depend on, are quick and reliable, combine to form a simple to understand and easy to use network, are accessible for everyone, are safe and comfortable, and offer value for money to passengers and to the public purse” (page 7).

Table 6-10 categorises the various objectives outlined in the Bus Strategy which collectively aim to achieve the vision stated above.

Table 6-10 - West of England Bus Strategy Objectives

Objectives
Bus service operation
<ul style="list-style-type: none"> • A doubling in bus passenger numbers by 2036 • To maximise bus service reliability and reduce journey times

²⁶ <https://travelwest.info/app/uploads/2020/02/LCWIP-West-of-England-Local-Cycling-and-Walking-Infrastructure-Plan-2020-2036-VJan21.pdf>

- Reduce carbon emissions
- Reduce overall emissions by proving the bus fleet to low or zero emission buses
- Better access to places for public transport, and better design for bus services in new developments

Encouraging modal shift

- Improved and easy-to-understand network will provide a practical alternative to the car for many journeys
- Address congestion and delays due to car travel by attracting car users to use buses for some or all of their journeys
- Improve the public domain through the reduction in car traffic and transfer of highway space to buses, bicycles and pedestrians
- Reduce overall emissions due to general road traffic by persuading car drivers to travel by bus

User experience

- To increase the proportion of bus passengers satisfied or very satisfied with bus services overall.
- Reduce inequality in access to bus services
- Joined up bus network
- Maximise service quality, in terms of vehicle comfort and ease of boarding and alighting, reliable and realtime information, and an attractive, safe and accessible bus stop environment
- To provide simplified ticketing which allows all bus users to travel on a single ticket (on one or more buses), with fares capped to a daily maximum
- Accessible passenger waiting facilities and vehicles, and better integration with other modes

Making improvements to the A37-A4018 transport corridor creates an opportunity to help delivery on many of these objectives, especially those concerning journey time reduction and increased reliability, addressing congestions and delays to encourage modal shift, improving the public domain through re-allocation of road space, improving user satisfaction and improving passenger waiting facilities, all of which contribute to increased bus passenger numbers.

A.2.7. WECA Bus Service Improvement Plan (2021)

The West of England Bus Service Improvement Plan²⁷ was published in 2021. It sets out a partnership working agreement with bus operators to make the very most from the City Region Sustainable Transport Settlement. It sets out a number of ambitions, which are:

- To get back to the strong, steady growth in the number of passengers travelling by bus that the West of England had before the pandemic first struck.
- To move forward on decarbonising the transport system as part of a commitment to really tackle the climate emergency.

This will be done by making travelling by bus the natural and automatic choice for passengers with: -

- Convenient services taking residents where they want to go at times they need to travel
- Reliable bus journey times that get you to the final destinations as quickly or quicker than by car
- Good value for money with tap in, tap off ticketing and capped daily prices.
- First class bus stops where passengers can wait in comfort and safety with all the information that passengers need.
- A co-ordinated public transport network with a recognisable local brand: West of England Sustainable Transport (WEST)

²⁷ <https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/10/West-of-England-Bus-Service-Improvement-Plan.pdf>

The BSIP includes a number of targets which will be used to measure progress towards the desired outputs, outcomes and impacts from investment in local bus services. The targets include: -

- Bus journey times. To reduce average bus journey times on designated corridors by 2% by 2025 and by 10% by 2030.
- Punctuality. To achieve 95% of services running on time, defined as being no more than 1 minute early or 5 minutes late, by 2030.
- Single passenger journeys. To return to pre-pandemic patronage levels by 2025 and grow patronage by at least 24% from that level by 2030.
- Passenger satisfaction. To increase passenger satisfaction to 89% for 2025 and 95% for 2030.
- Bus decarbonisation. By 2023 all buses operating in the BSIP area will meet the Euro VI emissions standard. By 2030, at least 75% of the local fleet will either be zero emission or ultra low emission and by 2035 all buses will be zero emission.

The delivery of these targets focuses on a number of areas for improvement which include:

- Delivery of intensive services
- Introduction of bus priority
- Modern buses
- Integrated ticketing

The improvements considered for the A37-A4018 corridor will help reduce bus journey times and deliver services that are more compatible with current public transport demands through the introduction of measures including bus-priority lanes and junctions.

A.3. Local Policies

We have considered the following strategies and policies of local importance published by Bristol City Council (BCC), and which are relevant to the scheme.

- Bristol City Council Corporate Strategy (2018-2023)
- Bristol City Council Draft Corporate Strategy (2022-2027)
- Bristol City Council – Bristol Transport Strategy (2019)
- Bristol City Council – The city centre Framework (2020)
- Bristol City Council One City Plan (2021)
- First Bus and Bristol City Council Bus Deal (2019)
- Bristol Clean Air Zone (2019)

A.3.1. Bristol City Council Draft Corporate Strategy (2022-2027)

The draft Corporate Strategy for Bristol City Council was published in 2021 and sets out BCC's contribution to the city and is its main strategic document. Theme 6 of the document covers Transport and Connectivity.

The report highlights that congestion and associated air quality impact is a major issue in Bristol, having an adverse impact on economic growth and cites the fact that inequality across Bristol existing in part due to a historic lack of good quality transport options available. The report states that:

"We want to make it easier for people to walk, cycle or use public transport".

Objective TC2 focuses on improved bus services, which aims to:

- Double frequency
- Improve safety and reliability
- Offer free travel to young people
- Operate a zero-emission bus fleet
- Increase the number of routes to serve more places

The proposals included in this business case are aligned with the objectives above and the overarching ambition of making it easier to walk, cycle or use public transport, as the proposals include several cycling infrastructure improvements such as cycle lanes, improved walking facilities, as well as bus prioritisation measures. Each of these interventions will help to make travel by these modes more attractive.

A.3.2. Bristol City Council Bristol Transport Strategy (2019)

Bristol Transport Strategy was adopted in July 2019, after a public consultation in Autumn 2018. It sets out a vision for a city that is well-connected, and which enables people to move around efficiently with increased transport options that are accessible and inclusive to all.

The Strategy sets out six key challenges which the city faces and which the A37-A4018 transport corridor will help to address. These are: -

- Housing, jobs and regeneration. Over 100,000 new homes and new jobs needed across the region by 2036.
- Equality. Bristol has some of the most deprived areas across the country, with a difference of 16 years in healthy life expectancy between the most and least deprived areas of the city.
- Health. Physical inactivity contributes to 1 in 6 deaths and around 300 deaths a year due to air pollution.
- Better places. The city needs to address poor quality public space by creating high quality places and making better use of our streets.
- Reliable journeys. Bristol has some of the worst congestion in the country, causing unreliable journeys for many people.
- Sustainable growth. The city needs to support economic growth and accommodate emerging technologies while cutting carbon emissions.

The Strategy sets out a number of outcomes which the scheme may help to deliver. The outcomes relevant to this scheme are:

- Outcome 1 – efficient movement of people and goods around the city with increased resilience of the network and minimised impacts of congestion and air pollution.
- Outcome 2 – on and off-street parking managed efficiently to encourage use of sustainable transport and tackle congestion, while providing options that support the city's 24-hour economy.
- Outcome 4 – public transport to be visibly integrated, convenient and reliable to enable people to move around the city in a more efficient way.
- Outcome 5 – walking to be safe, pleasant, accessible and the first choice for local journeys and combined with public transport for longer journeys
- Outcome 6 – cycling to be safe, segregated from other modes wherever possible, simple, accessible and convenient, either as an option for the whole journey or as part of a journey combined with public transport.

The Transport Strategy is relevant to this scheme, as the scheme will help to promote health and better spaces, and by increasing transport capacity will help to support housing, jobs and regeneration. The scheme will also help to deliver more reliable journeys.

A.3.3. Bristol City Council: The city centre Framework (2020)

The city centre Framework was published in June 2020 and the role of the framework is to set out proposals to improve movement, public realm and the approach to regeneration and development in Bristol city centre. Its purpose is to help inform investment decisions by property owners and landowners and funding organisations.

The four objectives of the framework are:

- Creating a liveable, vibrant, safe and inclusive city centre for the benefit of people of all ages to live, work, learn and enjoy, both during the day and night.
- Tackling traffic congestion and improving air quality; making the city centre better connected, accessible and healthier.
- Supporting the city centre as the core retail, leisure and cultural heart of the region, by enabling regeneration, diversifying uses and promoting the offer.

- Ensuring sustainable development of new homes, employment space, enhancement of heritage assets, streets and public open spaces; contributing to a carbon neutral and climate resilient city.

For walking and cycling, the framework sets out three aims, which are: -

- Aim 1: Creation of new and expanded pedestrian spaces
- Aim 2: Completion of a network of high-quality walking routes and public realm improvements
- Aim 3: Completion of an All Ages and Abilities (AAA) cycle network
- The framework also sets out a number of the key aims for the public transport network in the city. The main public transport aim which relates to this scheme is:
- Aim 4: Completion of the city centre bus lane network
- The scheme is well aligned with the city centre Framework by supporting the achievement of all aims.

A.3.4. Bristol City Council One City Plan (2021)

The Bristol City Council One City Plan was published in 2021 and provides a plan for Bristol out to 2050. It provides a collective vision for the future of Bristol and will be updated annually going forward. The report sets out 6 themes, which are:

- Children and Young People
- Economy and Skills
- Environment
- Health and Wellbeing
- Homes and Communities
- Transport

The plan sets out that by 2050 everyone will be well connected with transport that is efficient, sustainable and inclusive, supporting vibrant local neighbourhoods and a thriving city centre. The report highlights that in future, transport should be healthy, active, sustainable, safe and enable easy movement throughout the city.

The plan also sets out the need for an integrated mass transit system across the city, alongside an attractive walking and cycling network, with stronger and more frequent rail and bus services, improved traffic management systems, and lower emissions.

The plan sets out a number of priorities for 2021. These are:

- A continued reduction in car traffic and support revitalisation through expansion of active travel and public transport options, providing ongoing funding for essential transport.
- To co-design, with community organisations, the development of transport schemes to support our response and recovery to COVID-19.
- The ensure that the Clean Air Zone (CAZ) is progressed to encourage a reduction in traffic entering the city.

The scheme is important for helping to support the ambitions of the One City Plan, as it will help to reduce the amount of car traffic in the city centre and will help to support the implementation of the Bristol CAZ by providing residents who do not have access to a compliant car alternative means of accessing the city centre.

A.3.5. Bristol City Council Bristol Cycle Strategy (2015)

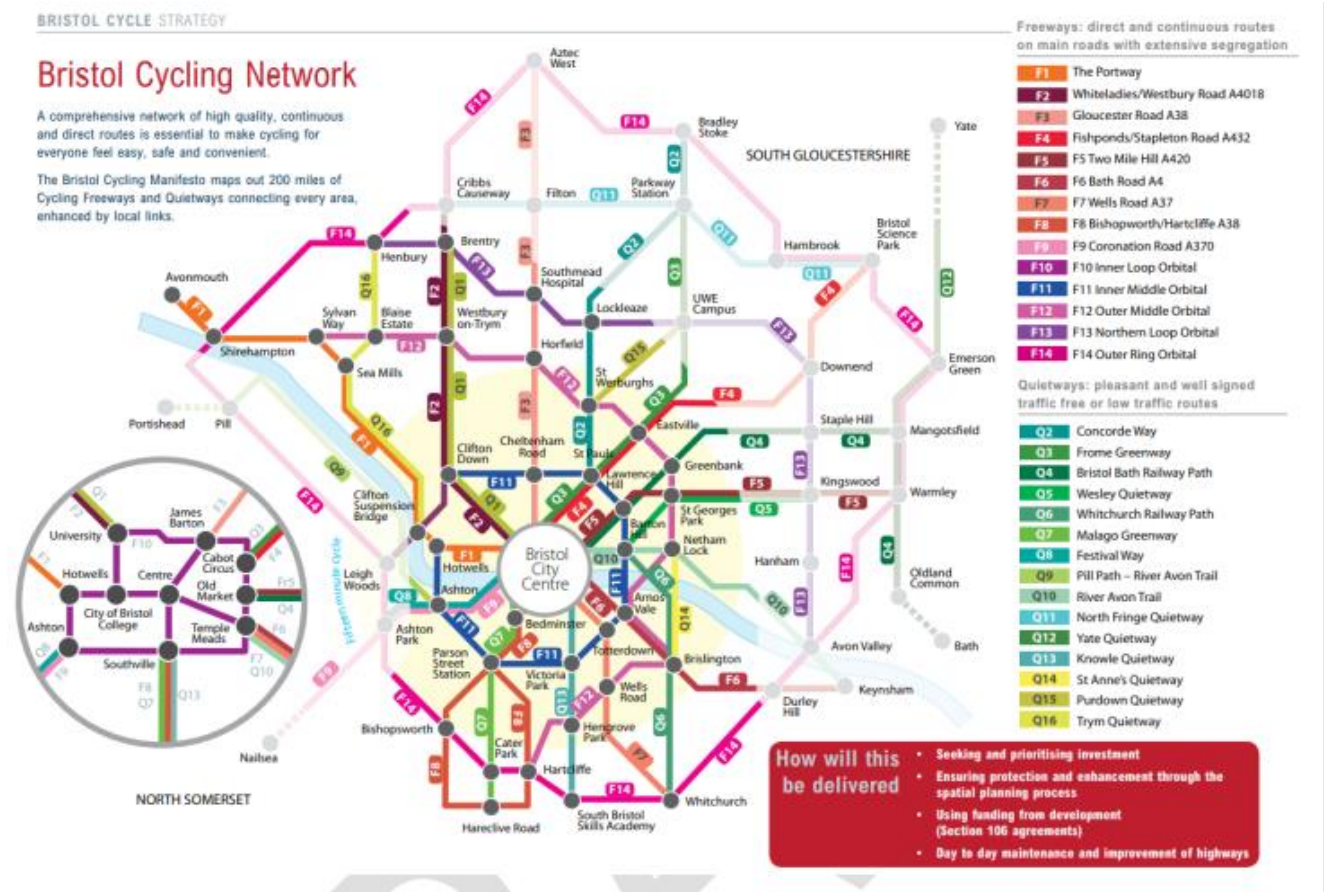
The Bristol City Council Bristol Cycle Strategy was published in 2015 and sets out the Council's commitments to investing in cycling. It sets out the following objectives that should be met from any future investments in sustainable travel.

- Sustainable economy – 20% of commuter trips to city centre by bicycle
- Laboratory for change – Delivery of cutting-edge cycle projects
- Healthy children – 20% of children cycling to secondary school
- Normalising cycling – Progressing delivery of attractive, safe, 8 to 80 cycle networks.
- Increasing confidence and safety – 75% of pupils to have completed Level 2 Bike ability training by end of primary school. Increasing number of adults taking up training year on year

Through interventions such as segregated cycle lanes, the scheme will promote cycling and therefore contribute towards all above objectives.

Figure 6-6 below provides an overview of the Bristol Cycling Network that the A37-A4018 transport corridor will help contribute towards.

Figure 6-6 - Proposed Bristol Cycling Network (as per 2015 Bristol Cycle Strategy)



A.3.6. First Bus and Bristol City Council Bus Deal

The First Bus and Bristol City Council Bus Deal was first agreed in 2019. The objectives of the partnership deal area to:

- Increase modal share of bus to 20% of all journeys in Bristol by 2031.
- Double the peak frequency of bus services on core corridors. Use of technology to identify which services are most delayed.
- Deliver substantial investment in a greener and more modern bus fleet

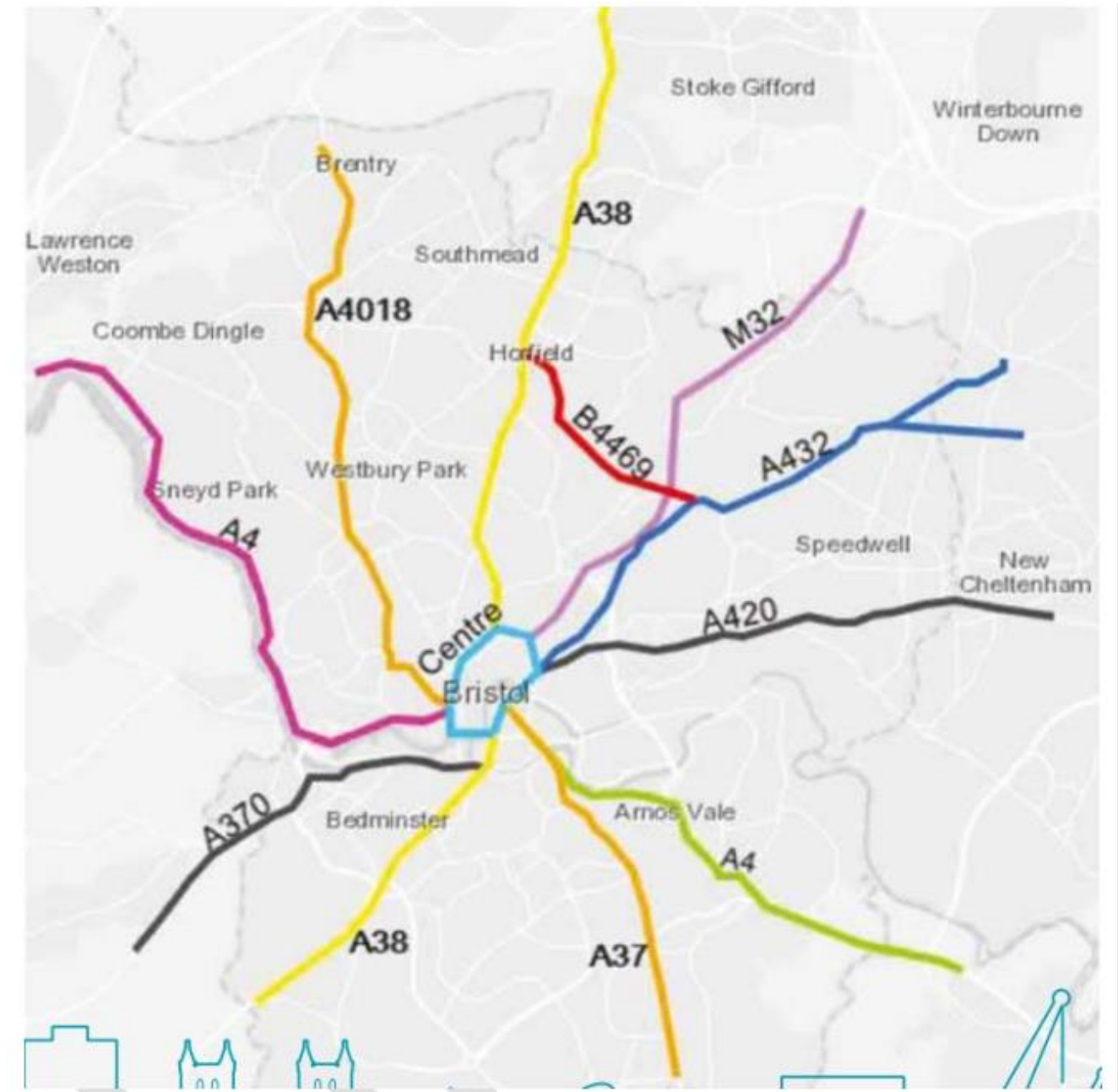
This will be achieved by:

- A reduction of parking in the city centre and prioritisation of public transport over private vehicles, particularly at junctions.
- Promoting and delivering infrastructure schemes and service levels which make the bus a more attractive option for travel.
- Development of further park & ride facilities.

The bus deal outlines eight priority corridors/routes (Figure 6-7) which have been developed based on the scale of their impact, determined based on punctuality of bus services and passenger numbers.

The proposals included in this business case will help to achieve the objectives of the bus deal. For example, the scheme includes measures to promote bus prioritisation and extension of bus lanes, which will help to cut bus journey times, thereby increasing demand which may allow for more frequent services in the future.

Figure 6-7 - Proposed priority corridors/routes²⁸



A.3.7. Bristol Clean Air Zone (CAZ)

Road traffic is a major source of air pollution in towns and cities, particularly diesel engines. Poor air quality has an adverse effect on the population, in particular older people, children and those with certain underlying health conditions. Toxic air pollution contributes to 300 deaths per year in Bristol²⁹.

The Bristol Clean Air Zone (outlined in Figure 6-8), which was introduced in November 2022, will aim to improve air quality by discouraging vehicles which significantly contribute to harmful air pollution levels through daily user charging. This money will then be reinvested back into the local community, supporting individuals and businesses to switch to less-polluting modes, such as walking and cycling, and to switch to cleaner

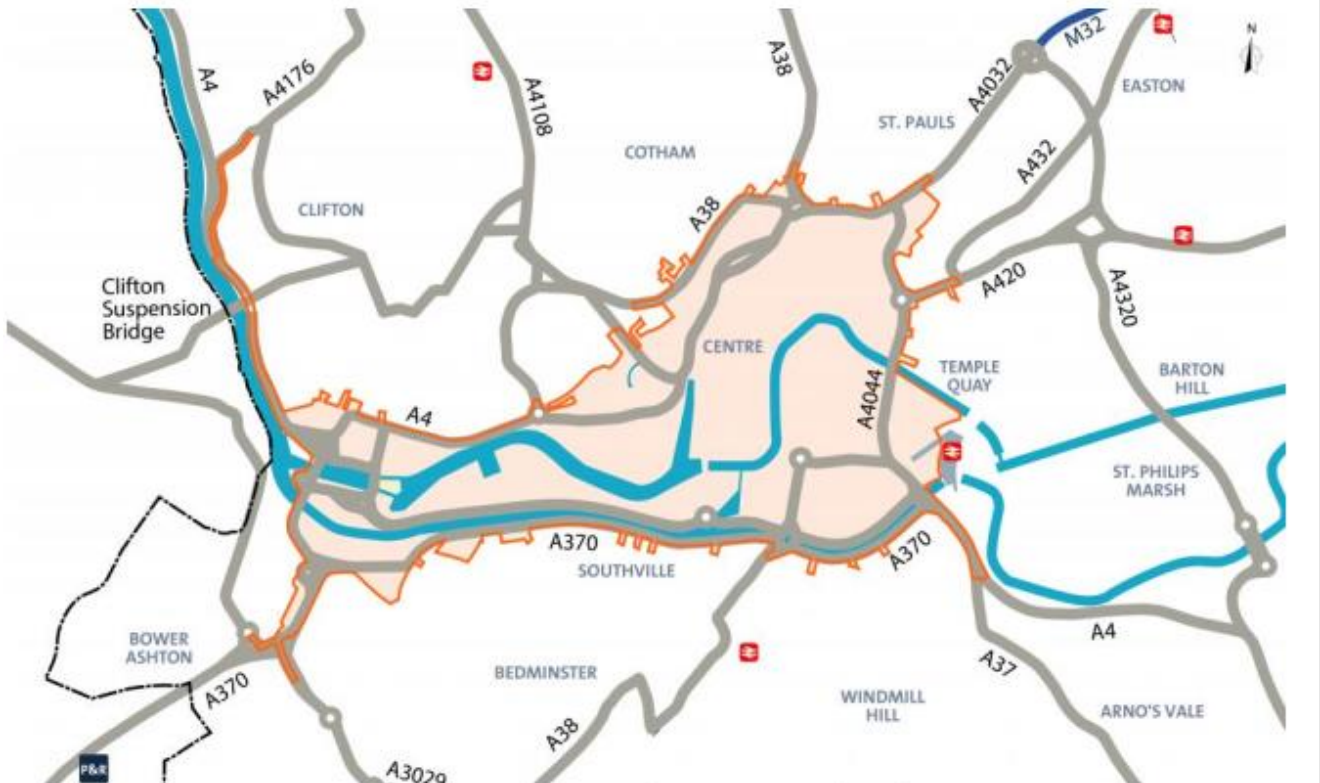
²⁸ First West and Bristol City Council Bus Deal (2019)

<https://democracy.bristol.gov.uk/documents/s41736/Bristol%20Bus%20Deal%20MOU.pdf>

²⁹ <https://www.cleanairforbristol.org/caz/>

vehicles for both personal and public transport. The scheme proposed in this business case runs through the centre of the CAZ, and will therefore help to reduce emissions as a result of modal shift from car to bus use, walking and cycling.

Figure 6-8 - Bristol Clean Air Zone

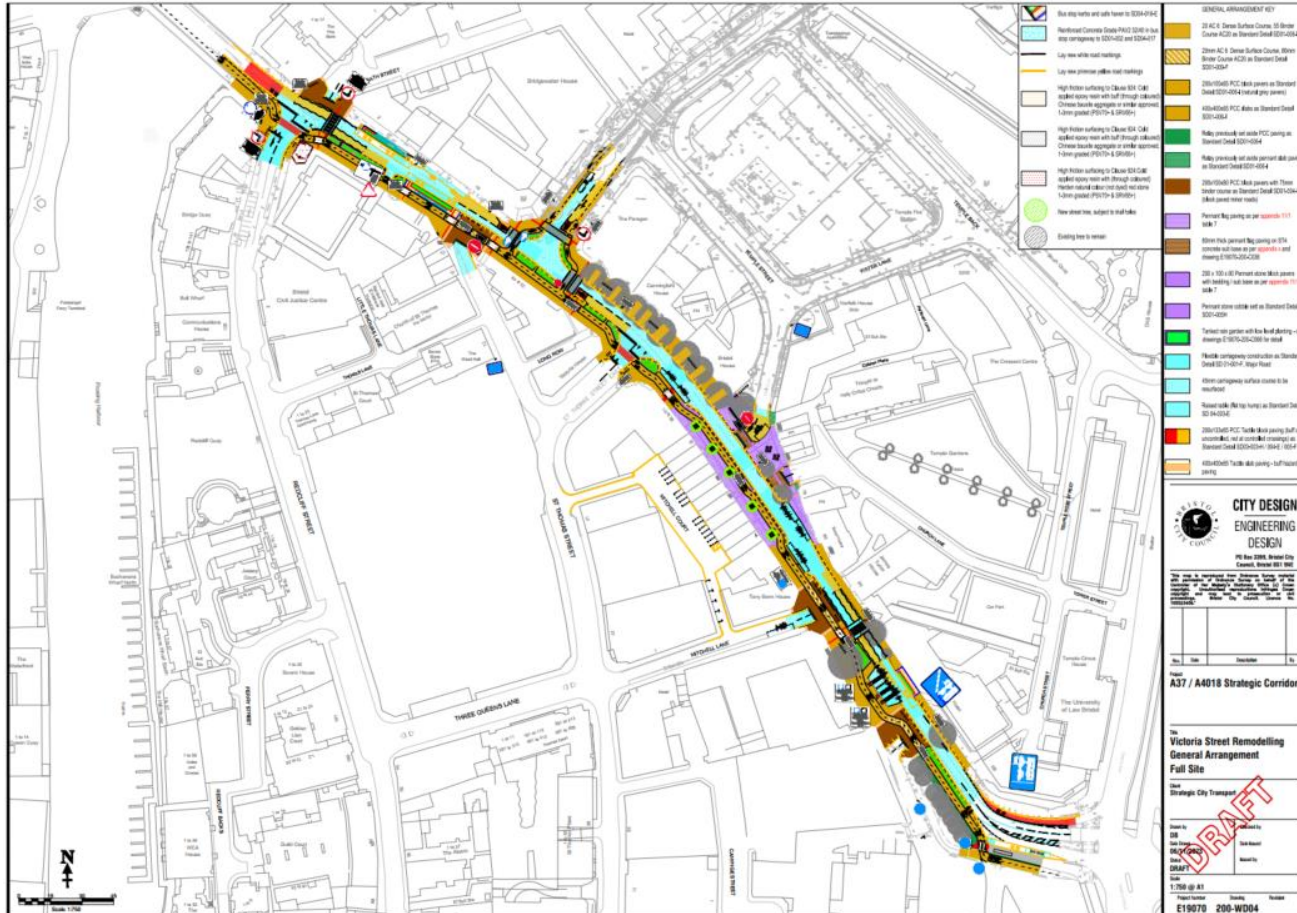


The scheme will help to deliver the Clean Air Zone as it provides local residents with an alternative means of accessing the city centre without significantly increasing their journey times when switching from car to bus or active mode due to the prioritisation measures being proposed.

Appendix B. Consultation Report (January 2022)

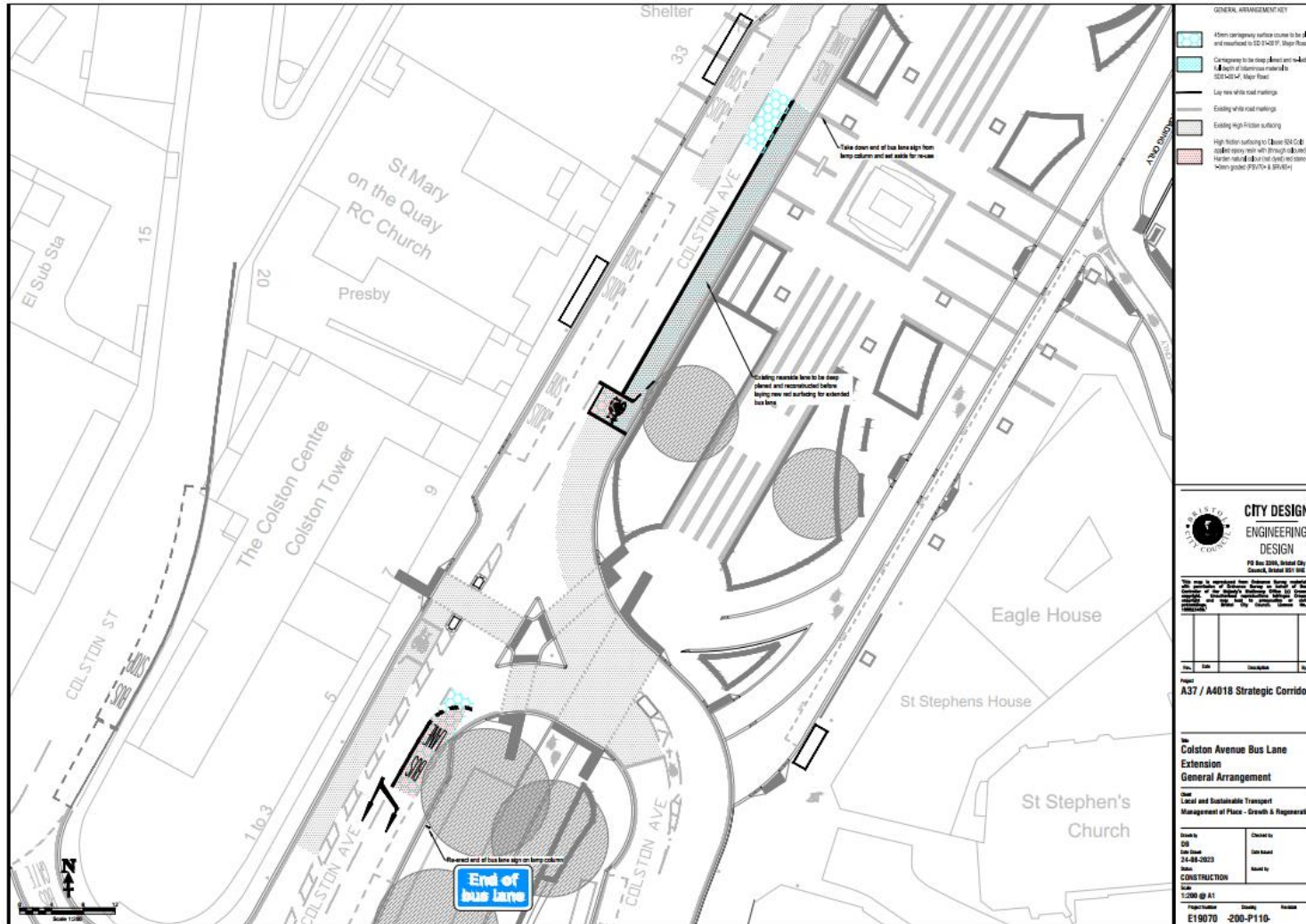
Appendix C. Scheme Drawings

C.1. Victoria Street



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C.2. Colston Avenue



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Appendix D. Screening Proforma

ASSESSMENT OF DISTRIBUTIONAL IMPACTS (Dis) of TRANSPORT INTERVENTIONS

Proforma for reporting conclusions of first screening stage (Step 1)

This form is intended for use by scheme promoters to capture the considerations, assessment and conclusions of the first screening stage of the DI analysis (Step 1). For a full description of Step 1 please see WebTAG guidance unit A4.2. These initial screening tests are not intended to be onerous and should require no additional data collection or analysis. At this stage promoters are only expected to carry out a qualitative assessment, based on their professional judgement and that of the technical specialists responsible for undertaking assessment of noise, air quality, safety, security, severance, accessibility, personal affordability and user benefits.

Scheme name: A37/A4018 Victoria Street

Brief description of scheme

The A37/A4018 Victoria Street is a transport improvement scheme in Bristol, delivering enhancement in cycling, walking, bus and urban realm infrastructure. It is funded by the West of England Combined Authority (WECA) and promoted and delivered by Bristol City Council (BCC). A summary of the interventions proposed as part of the scheme are provided below,

- **Victoria Street** (from Bristol Bridge to Temple Way/Gate)
 - Segregated cycleway
 - Junction improvements
 - Bus stop consolidation and upgrades
 - Public realm improvements
 - Reduction of on-street parking
- **Colston Avenue/St Augustine's Parade**
 - Extension of Southbound Bus Lane from the current stop line near the War memorial to just beyond the entrance to Colston Avenue (Bus only road)

Scheme Objectives

The objectives of the scheme are the following,

- Improvement in bus journeys – Improve journey time, punctuality- and reliability of bus services along the Victoria Street and Colston Avenue sections of the A37 – A4018 corridor
- Modal shift – Increase the proportion of trips made by bus, cycling and walking along the Victoria Street and Colston Avenue sections of the A37 – A4018 corridor

- Environment – Reduce levels of air pollution and CO₂ emissions along the Victoria Street and Colston Avenue sections of the A37 – A4018 corridor
- Urban realm – Enhance streetscape, public spaces and urban environment along the Victoria Street and Colston Avenue sections of the A37 – A4018 corridor
- Safety – Improve road safety for active travel mode users along Victoria Street and Colston Avenue

Indicator	(a) Appraisal output criteria	(b) Potential impact (yes / no, positive/negative if known)	(c) Qualitative Comments	(d) Proceed to Step 2
User benefits	The TUBA user benefit analysis software or an equivalent process has been used in the appraisal; and/or the value of user benefits Transport Economic Efficiency (TEE) table is non-zero.	Yes, positive	Total bus passenger journey times are expected to be reduced due to the bus lane extension in Colston Avenue and the removal of one bus stop in Victoria Street. The segregated cycleway, public realm improvements and the enhancements in bus stop facilities will lead to a modal shift from highway to sustainable modes and can generate reduction in queuing and decongestion benefits gained from reductions to road users' journey time benefits.	Not deemed necessary. User benefits as a result of perceived benefits from bus stop facility enhancements and bus lane extension are concentrated in a distinct and small catchment that has been identified in the report. Other potential decongestion benefits are likely to occur in a large urban area. These were assessed as a whole, rather than in a spatially disaggregate tool. Therefore, a high level qualitative assessment is provided.

Noise	Any change in alignment of transport corridor or any links with significant changes (>25% or <-20%) in vehicle flow, speed or %HDV content.	Yes, positive	The scheme may result in a mode shift from private car to sustainable modes of transport. This would potentially reduce queues within the vicinity of the schemes and, hence, lead to reduced noise in the vicinity of these routes.	Not deemed necessary. Potential noise reduction benefits as a result of modal shift are likely to occur in a large urban area. These were assessed as a whole, rather than in a spatially disaggregate tool. Therefore, a high level qualitative assessment is provided.
Air quality	Any change in alignment of transport corridor or any links with significant changes in vehicle flow, speed or %HDV content: <ul style="list-style-type: none"> • Change in 24 hour AADT of 1000 vehicles or more • Change in 24 hour AADT of HDV of 200 HDV vehicles or more • Change in daily average speed of 10kph or more • Change in peak hour speed of 20kph or more • Change in road alignment of 5m or more 	Yes, positive	Reduced queuing in traffic and changes in traffic flow rates due to a potential modal shift to sustainable modes will have an impact on emissions in the area.	Not deemed necessary. Potential air quality benefits as a result of modal shift are likely to occur in a large urban area. These were assessed as a whole, rather than in a spatially disaggregate tool. Therefore, a high level qualitative assessment is provided.

Collisions	Any change in alignment of transport corridor (or road layout) that may have positive or negative safety impacts, or any links with significant changes in vehicle flow, speed, %HGV content or any significant change (>10%) in the number of pedestrians, cyclists or motorcyclists using road network.	Yes, positive.	The scheme proposes changes to active mode provision including a segregated cycleway and public realm improvements and, hence, safety for pedestrians and cyclists in the area is expected to be improved.	Not deemed necessary. Active travel and urban realm enhancements are concentrated in a distinct and small catchment that has already been identified in the report. Therefore, a high level qualitative assessment is provided in the report.
Security	Any change in public transport waiting/interchange facilities including pedestrian access expected to affect user perceptions of personal security.	Yes, positive	The scheme includes changes to provision of formal surveillance, providing a dedicated CCTV system on Bristol Bridge (R8) inbound bus stop.	Not deemed necessary. Bus stop facility enhancement are concentrated in a distinct and small catchment that has already been identified in the report. Therefore, a high level qualitative assessment is provided in the report.
Severance	Introduction or removal of barriers to pedestrian movement, either through changes to road crossing provision, or through introduction of new public transport or road corridors. Any areas with significant changes (>10%) in vehicle flow, speed, %HGV content.	Yes	The scheme aims to encourage active travel and public transport use which will have an impact on traffic levels in the area due to the modal shift away from private vehicles. A reduction in traffic where a significant proportion of vulnerable people live, such as children and elderly people, could have a positive impact on them and how they can access amenities.	Not deemed necessary. Such impacts as a result of modal shift are likely to occur in a large urban area. These were assessed as a whole, rather than in a spatially disaggregate tool. Therefore, a high level qualitative assessment is provided.

Accessibility	<p>Changes in routings or timings of current public transport services, any changes to public transport provision, including routing, frequencies, waiting facilities (bus stops / rail stations) and rolling stock, or any indirect impacts on accessibility to services (e.g. demolition & re-location of a school).</p>	<p>Yes, positive</p>	<p>The bus stop upgrades and the active travel improvements along Victoria Street are expected to enhance connectivity and improve accessibility to the Temple Meads station.</p>	<p>Not deemed necessary. Accessibility benefits are concentrated in distinct and small catchments that have already been identified in the report. Therefore, a high level qualitative assessment is provided in the report.</p>
Affordability	<p>In cases where the following charges would occur; Parking charges (including where changes in the allocation of free or reduced fee spaces may occur); Car fuel and non-fuel operating costs (where, for example, rerouting or changes in journey speeds and congestion occur resulting in changes in costs); Road user charges (including discounts and exemptions for different groups of travellers); Public transport fare changes (where, for example premium fares are set on new or existing modes or where multi-modal discounted travel tickets become available due to new ticketing technologies); or Public transport concession availability (where, for example concession arrangements vary as a result of a move in service provision from bus to light rail or heavy rail, where such concession entitlement is not maintained by the local authority).</p>	<p>Yes</p>	<p>The scheme aims to encourage sustainable travel, including active modes and public transport, which will have positive impact on traffic levels in the area. A reduction in vehicle operating costs as a result of less idling and acceleration is expected in the area.</p>	<p>Not deemed necessary. Such impacts are likely to occur in a large urban area. These were assessed as a whole, rather than in a spatially disaggregate tool. Therefore, a high level qualitative assessment is provided.</p>

Appendix E. Benefits Realisation Plan

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Ref No	Output	Benefit	Target	Type	Specific data requirements	Beneficiaries	Owner
Desired Outputs							
1	Upgraded and consolidated bus stops on Victoria Street.	Improved efficiency of bus services	Improvements as per the scheme plans	Quantitative (i.e. number of bus stops)/ Qualitative (i.e. Quality of bus stop facilities)	As built scheme	Businesses and residents in Bristol Commuters of the A37/A4018 Corridor Commuters (including cyclists, pedestrians, bus passengers and private vehicle users) passing through Bristol City Centre Transport operators in Bristol The environment	BCC - Senior Responsible Officer (SRO)
2	Removed right turn at Counterslip Junction	Improved operational efficiency at Counterslip Junction		Quantitative (i.e. journey time and delay time)			
3	Bus priority lane extension from War memorial to just beyond Colston Avenue Bus Only road.	Provision of extended bus priority lane		Quantitative (i.e. bus journey time)			
4	Continuous footway and segregated cycle path along Victoria Street.	Provision of improved walking and cycling infrastructure		Qualitative (i.e. Quality of improved walking and cycling infrastructure)			
5	Public realm interventions and improvements for sustainable modes along Victoria Street.	Provision of improved public realm		Qualitative (i.e. Quality of public realm)			

Ref No	Outcome	Benefit Indicator	Type	Specific data requirements	Beneficiaries	Owner
Desired Outcomes						
1	Relocation and improvement of existing bus stops encourages new and/or retains existing users, then that is one step closer to a carbon neutral West of England with fewer cars on the roads.	<ul style="list-style-type: none"> Improved efficiency of bus services and bus journey time reliability Increased bus patronage when compared to the baseline Reduced carbon emission along the A37/A4018 Corridor 	Quantitative	<ul style="list-style-type: none"> Journey time data on bus pre- and post-opening (Yr1 and Yr3) Bus patronage data from the operators pre- and post-opening (Yr1 and Yr3) along the route Analysis of air quality receptors in pre- and post-opening (Yr1 and Yr3) 	Bus operators; Road users/ Commuters of A37/A4018; Commuters to, from and through Bristol; the environment	BCC
2	Increased walking, cycling and public transport trips to local amenities due to modal shift away from private vehicles.	<ul style="list-style-type: none"> Increase in pedestrian and cycle usage Increase in public transport users 	Quantitative	<ul style="list-style-type: none"> Pedestrian and Cycle Surveys pre- and post- opening (Yr1 and Yr3) Bus patronage data from the operators pre- and post-opening (Yr1 and Yr3) along the route 	Road users/ Commuters of A37/A4018; Commuters to, from and through Bristol; bus operators	
3	Reduced severance and improved access to public transport nodes and local amenities by walking and cycling.	<ul style="list-style-type: none"> Better access to public transport nodes and local amenities Comparison of journey time to public transport nodes and local amenities pre and post opening 	Quantitative	<ul style="list-style-type: none"> Journey Time data (recommended Traffic master data pre and post opening Yr1 and Yr3) 	Pedestrians, cyclers and public transport users of A37/A4018; Pedestrians, cyclers public transport users to, from and through Bristol; Public transport operators; Owners of local amenities	
4	Better experience and journey quality for people that already cycle and walk.	<ul style="list-style-type: none"> Improved experience for pedestrians and cyclers Improved safety for pedestrians and cyclers Increase in pedestrian and cycle usage 	Qualitative/ Quantitative	<ul style="list-style-type: none"> Qualitative user experience of pedestrians and cyclers. Journey Time data (recommended Traffic master data pre and post opening Y1 and Yr3) Accident data analysis pre- and post-opening (Yr1 and Yr3) 	Commuters (Road users/ cyclists/ pedestrians) of A37/A4018; Commuters to, from and through Bristol	

Ref No	Outcome	Benefit Indicator	Type	Specific data requirements	Beneficiaries	Owner
Desired Outcomes						
5	More attractive, more convenient and well connected network for active travel and public transport users.	Increased in walking, cycling and public transport journeys	Quantitative	<ul style="list-style-type: none"> Pedestrian and Cycle Surveys pre- and post- opening (Yr1 and Yr3) 	Users of active transport modes; businesses in the active transport industry; public transport operators	
6	Improved road safety and perceptions of area for cycling and walking.	Reduction in the number of accidents on the A37/A4018 corridor for all users	Quantitative	<ul style="list-style-type: none"> Accident data analysis pre- and post-opening (Yr1 and Yr3) 	Road users of the A37/A4018	

Appendix F. Risk Register

Appendix G. Programme

Appendix H. QRA Report

Appendix I. Appraisal tables

I.1. Public Accounts (PA) Table

	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	TOTAL	INFRASTRUCTURE			
Revenue	-				
Operating Costs	-				
Investment Costs	£2,809k				
Developer and Other Contributions	-				
Grant/Subsidy Payments	-				
NET IMPACT	£2,809k (7)				
Central Government Funding: Transport					
Revenue	-				
Operating costs	-				
Investment Costs	-				
Developer and Other Contributions	-				
Grant/Subsidy Payments	-				
NET IMPACT	0 (8)				
Central Government Funding: Non-Transport					
Indirect Tax Revenues	£1.33k	(9)			
TOTALS					
Broad Transport Budget	£2,809k	(10) = (7) + (8)			
Wider Public Finances	£1.33k	(11) = (9)			
Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers. All entries are discounted present values in 2010 prices and values.					

I.2. Appraisal Summary Table (AST)

Appraisal Summary Table

Date produced: 16 Nov 2023

Contact:

Name of scheme:	A37/A4018 Victoria Street & Colston Avenue	Name	
Description of scheme:	<p>The A37/A4018 Victoria Street is a transport improvement scheme in Bristol, delivering enhancement in cycling, walking, bus and urban realm infrastructure. It is funded by the West of England Combined Authority (WECA) and promoted and delivered by Bristol City Council (BCC). A summary of the interventions proposed as part of the scheme are provided below,</p> <ul style="list-style-type: none"> • Victoria Street (from Bristol Bridge to Temple Way/Gate) <ul style="list-style-type: none"> - Segregated cycleway - Junction improvements - Bus stop consolidation and upgrades - Public realm improvements - Reduction of on-street parking • Colston Avenue/St Augustine's Parade <ul style="list-style-type: none"> - Extension of Southbound Bus Lane from the current stop line near the War memorial to just beyond the entrance to Colston Avenue (Bus only road) 	Organisation	Bristol City Council
		Role	Promoter/Official

Impacts	Summary of key impacts	Assessment						
		Quantitative	Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp			
Economy	Business users & transport providers	Total bus passenger journey times are expected to be reduced due to the bus lane extension in Colston Avenue and the removal of one bus stop in Victoria Street. The segregated cycleway, public realm improvements and the enhancements in bus stop facilities will lead to a modal shift from highway to sustainable modes and can generate reduction in queuing and decongestion benefits resulting in reductions to road users' journey time benefits.	Value of journey time changes(£)	£113k	Beneficial	£113k	N/A	
			Net journey time changes (£)					
			0 to 2min	2 to 5min	> 5min			
			N/A	N/A	N/A			

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	Reliability impact on Business users	Although reliability impacts have not been specifically assessed, highways measures are likely to reduce queuing delays for bus users, which could be likely to have a positive impact on reliability.	Not assessed		Slight Beneficial	N/A		
	Regeneration	The placemaking effects of public realm improvements on Victoria Street is likely to have a positive impact on the town and support regeneration.	Not assessed		Slight Beneficial	N/A		
	Wider Impacts	In general, the interventions will improve transport accessibility for all users including businesses users and commuters, which could have wider economic benefits. This is not quantified in the business case.	Not assessed		Slight Beneficial	N/A		
Environmental	Noise	Encouraging modal shift away from private car to sustainable travel, will lead to marginal external impacts including highway decongestion, which in turn leads to incremental reductions in noise.	Marginal External Costs approach embedded within the DfT's Active Mode Appraisal Toolkit		Beneficial	£2k	N/A	
	Air Quality	Encouraging modal shift away from private car to sustainable travel, will lead to marginal external impacts including highway decongestion, which in turn leads to incremental reductions in road vehicle emissions.	Marginal External Costs approach embedded within the DfT's Active Mode Appraisal Toolkit		Beneficial	£2k	N/A	
	Greenhouse gases	Encouraging modal shift away from private car to sustainable travel, will lead to marginal external impacts including highway decongestion, which in turn leads to incremental reductions in vehicles' greenhouse gas emissions.	Change in non-traded carbon over 60y (CO2e)		N/A	Beneficial	£16k	
			Change in traded carbon over 60y (CO2e)		N/A			
	Landscape	The scheme is not expected to have a significant impact on landscape.	Not assessed		Neutral	N/A		
	Townscape	The scheme is not expected to have a significant impact on townscape.	Not assessed		Neutral	N/A		
	Historic Environment	The scheme is not expected to have a significant impact on historic environment.	Not assessed		Neutral	N/A		
	Biodiversity	The scheme is not expected to have a significant impact on biodiversity.	Not assessed		Neutral	N/A		
	Water Environment	The scheme is not expected to have a significant impact on water environment.	Not assessed		Neutral	N/A		
Social	Commuting and Other users	Value of journey time changes (£)		£822k		Beneficial	£822k	N/A
		Net journey time changes (£)						
		0 to 2min	2 to 5min	> 5min				

	Street. The segregated cycleway, public realm improvements and the enhancements in bus stop facilities will lead to a modal shift from highway to sustainable modes and can generate reduction in queuing and decongestion benefits resulting in reductions to road users' journey time benefits.	N/A	N/A	N/A			
Reliability impact on Commuting and Other users	Although reliability impacts have not been specifically assessed, highways measures are likely to reduce queuing delays for bus users, which could be likely to have a positive impact on reliability.	Not assessed			Slight Beneficial	N/A	
Physical activity	Mode shift to active travel will lead to more individuals benefitting from the improved health and reduced mortality benefits of increased physical activity.	Assessed using DfT's Active Mode Appraisal Toolkit			Beneficial	£4,047k	
Journey quality	Existing and new pedestrians and cyclists using Victoria Street will experience a better quality environment due to the public realm improvements, the continuous segregated cycleway along Victoria Street and the right turn removal for motorised vehicle traffic at Counterslip Junction.	Assessed using DfT's Active Mode Appraisal Toolkit and the segmented values of soft bus interventions in TAG Databook			Beneficial	£3,756k	
Accidents	Mode shift from private car to sustainable travel will lead to reductions in car-miles driven which in turn could lead to statistical reductions in road traffic accidents.	Marginal External Costs approach embedded within the DfT's Active Mode Appraisal Toolkit			Beneficial	£37k	N/A
Security	The scheme includes changes to provision of formal surveillance, providing a dedicated CCTV system on Bristol Bridge (R8) inbound bus stop which will have a slight beneficial impact on security.	Not assessed			Slight Beneficial	N/A	N/A
Access to services	A beneficial impact to accessibility is expected resulting from the bus stop upgrades and the active travel improvements along Victoria Street which will enhance connectivity and improve accessibility to the Temple Meads station.	Not assessed			Slight Beneficial	N/A	N/A
Affordability	The scheme aims to encourage sustainable travel, including active modes and public transport. This modal shift will have positive impact on traffic levels in the area. A reduction in vehicle	Not assessed			Slight Beneficial	N/A	N/A

		operating costs as a result of less idling and acceleration due to reduced queueing will have a beneficial impact on affordability.				
	Severance	The scheme enhances the provision of pedestrian infrastructure through public realm improvements and the continuous footway along Victoria Street. This could have a positive impact on pedestrians and how they can access amenities. It is also expected to encourage active travel and public transport use which will have an impact on traffic levels in the area due to the modal shift away from private vehicles. A reduction in traffic will also have a beneficial impact on severance.	Not assessed	Slight Beneficial	N/A	N/A
	Option and non-use values	The scheme does not result in changes to public transport routes or services, therefore no significant impacts are anticipated. The Victoria Street (R6) bus stop removal will result in a distance of 445m between stop T7 and R8 meaning that the stops will remain well spaced and the catchment area will not be affected.	Not assessed	Neutral	N/A	
Public Accounts	Cost to Broad Transport Budget	Estimated costs for scheme implementation are adjusted to DfT's 2010 price base, including Optimism Bias, market price adjustment and discounting to 2010 prices.	Assessed following TAG Unit A1.2 Scheme Costs	N/A	£2,809k	
	Indirect Tax Revenues	Mode shift from private car to sustainable travel will result in proportionate reductions in vehicle fuel consumption, which translates into a marginal reduction in revenues from fuel duties.	Marginal External Costs approach embedded within the DfT's Active Mode Appraisal Toolkit	N/A	-£1k	

I.3. Economic Efficiency of the Transport System (TEE) Table

Non-business: Commuting	ALL MODES		ROAD		BUS and COACH	RAIL		OTHER
<u>User benefits</u>	TOTAL		Private Cars and LGVs		Passengers	Passengers		
Travel time	£238k		£238k					
Vehicle operating costs								
User charges								
During Construction & Maintenance								
NET NON-BUSINESS BENEFITS: COMMUTING	£238k	(1a)	£238k					
Non-business: Other	ALL MODES		ROAD		BUS and COACH	RAIL		OTHER
<u>User benefits</u>	TOTAL		Private Cars and LGVs		Passengers	Passengers		
Travel time	£584k		£584k					
Vehicle operating costs								
User charges								
During Construction & Maintenance								
NET NON-BUSINESS BENEFITS: OTHER	£584k	(1b)	£584k					
Business								
<u>User benefits</u>			Goods Vehicles	Business Cars & LGVs	Passengers	Freight	Passengers	
Travel time	£113k			£113k				
Vehicle operating costs								
User charges								
During Construction & Maintenance								
Subtotal	£113k	(2)		£113k				
Private sector provider impacts						Freight	Passengers	
Revenue								
Operating costs								
Investment costs								
Grant/subsidy								
Subtotal		(3)						
Other business impacts								
Developer contributions		(4)						
NET BUSINESS IMPACT	£113k	(5) = (2) + (3) + (4)						

TOTAL						
Present Value of Transport Economic Efficiency Benefits (TEE)	£935k	$(6) = (1a) + (1b) + (5)$				
	Notes: Benefits appear as positive numbers, while costs appear as negative numbers.					
	All entries are discounted present values, in 2010 prices and values					

Appendix J. BCC's Highways and Associated Works Framework for Lot 5 and Lot 6

Appendix K. BHAMaWF's Lot 5 and Lot 6 clauses

Appendix L. Equality Impact Assessment

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







Tel: +44 (0)20 7121 2000

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Risk Register	Project Name:	A37/A4018 Victoria St & Colston Avenue
	Project Manager:	Thor Sever
	Date last updated:	26.04.2023

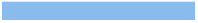




















Key: Type: C (Construction); D (Design); E (Environmental); F (Financial); M (Management); P (Political); O (Operational); T (Technical); U (Utilities);
 Probability: 1 (very unlikely); 2 (unlikely); 3 (equally likely/unlikely); 4 (likely); 5 (very likely)
 Cost Impact: 1 (cost increase of up to 1% or £10k); 2 (cost increase between 1 and 5% or between £10k and £50k); 3 (cost increase between 6 and 15% or between £50k and £250k); 4 (cost increase between 16 and 25% or between £250k and £500k); 5 (cost increase greater than 25% or over £500k)
 Delivery Impact: 1 (Delays of up to 3 months); 2 (Delays of between 3 and 6 months); 3 (Delays of between 6 and 9 months); 4 (Delays of between 9 and 12 months); 5 (Delays of greater than 12 months)
 Priority: 1- 4 (very low); 5-9 (low); 10-14 (medium); 15-19 (high); 20-24 (very high); 25 (critical)
 Response (to risks): Avoid; Reduce; Fallback; Transfer; Accept; Share; or a combination
 Response (to opportunities): Share; Exploit; Enhance; Reject; or a combination








































Risk ID	Type	Description	Original			Date Identified	Date Updated	Response (may be more than one)	Mitigation (may be more than one)	Residual			Risk owner	Mitigation owner	Notes	Status	Related Issue ID
			Probability	Cost Impact	Delivery Impact					Probability	Cost Impact	Delivery Impact					
R001	F (Financial)	Insufficient funding for current project stage (currently £190k approved by Change request March 2023)	2	2	4	19/09/2022	Reduce	PM to complete Change Request and submit to WECA if necessary to obtain extra funds to complete business case	1	1	1	BCC PM	BCC PM		Closed		
R002	F (Financial)	Insufficient funding for whole project (Currently estimated below 6 million allocated in CRSTS & Local Contributions)	4	5	2	19/09/2022	Reduce	Complete funding requirement will only be known on completion of FBC. Current £6million funding envelope based on 2021 HAWWF costs with significant contingency. Opportunity for WECA to consider increased funding for the project from existing corridor budget or programme wide CRSTS budget	3	4	1	15	BCC SRO	BCC PM		Open	
R003	M (Management)	Project programme longer than funding window (Funding is CRSTS 2022 - 2027)	4	4	4	19/09/2022	Reduce	At present the construction is targeted to complete in August 2025. 1. To minimise likelihood, strong Schedule adherence techniques to be utilised. 2. To minimise the impact, programme to be kept up to date and WECA informed of overall end dates regularly.	3	2	3	15	BCC PM	BCC PM		Open	
R004	M (Management)	Insufficient capacity in the supply chain for the current project stage	2	2	1	19/09/2022	Reduce	The current project stage is already adequately resourced within BCC and via Atkins for FBC production so low risk	1	1	1	1	BCC SRO	BCC PM		Open	
R005	M (Management)	Insufficient capacity in the supply chain for the whole project	3	4	4	19/09/2022	Accept	Resource available within the supply chain cannot be confirmed until the civil engineering contract is put out to tender following FBC production. This is one of the first CRSTS projects to reach potential delivery stage within the region thereby getting ahead of a potential competition for suppliers across the programme later on.	3	3	3	18				Open	
R006	F (Financial)	Project cannot secure assigned funding through the WECA Grant Assurance & Business Case process. This could be for reasons including lack of suitability with the DfT's TAG / WECA's Grant Assurance guidance on appraisal, or the project is not transformational enough to realise clear benefits at BCR ratio of 2:1.	3	3	5	19/09/2022	Reduce	The DfT's TAG and WECA's guidance on appraisal is not within the controls of the project. To ensure the project is consistent with these conditions the project team has produced an ASN, which was approved by WECA Grant Assurance in June. There will be ongoing communication between the BCC PM and WECA about the requirements of WECA Grant Assurance. A draft FBC will be submitted to WECA Grant Assurance ahead of BCC Cabinet and WECA Key Decision approvals.	2	3	3	12	BCC SRO	BCC PM		Open	
R007	P (Political)	Political approval process might take longer than allowed for in the programme.	4	3	5	19/09/2022	Reduce	A key decision pathway plan has been agreed within BCC setting out key meeting dates. Some slack has been included to allow for delays. Current project plan is targeting BCC February Cabinet, however, going to March BCC Cabinet would still keep within the reported targets.	3	3	3	18	BCC PM	BCC PM		Open	
R008	M (Management)	Risk of project duration being extended if BCC decision pathway on OBC and WECA grant assurance process' can not be aligned	4	2	3	19/09/2022	Reduce	WECA to consider streamlining approach as part of CRSTS delivery review. BCC PM to communicate with WECA programme manager about the streamlining of processes. BCC PM to seek approval from senior officers to progress BCC key decision pathway simultaneously to the WECA Grant Assurance process.	3	1	2	9	WECA PM	BCC PM		Open	
R009	M (Management)	Lack of support on the project proposals from bus operating companies	4	3	4	19/09/2022	Avoid	Bus Operators have been consulted and have expressed approval for the proposals	1	1	1	1	BCC PM	BCC PM		Open	
R010	M (Management)	Lack of stakeholder support for proposals (taxi forum, The Disability & Equality Forum etc.) - could impact on the programme of the project through design amendments.	4	3	5	19/09/2022	Reduce	Specific consultations will be made with affected stakeholder groups ahead of statutory consultation	3	2	3	15	BCC PM	BCC PM		Open	
R011	M (Management)	Internal priority conflicts over transport projects emerges then the A37/A4018 Victoria St and Colston Ave project may become delayed whilst other projects are prioritised. This could cause delay to the programme	3	2	3	19/09/2022	Reduce	Work closely with other BCC PM's to ensure a wider understanding of priorities in service area. Utilise internal processes to plan priorities and escalate issues as appropriate. Regularly update the project programme to ensure accurate reporting and flagging of any issues in the Monthly Highlight Report.	2	1	2	6	BCC Programme Manager	BCC PM		Open	
R012	C (Construction)	Inadequate Traffic Management during the construction process could lead to reduced road safety, increased highway user complaints, need to implement additional Temporary Traffic Management measures. Risk of officer time being taken up by complaints, and increased cost of TTM	3	3	3	19/09/2022	Avoid	BCC PM to hold conversations with with internal BCC network management officers to agree acceptable TTM prior to tender process going live. BCC PM to liaise with BCC Eng Design (or design team if other) to ensure adequate TTM plans have been included as part of the tender, and that TTM plans adhere to relevant legislation. Signalled crossings will be maintained to uphold road user safety.	1	1	2	1	BCC Eng Design	BCC PM		Open	
R013	C (Construction)	Utilities: Recent works under the highway on Victoria Street have proved complex due to large volume of utilities present. Unforeseen problems with utilities during construction could cause delay to the programme and increase costs	5	5	5	19/09/2022	Reduce	Significant investigations to be carried out through detailed design and the C4 process. This will inform what known utility diversions will be necessary. Given the known complexity of utilities in Victoria Street there is still a chance that there may be unforeseen that could lead to increased costs.	4	4	4	14	BCC Eng Design	BCC PM		Open	
R014	C (Construction)	Network Availability. In order to deliver the project major roads within the city centre will suffer disruption. The roadspace required for the project will need to be booked with BCC Network Management as they will need to co-ordinate these works with other events and works that require roadspace within the city centre whilst keeping the overall network running at an acceptable level.	4	3	5	19/09/2022	Avoid	Following confirmation of FBC approval the required road space will be booked ahead of the programme of works and during the otherwise dead-time whilst the procurement process takes place for the civil contract	3	2	2	12	BCC Eng Design	BCC PM		Open	
R015	C (Construction)	Adverse Weather. The project delivery programme is likely to take a minimum 10 months and will probably cross over the autumn/winter period. The programme could suffer delay if adverse weather is experienced.	4	3	4	19/09/2022	Reduce	Given the presumed length of the construction programme it will be difficult to schedule works exclusively outside of the winter months, however, activities such as resurfacing will be programmed for months when the temperatures are warmer	3	3	3	18	BCC Eng Design	BCC PM		Open	
R016	T (Technical)	Benefit realisation: The FBC for the project needs to show enough benefits for users in relation to the base costs of the project. WECA grant assurance will need to approve the draft FBC. If the potential benefits don't produce an adequate BCR the project may not be able to move forward.	4	3	4	19/09/2022	Reduce	Benefit realisation has been estimated in line with DfT guidance. WECA Grant Assurance is given time to consider a draft FBC and recommend changes prior to consideration at BCC Cabinet that allows for any necessary amendments to be made.	3	3	3	18	BCC SRO	BCC PM		Open	
R017	M (Management)	Restructuring of the BCC Organisation could result in change in project roles, and potentially a need to resource some project roles externally, which would incur a delay and cost to the project	3	3	3	19/09/2022	Accept	The structure of the BCC Organisation is beyond the control of those involved with this project, and therefore it is a risk that must be accepted	3	3	3	18	BCC PM			Open	
R018	P (Political)	Approval of FBC by Key Decision Makers: The FBC, once approved by WECA Grant assurance will need to be approved at BCC Cabinet and then by WECA at either Directors or Committee meeting. Failure to gain this approval at first time of asking would require a resubmission that would delay the programme	3	3	5	19/09/2022	Reduce	In order to increase the chances of the FBC being approved Key Decision makers and WECA Grant Assurance will be kept abreast of project development allowing for advice to shape the project in the best way to reduce the chance of the FBC not gaining the required approvals	2	2	3	10	BCC SRO	BCC PM		Open	
R019	M (Management)	Statutory Consultation: The moving, waiting & loading restrictions for the scheme are due to be advertised prior to FBC submission. Following the consultation an objection report will need to be prepared and signed off by BCC. The signing off of this report is dependent on objections to the scheme being answered sufficiently. If the objection report is not signed off then it is unlikely that the FBC would be signed off at BCC Cabinet causing significant delay to the project	3	3	4	19/09/2022	Reduce	The project has been subject to early engagement (2020) Public Consultation (2021/2022) and a project specific information exercise in 2023. Various Meetings have taken place with scheme stakeholders during this time. Information received has shaped the project which reduces the chances of a negative outcome at Statutory Consultation	2	2	2	8	BCC SRO	BCC PM		Open	
R020	D (Design)	Road Safety Audit level 2: pending outcome of the audit the designers response will need to be signed off by our Road Safety Team. Failure to do this will delay Quality Assurance Level 4 sign-off which will in turn delay submission of the FBC and delay the whole programme	3	2	5	19/09/2022	10-Oct Avoid	The project designers have been working to industry standards where possible. The project designs have already been subject to several layers of scrutiny through the BCC internal quality assurance process. At QA stage 4 any expected significant road safety concerns should mostly have been identified through previous scrutiny - any remaining concerns can be accepted or discussed with the road safety team to find a workable solution. A design amendment period is programmed between RSA 2 completion Q4 Board submission to provide a facility for dialogue and change. QA4 awarded 03/10/23	1	1	1	1	BCC Eng Design	BCC PM	Risk avoided	Closed	
R021	D (Design)	QA4: The project will need Quality Assurance level 4 approval (detailed design) to allow a design freeze and accurate costings for the final FBC. Delay to QA4 approval will affect the overall delivery programme.	3	2	5	19/09/2022	10-Oct Avoid	Prior to the QA4 Board an RSA2 and internal stakeholder consultation is carried out which draws out potential concerns and conflict allowing for amelioration of potential issues. At QA stage 4 the philosophy of the design has largely been agreed the main concerns surround the choice of materials and any amendments predicated by the C4 utility process. QA4 awarded 03/10/23	2	1	3	8	BCC PM	BCC PM	Risk avoided	Closed	
R022	F (Financial)	Inflation (General): The UK has been subject to significant inflation in recent years that presents a risk to the project budget.	4	5	4	19/09/2022	Accept	Contingency funds will be calculated to allow a budget envelope for inflation that will be accounted for within the Q&A and separately with an inflationary uplift.	3	3	3	18				Open	
R023	F (Financial)	Inflation (Construction): Further to the generally high rate of inflation being experienced in the UK the construction sector is experiencing a higher rate of inflation that presents a risk to the project budget.	4	5	4	19/09/2022	Accept	The BCC Highways Framework Contract on which the base costs for the project are estimated has recently agreed a 19% uplift (Sept 2023). This allows for a more informed prediction of price prior to the tender stage. The window between costs estimated within the draft FBC and the tender of the contract is forecast to be less than one year. A separate line to account for construction sector based price inflation may be included within the FBC costs.	3	3	3	18	BCC PM	BCC PM		Open	
R024																	
R025																	

ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	% Complete
1									0%
2			WECA Committee: Change Request Approval	1 day	Fri 17/03/23	Fri 17/03/23		14,13,6,3	100%
3			WECA/BCC arrangements for funding	100 days	Mon 20/03/23	Fri 04/08/23	2		100%
4			Procurement to Direct Award FBC consultant	18 days	Wed 29/03/23	Fri 21/04/23		20	100%
5			TRO Process	225 days	Mon 20/03/23	Fri 26/01/24			77%
6			Instruct TRO Team	21 days	Mon 20/03/23	Mon 17/04/23	2	7,8	100%
7			TRO Instruction accepted	4 days	Tue 18/04/23	Fri 21/04/23	6	8	100%
8			TRO Preparation Work	128 days	Mon 24/04/23	Wed 18/10/23	6,7	9	100%
9			TRO Advert & Statutory Consultation	4 wks	Mon 23/10/23	Fri 17/11/23	8,13	10	50%
10			TRO Objection Report	4 wks	Mon 20/11/23	Fri 15/12/23	9	11	0%
11			TRO Objection Report Signed off by BCC	4 wks	Mon 01/01/24	Fri 26/01/24	10		0%
12			Design Work	142 days	Mon 20/03/23	Tue 03/10/23			100%
13			TRO Plans	28 days	Mon 20/03/23	Wed 26/04/23	2	14,9	100%
14			Detailed Design	15 wks	Thu 27/04/23	Wed 09/08/23	2,13	15,16	100%
15			RSA2	6 wks	Thu 10/08/23	Wed 20/09/23	14	17	100%
16			Internal Stakeholder Consultation	3 wks	Thu 10/08/23	Wed 30/08/23	14	17	100%
17			QA4 Board Prep & costings	9 days	Thu 21/09/23	Tue 03/10/23	15,16	18	100%
18			QA4 Board (03/10)	0 days	Tue 03/10/23	Tue 03/10/23	17	24,27FF	100%

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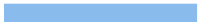




















Project: A37 A4018 Vic St & Co
Date: Thu 09/11/23

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Critical	
Project Summary		Manual Summary		Critical Split	
Inactive Task		Start-only		Progress	
Inactive Milestone		Finish-only		Manual Progress	

ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	% Complete
19			Full Business Case Work	147 days	Thu 27/04/23	Fri 17/11/23			96%
20			Inception Meeting	1 day	Thu 27/04/23	Thu 27/04/23	4		100%
21			Modelling and Appraisal	3.3 mons	Thu 01/06/23	Thu 31/08/23		23	100%
22			Draft Strategic Case	3.9 mons	Mon 01/05/23	Wed 16/08/23		27	100%
23			Draft Economic Case	1 mon	Mon 25/09/23	Fri 20/10/23	21	27	100%
24			Draft Financial Dimension	0.85 mons	Thu 05/10/23	Fri 27/10/23	18	27	100%
25			Draft Management Case	2.2 mons	Tue 01/08/23	Fri 29/09/23		27	100%
26			Draft Commercial Case	2.2 mons	Tue 01/08/23	Fri 29/09/23		27	100%
27			Atkins Technical review	10 days	Mon 30/10/23	Fri 10/11/23	18FF,22,23,24,25,	28	25%
28			FBC draft for WECA Grant Assurance	5 days	Mon 13/11/23	Fri 17/11/23	27	35,43	0%
29			ASN	1 day	Mon 03/07/23	Tue 04/07/23			100%
30			ASN development	1 day	Mon 03/07/23	Tue 04/07/23			100%
31			ASN shared with CA GA	1 day	Mon 03/07/23	Tue 04/07/23			100%
32			ASN amended in line with CA comments	1 day	Mon 03/07/23	Tue 04/07/23			100%
33			ASN Approved	0 days	Mon 03/07/23	Mon 03/07/23			100%
34			BCC Decision Pathway	57 days	Mon 20/11/23	Tue 06/02/24			0%
35			DMT (21/11/23)	2 days	Mon 20/11/23	Tue 21/11/23	28	36	0%
36			EDM (22/11/23)	5 days	Wed 22/11/23	Tue 28/11/23	35	37	0%
37			CMB (07/12/23)	5 days	Fri 01/12/23	Thu 07/12/23	36	41,38	0%
38			Cabinet paper process	11 days	Fri 08/12/23	Fri 22/12/23	37	39	0%
39			Christmas Break	10 days	Mon 25/12/23	Fri 05/01/24	38	41,40	0%

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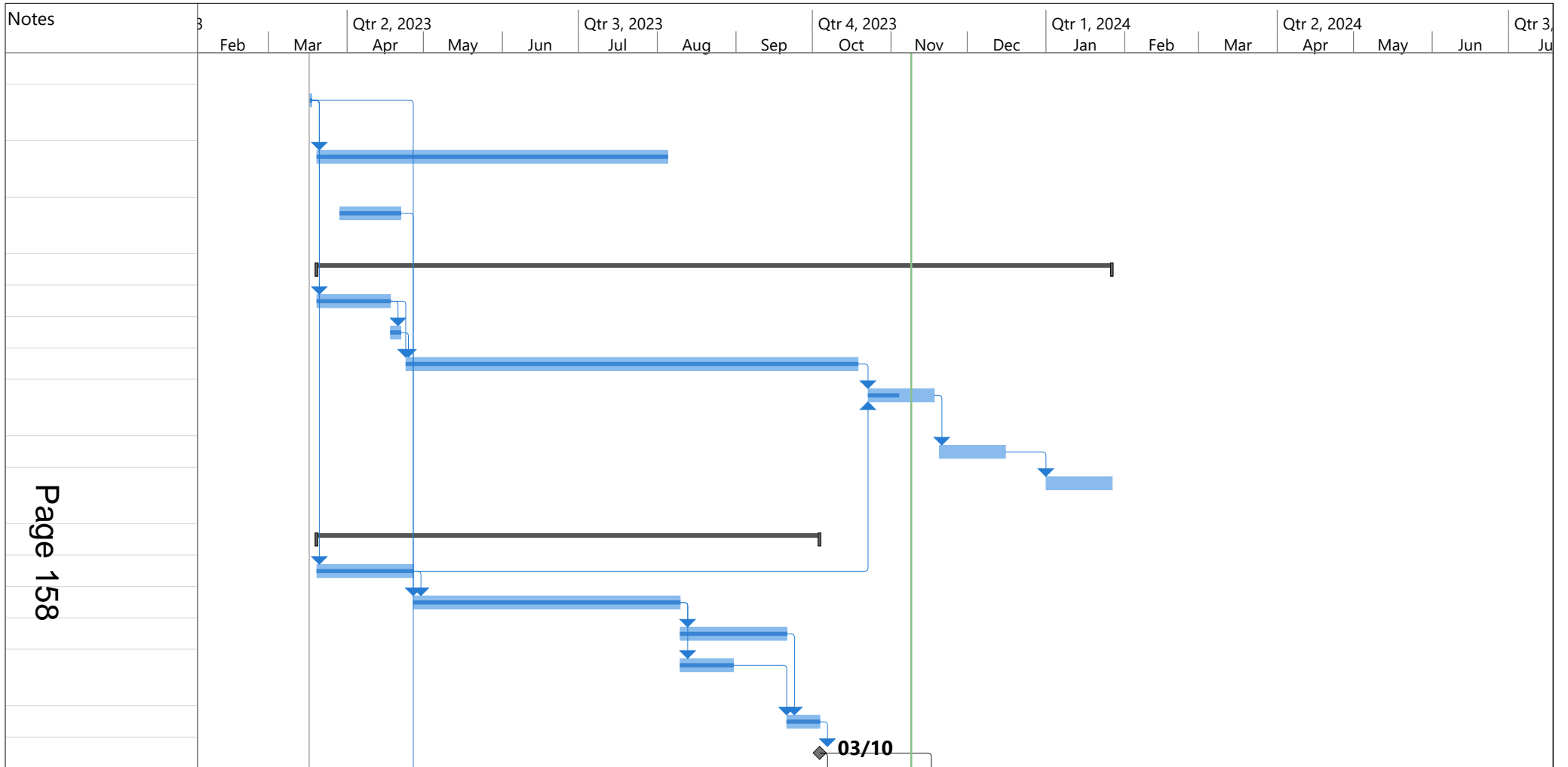
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Inactive Milestone		Finish-only		Manual Progress	

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	% Complete
40		Cabinet paper process continues	21 days	Mon 08/01/24	Mon 05/02/24	39		0%
41		Cabinet	1 day	Tue 06/02/24	Tue 06/02/24	37,39	45,47	0%
42		WECA Assurance	35 days	Fri 17/11/23	Fri 05/01/24			0%
43		Submit FBC to WECA Assurance	0 days	Fri 17/11/23	Fri 17/11/23	28	44	0%
44		CA Grant Assurance review	7 wks	Mon 20/11/23	Fri 05/01/24	43	45	0%
45		WECA Approvals - Feb date t	13 days	Wed 07/02/24	Fri 23/02/24	41,44	46	0%
46		Decision risk allowance	1 wk	Mon 26/02/24	Fri 01/03/24	45	47	0%
47		WECA GOL & BCC legal processes	4 wks	Mon 04/03/24	Fri 29/03/24	41,46	49,48	0%
48		Procurement	60 days	Mon 01/04/24	Fri 21/06/24	47	51	0%
49		Procurement - Tender Prep	2 mons	Mon 01/04/24	Fri 24/05/24	47	50	0%
50		Tender Award	1 mon	Mon 27/05/24	Fri 21/06/24	49	52	0%
51		Mobilisation	90 days	Mon 24/06/24	Fri 25/10/24	48		0%
52		Mobilisation	90 days	Mon 24/06/24	Fri 25/10/24	50	55	0%
53		Construction	320 days	Mon 28/10/24	Fri 16/01/26			0%
54		Construction Start	0 days	Mon 28/10/24	Mon 28/10/24	55SS		0%
55		Construction Phase	16 mons	Mon 28/10/24	Fri 16/01/26	52	56FF,54SS	0%
56		Construction End	0 days	Fri 16/01/26	Fri 16/01/26	55FF		0%

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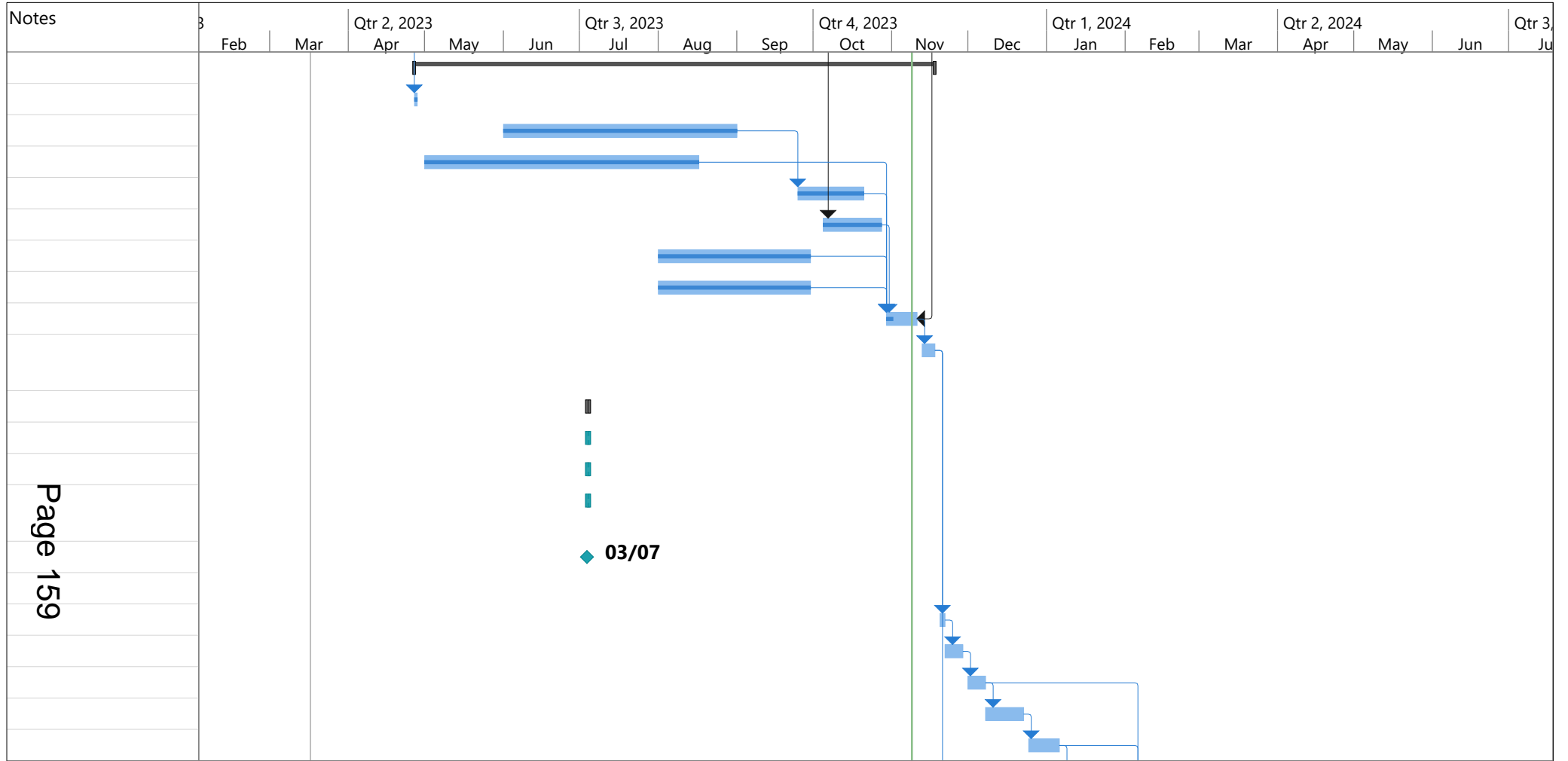
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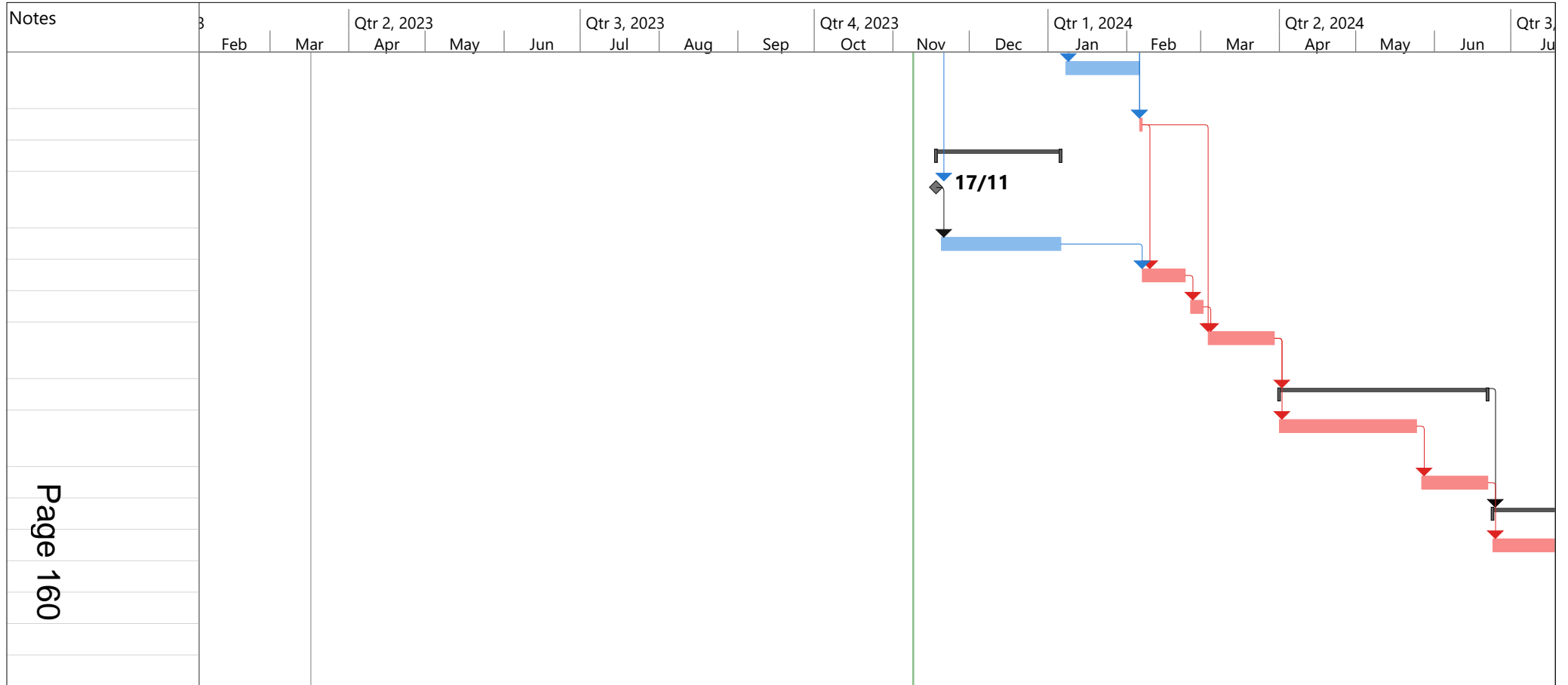
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Project: A37 A4018 Vic St & Co
Date: Thu 09/11/23

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Inactive Milestone		Finish-only		Manual Progress	






















Qtr 3, 2024			Qtr 4, 2024			Qtr 1, 2025			Qtr 2, 2025			Qtr 3, 2025			Qtr 4, 2025			Qtr 1, 2026	
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb

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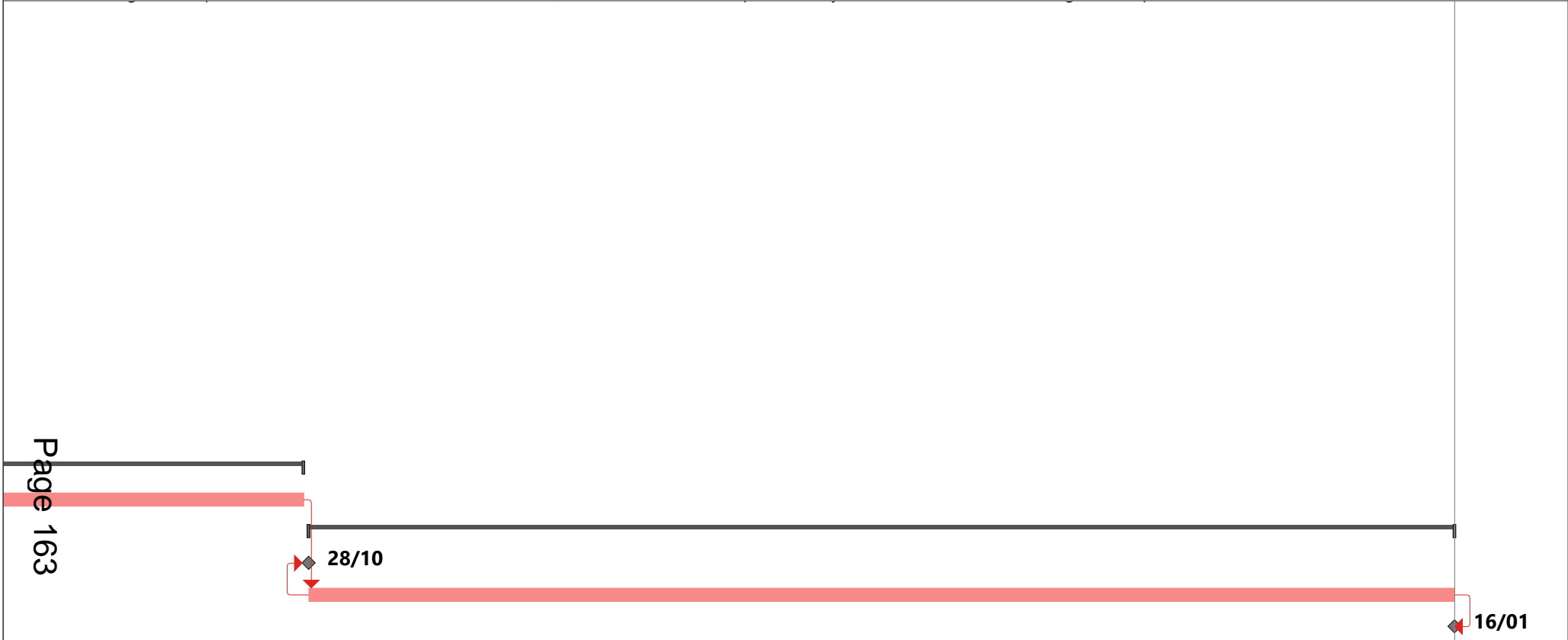
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	Inactive Milestone		Finish-only		Manual Progress	

Qtr 3, 2024			Qtr 4, 2024			Qtr 1, 2025			Qtr 2, 2025			Qtr 3, 2025			Qtr 4, 2025			Qtr 1, 2026	
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb

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Project: A37 A4018 Vic St & Co Date: Thu 09/11/23	Task		Inactive Summary		External Tasks	
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VICTORIA STREET BRISTOL CITY COUNCIL

QCRA RESULTS

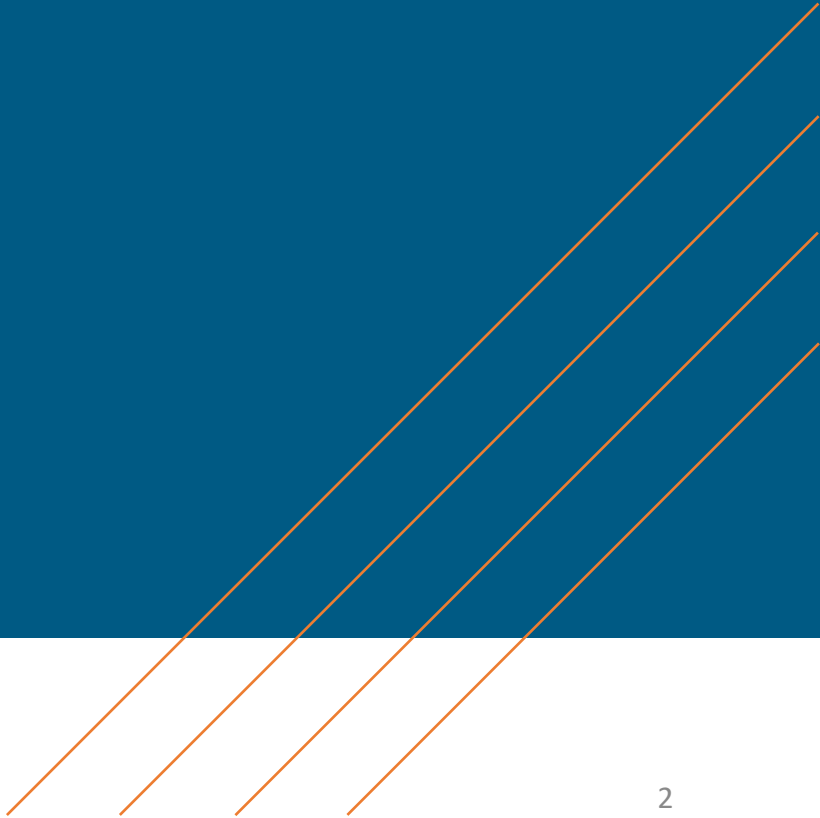
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8th November 2023
Eleanor Varu

QCRA Results Slides

Pre-mitigated and Post-mitigated

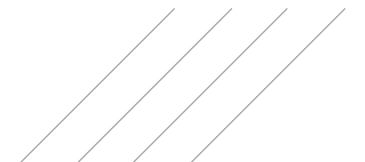
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The Quantitative Cost Risk Analysis (QCRA) Process

A Quantitative Cost Risk Analysis is a process which estimates the potential cost impact of the risks already identified in the risk register, by using statistical sampling and (risk) modelling techniques. The process assesses cost certainty of the risks and gives a 'realistic' estimate of the potential cost out-turn. This process is more commonly known as a *Monte Carlo* simulation. This simulation performs Risk Analysis by calculating possible outcomes from the probability and cost impact of each risk in the register. This is performed repeatedly, until 10,000 iterations have been completed.

The simulation then produces a distribution of outcomes values, where a P-value can be drawn. These P-values can be used to give confidence levels of achieving within that cost and can be compared to the project cost (the higher the P-value the more confidence in the figure).





Executive Summary – Current Risks

- A quantitative cost risk analysis was undertaken on the Victoria Street project on 31.10.23. The following results were observed:

Summary outputs from Quantitative Cost Risk Analysis (QCRA)

Project Name: **Victoria Street - Current Risks**

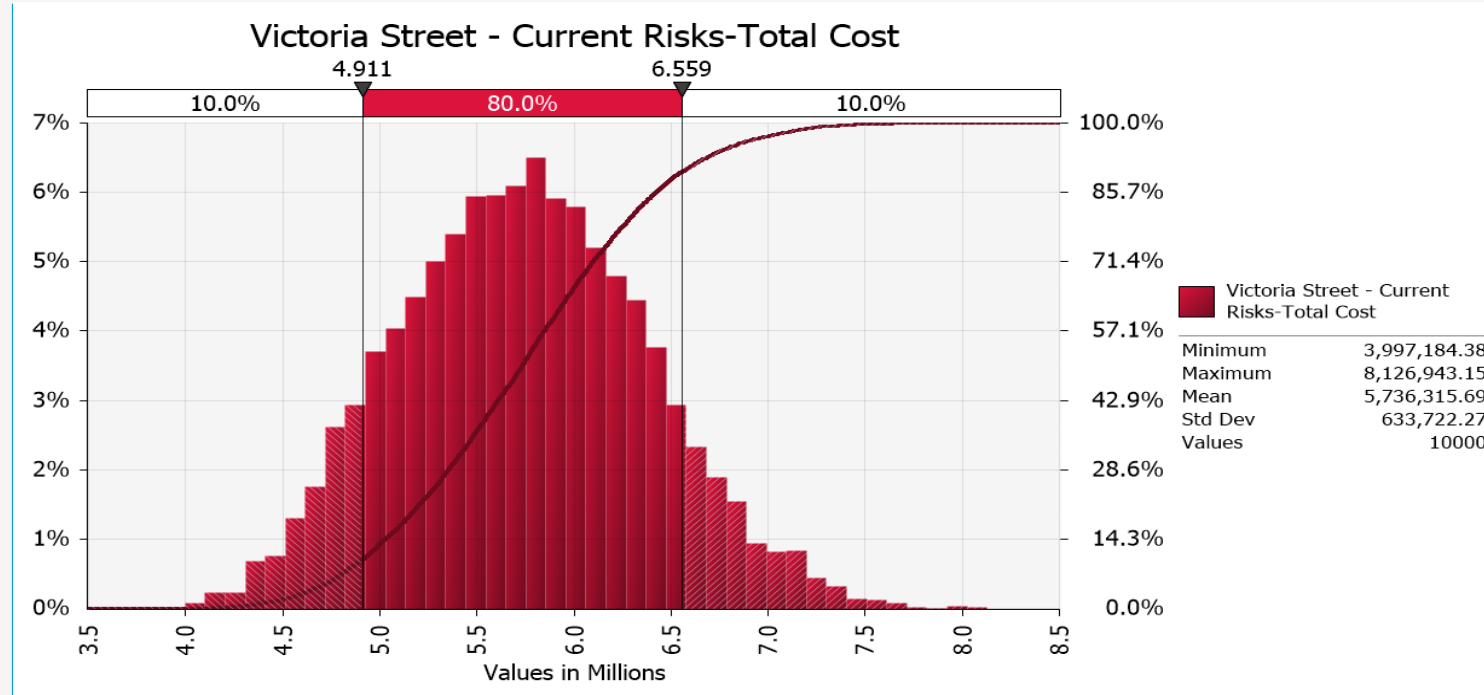



Base Cost	Risk Exposure	Confidence Level						
		Mean	P50*	P80*	P85*	P90*	P95*	
Cost of Work Done (COWD)	131,537	Mean split (EU)	61,043	60,969	79,254	83,328	88,586	96,628
Costs to Go (CTG)	3,780,504	Mean split (Discrete Risk)	1,763,232	1,761,102	2,289,256	2,406,938	2,558,808	2,791,093
Total Base Cost	3,912,041	Mean split (Schedule Delay)	0	0	0	0	0	0
Probability of achieving within Base Cost	0.0%	Risk - uplift to Base Cost	1,824,275	1,822,071	2,368,510	2,490,266	2,647,394	2,887,721
		Risk - % of Base Cost	46.6%	46.6%	60.5%	63.7%	67.7%	73.8%
		Risk - % of CTG	48.3%	48.2%	62.7%	65.9%	70.0%	76.4%
		Total AFC	5,736,316	5,734,112	6,280,551	6,402,307	6,559,435	6,799,762

- The forecast AFC at **80%** level of confidence (P80) is **£6.28m**. This includes an uplift of **£2.3m** on the adjusted base cost of **£3.9m** for risk, which represents **60.5%** of base cost.
- The forecast AFC at **50%** level of confidence (P50) is **£5.73m**. This includes an uplift of **£1.8m** on the adjusted base cost of **£3.9m** for risk, which represents **46.6%** of base cost.

Sensitivity Analysis (Tornado Chart) – Current Risk results

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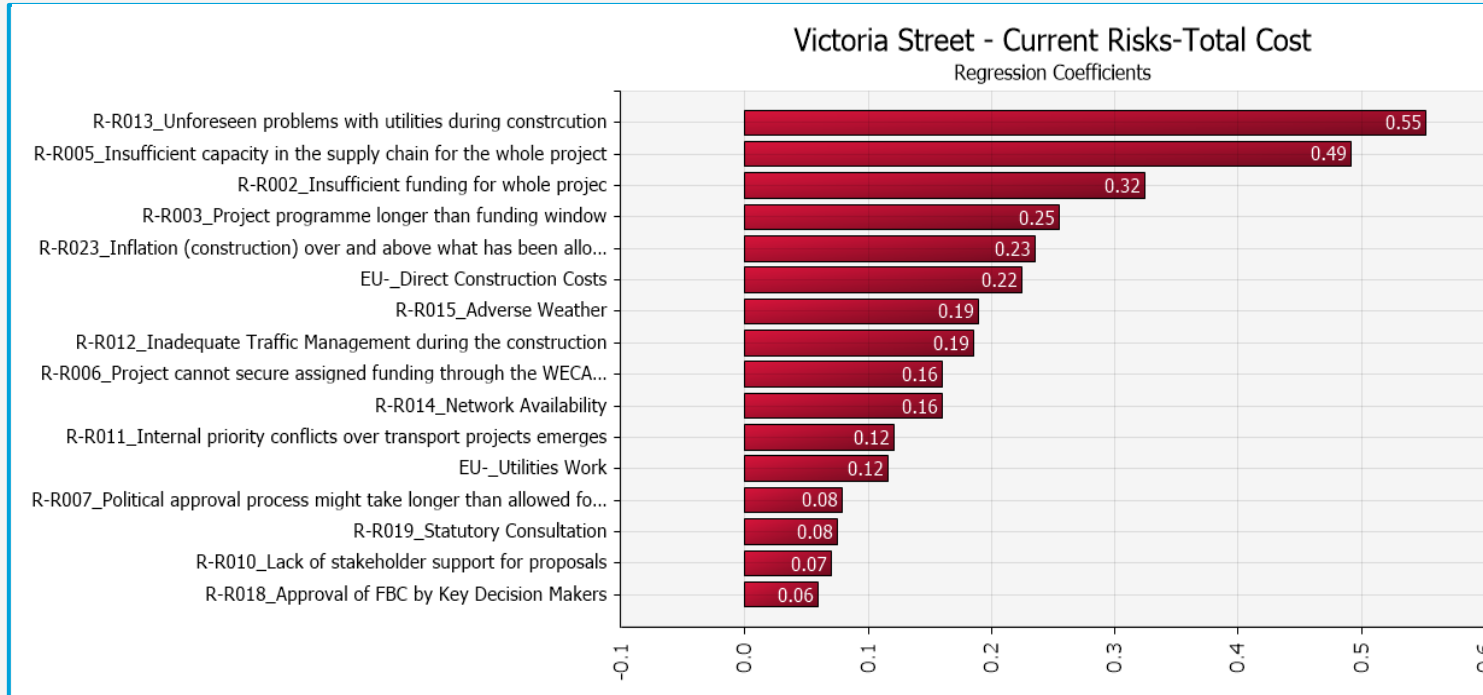


Commentary:

The graph indicates a normally distributed range. This is where the continuous probability distribution is symmetrical on both sides of the mean. Most of the continuous data values in a normal distribution tend to cluster around the mean, and the further a value is from the mean, the less likely it is to occur. Furthermore, the steep s-curve suggests high confidence in the cost risk data.



Sensitivity Analysis (Tornado Chart) – Current Risk results



Rank	ID	Activity Name / Risk Title
1	R013	Unforeseen problems with utilities during construction
2	R005	Insufficient capacity in the supply chain for the whole project
3	R002	Insufficient funding for the whole project
4	R003	Project programme longer than funding window
5	R023	Inflation (construction) over and above what has been allowed

Commentary:

The Tornado graph identifies which specific variables have the most significant impact on a project's cost outcome.

R013 and R005 are the key driving risks due to their high cost assessments



Key Drivers & Recommendations – Current Risk Results

The key items driving the results are:

- › 1) R013 – Unforeseen problems with utilities during construction
- › 2) R005 – Insufficient capacity in the supply chain for the whole project
- › 3) R002 – Insufficient funding for the whole project

The key recommendation from this study are as follows:

- › 1) For R013, the mitigation actions correctly identify that significant investigations to be carried out through detailed design and the C4 process, as this will inform what known utility diversion will be necessary. It is therefore recommended to review the assessment of this risk once these actions have been completed / addressed and successful, as there will then be a greater understanding and certainty of how this risk will impact the project.
- › 2) For R005, the mitigation actions detail that resource availability within the supply chain cannot be confirmed until the civil engineering contract is put out to tender following FBC production. It is recommended that once the contract is put out to tender, the assessment and mitigation actions should be updated once there is certainty of resource availability.
- › 3) For R002, the mitigation action details that the complete funding requirement will only be known on completion of FBC. It is recommended that once the FBC has been completed and submitted, the assessment and mitigation actions should be revisited and updated.



QCRA Results Slides – Post-Mitigation Risk Results

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Executive Summary – Post-Mitigation Risks

- A quantitative cost risk analysis was undertaken on the Victoria Street project, on 31.10.23. The following results were observed:

Summary outputs from Quantitative Cost Risk Analysis (QCRA)

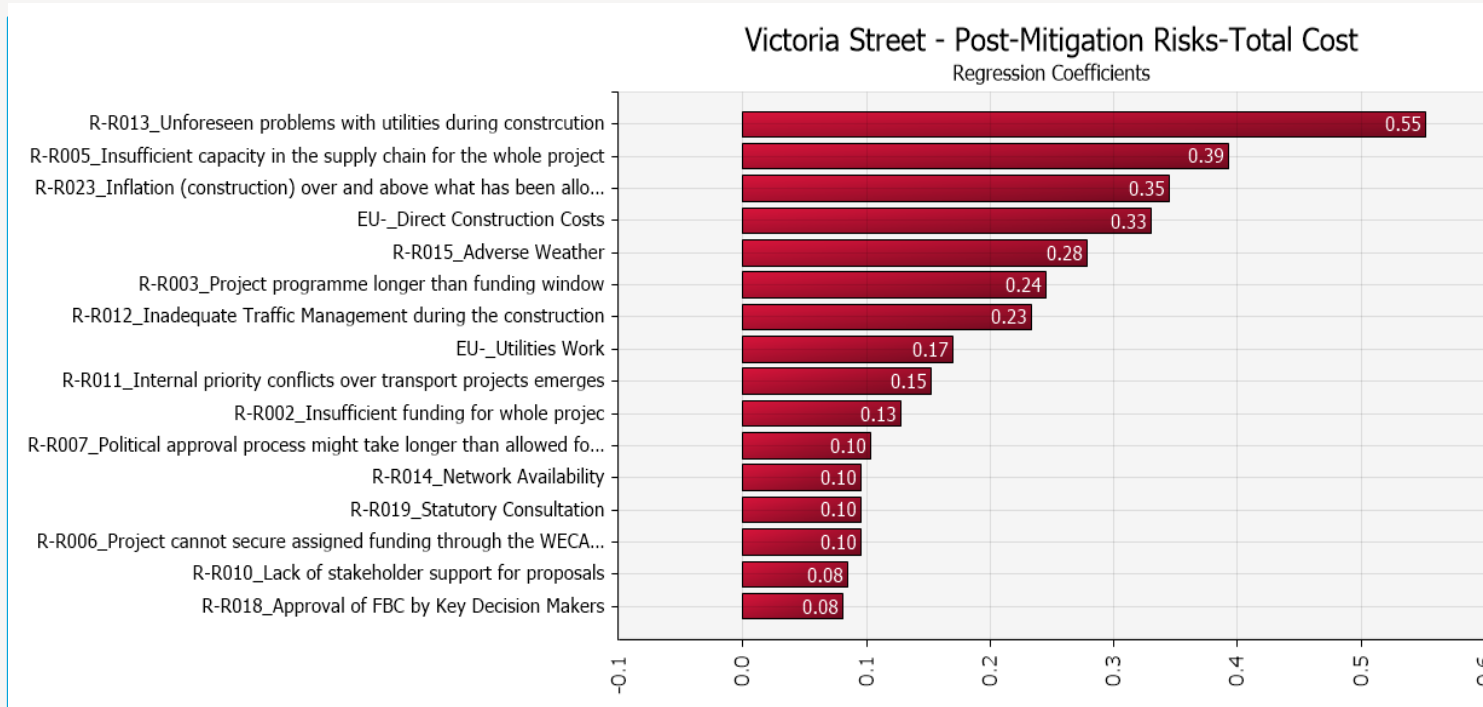
Project Name: Victoria Street - Post-Mitigation Risks



Base Cost	Risk Exposure	Confidence Level						
		Mean	P50*	P80*	P85*	P90*	P95*	
Cost of Work Done (COWD)	131,537	Mean split (EU)	61,043	58,996	84,147	90,086	97,664	109,219
Costs to Go (CTG)	3,780,504	Mean split (Discrete Risk)	897,722	867,617	1,237,491	1,324,838	1,436,276	1,606,215
Total Base Cost	3,912,041	Mean split (Schedule Delay)	0	0	0	0	0	0
Probability of achieving within Base Cost	0.4%	Risk - uplift to Base Cost	958,765	926,613	1,321,638	1,414,924	1,533,940	1,715,435
		Risk - % of Base Cost	24.5%	23.7%	33.8%	36.2%	39.2%	43.9%
		Risk - % of CTG	25.4%	24.5%	35.0%	37.4%	40.6%	45.4%
		Total AFC	4,870,806	4,838,653	5,233,679	5,326,965	5,445,981	5,627,476

- The forecast AFC at **80%** level of confidence (P80) is **£5.2m**. This includes an uplift of **£1.3m** on the adjusted base cost of **£3.9m** for risk, which represents **33.8%** of base cost.
- The forecast AFC at **50%** level of confidence (P50) is **£4.8m**. This includes an uplift of **£926k** on the adjusted base cost of **£3.9m** for risk, which represents **23.7%** of base cost.

Sensitivity Analysis (Tornado Chart) – Post-Mitigation risk results



Rank	ID	Activity Name / Risk Title
1	R013	Unforeseen problems with utilities during construction
2	R005	Insufficient capacity in the supply chain for the whole project
3	R023	Inflation (construction) over and above what has been allowed
4	EU	Direct Construction costs
5	R015	Adverse Weather

Commentary:

The Tornado graph identifies which specific variables have the most significant impact on a project’s cost outcome. R013 and R005 are still the top 2 driving risks for this project. R023 was the 5th driving risk for the Current position, changing to top 3 post-mitigation. However, R002 has reduced significantly – identifying that, if successful, the mitigation actions in place are appropriate.



Key Drivers & Recommendations – Post-Mitigation Risk Results

The key items driving the results are:

- › 1) R013 – Unforeseen problems with utilities during construction
- › 2) R005 – Insufficient capacity in the supply chain for the whole project
- › 3) R023 – Inflation (construction) over and above what has been allowed

The key recommendation from this study are as follows:

- › 1) R013 and R005 are the main driving risks for the post-mitigated results. As before, it is recommended to review the assessment of this risk once the actions have been completed/ addressed and successful as there will be a greater understanding and certainty of how this risk will impact the project.
- › 2) R023 was the 5th driving risk for the Current position but has changed to the Top 3 post-mitigation. This risk relates to the inflation over and above what has been allowed for. Inflation should be closely monitored throughout the project.
- › 3) Whilst R002 has reduced post-mitigation, it is still a driving risk for this project . It is recommended to review the mitigation actions in place for these risks to ensure the actions are appropriate and robust.



Lot 5
Highways and Associated Works up to
£150,000

Lot 6
Highways and Associated Works over
£150,000

Volume 1.0 – Generic Scope
Volume 1.2 - Specification

January 2020

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Preamble to the Specification

1. The Specification referred to in the Contract is the “Specification for Highway Works”, published by The Stationery Office as Volume 1 of the Manual of Contract Documents for Highway Works, incorporating amendments up to March 2020 as modified and extended by the following:
 - (i) Appendix 0/1: Contract-specific Additional, Substitute and Cancelled Clauses, Tables and Figures.
 - (ii) Appendix 0/2: Terms and Abbreviations.
 - (iii) The Numbered Appendices listed in Appendix 0/3.
 - (iv) Appendix 0/5: Special National Alterations of the Overseeing Department of Scotland, Wales or Northern Ireland.
2. The relevant publication date of each page of the Specification for Highway Works is given in the Schedule of Pages and Relevant Publication Dates.
3. An additional Clause as indicated by a suffix “A” in Appendix 0/5 is an alteration originating from the Overseeing Department of Scotland, Wales or Northern Ireland.
4. An Additional Clause as indicated by a suffix “AR” in Appendix 0/1 is a Contract-specific alteration.
5. A substitute Clause as indicated by the suffix “S” in Appendix 0/5 is an alteration originating from the Overseeing Department of Scotland, Wales or Northern Ireland.
6. A Substitute Clause as indicated by a suffix “SR” in Appendix 0/1 is a Contract-specific alteration.
7. A Cancelled Clause as indicated by a suffix “C” in Appendix 0/5 is an alteration originating from the Overseeing Department of Scotland, Wales or Northern Ireland. A Cancelled Clause indicated by a suffix “CR” in Appendix 0/1 is a Contract-specific alteration.
8. Insofar as any of the Numbered Appendices may conflict or be inconsistent with any provision of the Specification for Highway Works the Numbered Appendices always prevails. Additionally, Numbered Appendices 0/1 and 0/2 always take precedence over Numbered Appendix 0/5.
9. Any reference in the Contract to a Clause number or Appendix is deemed to refer to the corresponding Substitute Clause number or Appendix listed in Appendix 0/1, 0/2 or 0/5.
10. Where a Clause is altered any original Table/Figure referred to in the Clause applies unless the Table/Figure is also altered. Where a Table/Figure is altered any reference in a Clause to the original Table/Figure applies to the altered Table/Figure.
11. Where a Clause in the Specification relates to work goods or materials which are not required for the Works it shall be deemed not to apply.
12. Any Appendix referred to in the Specification which is not used is deemed not to apply.
13. Appendix content which is shaded and in *italics* will be completed for individual packages. Appendix content which is in plain font applies to all packages let under this

Framework. Appendix content which is prefixed by **TENDER-SPECIFIC** will be completed and apply to an individual tender.

14. Where a Clause or sub-Clause in the Specification is annotated by "08/03" or similar, this indicates the relevant publication date that alteration(s) to the Clause or sub-Clause were made. The first double digit refers to the month, and the second double digit refers to the year.
15. This Contract includes the Council's commitment to improving the environment and quality of life through applying its Environmental Policy. The Contractor will be required to provide professional services in the form of either a recognised Quality Assurance scheme or prove to the satisfaction of the Employer's Representative that its management and work practices can be properly audited.
16. Lot 5 packages of work are procured under the NEC4 Engineering Construction Short Contract (ECSC). For Lot 5 packages for the purpose of this contract, the role of the Client and the role of the Employer's Representative are not the same unless otherwise indicated in a specific package. The Employer's Representative undertakes the role of the supervisor and the Project Manager under ECC. Packages of work procured under Lot 5 are for works with a value of up to and including £150,000.
17. Lot 6 packages of work are procured under the NEC4 Engineering Construction Contract (ECC) Option B. For "Project Manager" or "Supervisor" read "Employer's Representative". Packages of work procured under Lot 6 are for works with a value over £150,000.
18. "Price List" means a list of items giving brief identifying descriptions in the execution of the works or services to be performed; also referred to as the "Schedule of Rates" or "Bill of Quantities"
19. The specification below applies to the Bristol Highways Asset Management and Associated Highway Works (2021-2025) for Lots 5 and 6.

Specification for Highway Works Schedule of Pages and Relevant Publication Dates

Series/Appendix	Page Number	Publication Date
000	1 to 3	May 2014
000	6 to 7F	February 2016
000	4 to 5	March 2020
100	1 to 2, 4 to 9, 12 to 29F, WF1, N2 to N11F	May 2014
100	3, 10 to 11, N1	December 2014
200	1 to 3F	February 2016
300	1	May 2001
300	4	November 2002
300	2 to 3, 5 to 6F	May 2008
400	1, 9 to 11, 13, 17 to 20, 21, 23F	May 2017
400	2 to 8, 12, 14 to 16, 22	March 2020
500	1 to 2, 4 to 39F, N1 to N2F	February 2020
500	3	March 2020
600	1 to 68, 70 to 77F, S1 to S4F, W1 to W4F, N1 to N5F	February 2016
600	69	February 2017
700	1 to 36F, N1 to N6F	February 2016
800	1, 3 to 31	February 2016
800	2, 32 to 38F	March 2020
900	3, 5 to 7, 21 to 32	May 2018
900	1 to 2, 4, 8 to 20, 33 to 79F	July 2019
1000	1 to 51F	January 2020
1100	N1F	November 2006
1100	3	August 2008
1100	1 to 2, 4 to 6F	February 2017
1200	5	May 2001
1200	2 to 3, W1F	August 2003
1200	1, 14 to 16F	May 2004
1200	4, 9 to 11, 13	May 2005
1200	12	November 2006
1200	6 to 7, N1 to N4F	November 2007
1200	8	May 2008
1300	N2F	November 2003
1300	3 to 4	November 2004
1300	1, 5 to 10, 12F	November 2005
1300	2, 11 and N1	May 2006
1400	2, N1F	May 2001
1400	1, 3 to 9F	May 2006
1500	1 to 31F	February 2017
1600	1, 4 to 5, 9, 15, 17 to 18, 24 to 26, 29 to 31, 35, 38, 49F	March 1998
1600	2, 6 to 8, 10 to 14, 16, 19, 27 to 28, 32 to 34, 36 to 37, 39 to 42, 44 to 48	November 2003
1600	3, 20 to 23, 43	November 2005
1700	2, 4, 6 to 7, 19, 24 to 27, 30 to 34	December 2014
1700	1, 3, 5, 8 to 18, 20 to 23, 28 to 29, 35 to 39F	March 2020

Series/Appendix	Page Number	Publication Date
1800	1 to 35F	August 2014
1900	1 to 35F, S1 to S2F	August 2014
2000	1, 3 to 4F	May 2001
2000	2	November 2004
2000	1, 3 to 4F	May 2001
2000	2	November 2004
2100	1 to 2F	February 2016
2300	1	March 1998
2300	2 to 3F	May 2001
2400	1, 4, 7F	May 2005
2400	2	May 2006
2400	3, 5 to 6	May 2008
2500	1	May 2001
2500	2, 8, 11F	November 2003
2500	10	November 2004
2500	6 to 7, 9	May 2005
2500	5	May 2006
2500	3 to 4	November 2006
2600	2 to 4	November 2003
2600	5	November 2004
2600	6	May 2005
2600	7	November 2006
2600	1, 8F	March 2020
3000	4 to 7, 10, 12 to 17, 19, 22 to 27F	May 2001
3000	20	November 2004
3000	2 to 3	May 2006
3000	8 to 9, 11, 18, 21	May 2008
5000	1, 4 to 19F, S1F	May 2005
5000	2 to 3	November 2008
5700	1 to 30F	February 2020
Appendix A	1 to 4F	May 2014
Appendix B	1 to 3F	May 2014
Appendix C	1 to 2F	May 2014
#Appendix D	1F	May 2014
Appendix D (NI)	N1F	May 2014
Appendix E	1F	May 2014
Appendix F	1 to 60F	March 2020
Appendix G	Not used	
Appendix H	1	May 2004
Appendix H	2	November 2005
Appendix H	3	November 2006
Appendix H	4 to 9F	November 2008

APPENDIX 0/1: CONTRACT SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT

Clause No.	Title and Written Text
128AR	<p>Traffic Management Act</p> <p>The Contractor complies with the requirements of the Traffic Management Act with regard to Notices and the Permit Scheme as set out in Appendix 1/28.</p>
129AR	<p>Management of the Contract</p> <p>The Contractor complies with the requirements of Appendix 1/29 with regard to the preparation for and attendance at meetings, and the prevention of disputes.</p>
130AR	<p>Data Management and Information Systems</p> <p>The Contractor complies with the requirements of Appendix 1/30 with regard to data management and information systems.</p>
170AR	<p>Health and Safety</p> <p>1. The Contractor must comply with all relevant statutes and Regulations relating to the health and safety of its operations.</p> <p>(a) The Contractor shall undertake the role of Principal Contractor in accordance with the Construction (Design and Management) Regulations 2015. Before setting up a construction site the Contractor must prepare a Construction Phase Plan including relevant pre-construction information from the Employer and designer provided by the Principal Designer and submit it to the Employer's Representative. Work cannot start on site until the Client has ensured that a Construction Phase Plan has been prepared setting out the arrangements for securing health and safety during the construction phase and including specific measures to manage risks listed in Schedule 3 to the CDM Regulations 2015. The Contractor must ensure that the Construction Phase Plan is developed to ensure health and safety for the duration of the construction work. A delay to the start of the construction work due to failure to prepare a suitable Construction Phase Plan is not a Compensation Event.</p> <p>(b) The Employer's Representative may require the Contractor to submit evidence of its compliance with the Construction Phase Plan and associated Site Rules as well as relevant health and safety legislation, including the CDM Regulations.</p> <p>(c) The Contractor must, without delay, provide the Principal Designer with any information in its possession required for inclusion in the Health and Safety File. In the event that the Principal Designer appointment terminates prior to the completion of the works, the Health and Safety File must be completed by the Contractor.</p> <p>3. The Contractor must ensure that all site personnel under its control are issued with safety clothing and suitable personal protective equipment in accordance with the Personal Protective Equipment at Work Regulations. The Contractor must take all reasonable steps to ensure that any personal protective equipment provided is properly used. The selection, use and maintenance of personal protective equipment shall be as described in Part 2 of the Guidance on the Regulations published by the Health and Safety Executive and is expected to include goggles or protective glasses, dust masks, boots, hard hats, yellow reflective and fluorescent jackets (to BS EN 471), ear defenders, waterproof clothes and anti-vibration gloves.</p> <p>4. The Contractor must ensure that the workforce, including those working for sub-contractors, possess certificates under the Construction Safety Certification</p>

Clause No.	Title and Written Text
	<p>Scheme, appropriate for the work they will carry out.</p> <p>5. All incidents and near misses associated with the works shall be recorded by the Contractor and reported to the Employer's Representative as soon as possible. If the incident involves a member of the public or a visitor to site it shall be reported to the Employer's Representative immediately.</p> <p>Information for the Health and Safety File</p> <p>Draft as-built drawings showing the following, whether installed by the Contractor, other contractors of the Employer or utilities:</p> <ul style="list-style-type: none"> • drains, including gully runs • ducts • cables, including connections to illuminated signs, bollards etc., distinguishing between utilities' or private property and Employer property, • positions of disconnections, • details of construction or reinstatement of carriageway, footway and cycleway, if different from the Contract drawings • other buried features such as foundations • changes from the drawings at time of tender. <p>The Project Manager will supply AutoCAD files of the contract drawings. The version of Autodesk CAD will be as agreed with the Project Manager at the start of the Construction Phase. On all packages, unless otherwise agreed by the Project Manager, the Contractor supplies the draft as-built drawings as DXF or DWG files compatible with Autodesk CAD. The Contractor will amend the drawings as appropriate.</p> <p>Information on materials:</p> <ul style="list-style-type: none"> • a list of materials with sources or suppliers • test certificates such as cube tests on concrete carried out as required by the Contract (see Appendix 1/5) or in accordance with the law • Hazard sheets • information or instructions on hazards associated with materials which may occur during maintenance <p>Existing utilities and services</p> <ul style="list-style-type: none"> • Annotated photographs or drawings showing the positions of utilities' apparatus and services where exposed in excavations, or where installed during the works. <p>Maintenance manuals on plant supplied or installed by the Contractor such as</p> <ul style="list-style-type: none"> • pumps • valves • sensors • electrical equipment

Clause No.	Title and Written Text
	<p>Other information required under Appendix 14/1</p> <p>Design & Scope under Appendix 1/10, 6/10, Series 2500 or specified in the Pre-construction Information.</p> <p>Surveys and Investigations undertaken / provided by the Contractor to be provided as part of the H&S File Submission.</p> <p>Submission of information for the Health and Safety File The above is required as part of the Contractor's obligations. All information should be supplied electronically.</p> <p>The Health and Safety File is part of the Scope. Failure to provide the Health and Safety File will be considered as a defect. Any release of retention will be withheld until the Contractor has submitted a Health and Safety File that has been approved by the Employer's Representative or the Project Manager.</p> <p>The Contractor allows in its rates for gathering and supplying the information for the Health and Safety File.</p>
171AR	<p>Access for Fire Fighting Appliances Existing access for emergency services to buildings, shops, woods and the like shall be maintained at all times during the carrying out of the Works. In the event of an existing access being obstructed or covered an alternative access shall be provided to the satisfaction of all interested parties including the Fire Brigade before the existing access is closed. Through routes for emergency vehicles along adjacent roads shall be maintained at all times.</p>
172AR	<p>Forms and Reports The Contractor shall submit Daily Returns with information pertaining to labour, equipment, plant, activities and any other resources used.</p> <p>The Contractor also submits a record of materials used including but not limited to test certificates as evidence of adherence to standards and specifications.</p> <p>Photographic Report</p> <ul style="list-style-type: none"> • The Contractor shall take record photographs of each site before commencement and after completion of works at each location applicable to a package. • The before commencement record photograph(s) should evidence the general site conditions and specific parts of the site where works will change the existing layout. • The after-completion record photograph(s) should evidence the general site

Clause No.	Title and Written Text
	<p>conditions and show details of the works applicable to a package.</p> <ul style="list-style-type: none"> • Photographs must be provided as part of evidence for compensation events. • If the record photographs are not provided then a payment application may be delayed or rejected. <p>Information to be provided by the Contractor</p> <p>TENDER SPECIFIC</p> <p><i>Package-specific</i></p>
173AR	<p>Emergency Call Out</p> <p>The Contractor shall display on Site a purpose made sign indicating the Company's full name and address and the telephone number of a contact person should an emergency arise on the Site.</p> <p>In the event of an emergency, the Contractor shall attend on site within one hour of the contact person having been informed of the nature of the emergency. The Contractor shall provide the Employer's Representative with evidence that such arrangements have been made and that the police (and another relevant emergency service) and Local Authority's representatives have been informed.</p> <p>The Contractor shall keep the Employer's Representative informed of the contact name and number for enquiries arising outside working hours.</p>
174AR	<p>Personal Protective Equipment</p> <p>The Contractor must ensure that all site personnel under its control are issued with safety clothing and suitable personal protective equipment in accordance with the Personal Protective Equipment at Work Regulations. The Contractor must take all reasonable steps to ensure that any personal protective equipment provided is properly used. The selection, use and maintenance of personal protective equipment shall be as described in Part 2 of the Guidance on the Regulations published by the Health and Safety Executive and is expected to include goggles or protective glasses, dust masks, boots, hard hats, yellow reflective and fluorescent jackets (to BS EN 471), ear defenders, waterproof clothes and anti-vibration gloves. This includes all current and future government advice/requirements pertaining to pandemics and infectious diseases where the situation is not considered a pandemic.</p>
175AR	<p>Statutory notices</p> <p>The Contractor is responsible for issuing and maintaining TMA and NRSWA compliant notices. The contractor is responsible for applying for and maintaining up to date and valid statutory Permits through The Street Manager system (or alternative web-based system as required by the Employer).</p>

Clause No.	Title and Written Text
176AR	<p>General Environmental Requirements and Environmental protection</p> <p>The Contractor shall comply with all statutes and Regulations to protect the environment and prevent pollution.</p> <p>As a minimum the Contractor should maintain in place a management system that ensures compliance with health and safety and environmental legislation, and will furnish the Employer with data and reports to demonstrate this if requested.</p> <p>The Contractor complies with Employer Environmental Requirements available at the link below</p> <p>https://www.bristol.gov.uk/en_US/policies-plans-strategies/energy-and-environment</p>
177AR	<p>Site Waste Management Plan</p> <p>If required by statute or Regulations, planning conditions at the time of the Works, required by an individual works package or instructed by the Employer's Representative, the Contractor provides evidence of compliance.</p> <p>The Contractor shall provide permits pertaining to the re-use of waste through:</p> <ul style="list-style-type: none"> • Definition of Waste Code of Practice (DoWCoP) • Environmental Permit Exemption • Environment Permit • Any permit other as required <p>The contractor shall provide a Construction Environmental Management Plan (CEMP) or Site Waste Management Plan, if required by an individual works package or requested by the Employer.</p> <p>The purposes of the Plan will include:</p> <ul style="list-style-type: none"> • To comply with relevant Regulations • To minimise materials, fuel and energy being wasted • To assist first time compliance with the Scope • To minimise the number of journeys to and from site for the transport of materials or waste • To protect the health and safety of people, wildlife and habitats. • To protect watercourses
178AR	<p>Accredited Supervisor</p> <p>The Works shall at all times be managed by the contractors Agent, Sub-Agent or engineer. The Agent, Sub-agent or engineer shall be suitably qualified and shall be contactable at all times when the Works are in progress</p>

Clause No.	Title and Written Text
	<p>At least one person on site at all times is to hold an accredited qualification as an operative for the task being carried out. Any works must be supervised by a person with an accredited qualification as a supervisor for the task being carried out. Accredited qualifications shall be obtained and used in accordance with The Street Works (Qualifications of Supervisors and Operatives) (England) Regulations 2016.</p>
179AR	<p>Protection of Trees</p> <ul style="list-style-type: none"> • Existing (and newly planted during the works) trees, plants and hedgerows to be retained as part of the development shall be protected and care shall be taken to avoid damage to them. • Particular care shall be taken such that trees, plants and hedgerows to be retained and preserved shall not be damaged during the removal and disposal of adjacent trees, plants and hedgerows. Refer to Appendix 31/1. • Prior to the commencement of works, tree protection must be in place and the Contractor shall carry out a toolbox talk to ensure that its representatives on site understand and carry out work in accordance with the Contractor's RAMS, the contract and the package specific specification. • Tree protection shall be in accordance with: BS5837: 2012 Trees in Relation to Design, Demolition and Construction (this also includes including Figure 3a of the document) and NJUG4 Issue 2, as agreed by the Employer's Representative and included in the package specific specification. The tree protection barriers will define the Root Protection Area (RPA). The extent of this enclosed area is known as the Construction Exclusion Zone (CEZ). Tree protection must be approved on site by the Employer's Representative prior to the commencement of works. Any adjustment or revision to the design or implemented tree protection measures must be approved by the Employer's Representative. • Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, the shape of the RPA may be modified but not reduced in area and its shape should reflect a soundly based arboricultural assessment of the likely root distribution. Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system: <ul style="list-style-type: none"> The morphology and disposition of the roots, when known to be influenced by past or existing site conditions (e.g. the presence of roads, structures and underground services); Topography and drainage; The soil type and structure; The likely tolerance of the tree to root disturbance or damage, based on factors

Clause No.	Title and Written Text
	<p>such as species, age and condition and presence of other trees; and</p> <p>The maximum extent of the RPA is capped at the equivalent of a circle with a radius of 15 metres.</p> <ul style="list-style-type: none"> • Where the RPA of retained trees extend underneath unmade access roads that are to be utilised during the construction process, porous ground protection should be installed in accordance with Section 6.2.3 of BS 5837:2012 to avoid compaction of the underlying soil. Where a construction workspace or temporary construction access is required within the RPA, this should be facilitated by a setback in the alignment of the tree protection barrier and new temporary ground protection should be installed. • The Contractor shall erect a protective barrier to areas of existing trees, hedgerows and other vegetation at the commencement of works, at the locations and alignments shown on the drawings, with the purpose of excluding all construction activity. In particular the parking and movement of equipment/plant/vehicles, the storage of materials or excavated waste shall not be allowed within the protected area as per BS5837: 2012 and the package specific specification. • Should the Contractor need to gain access to the protected area then a request should be sought from the Employer's Representative on each occurrence. The Contractor shall maintain, repair and replace as necessary this barrier until substantial completion of the works, and then dispose of the barrier off site. All to be included in the Contractors rates for temporary protective fencing. • To reduce the risk of contamination due to spillage, no liquid storage shall be setup within 15 metres of any tree, plants or hedgerow to be retained. • No branches or roots shall be trimmed, pruned or severed without the prior approval of the Employer's representative. • Service runs such as pipes and ducts should be carefully designed to avoid passing under tree canopies. Guidance for the planning and installation of services should be sought from NJUG 4, issue 2¹. Where this is not possible, allowance should be made to ensure excavations are undertaken by hand/air spade in accordance with the Section 7.1 and 7.7 of BS 5837:2012. • Trees should not be used as anchor points. • As roots can be damaged by the direct toxicity of some material, care will be taken as to the nature of any materials stored near the protective barriers.

Clause No.	Title and Written Text
	<ul style="list-style-type: none"> • If trees are damaged, the Contractor shall consult the Employer's Representative immediately for remedial measures. • Some trees may be legally protected with Tree Preservation Orders (TPOs) or may be locate in conservation areas. Some hedgerows are also protected. Where such protections exist, the package specific specification shall reflect this and extra care should be taken by the Contractor.
180AR	<p>Heras fencing</p> <p>Where mesh panel barriers are provided by the Contractor, they shall be maintained in the correct positions by clipping and/or locking panels together. Fencing shall be maintained clean and in good condition, free from damage or snags which could cause a hazard and with red and white warning boards where appropriate. The panels shall be founded by proprietary footing units, weighed down with sand bags and if necessary propped to prevent them from blowing over.</p> <p>Heras fencing used by the Contractor for the purpose of site or accommodation health and safety and/or security is at the Contractor's cost including provision, maintenance and removal.</p>
181AR	<p>Tidiness</p> <p>The Contractor shall keep the Site and the area of its portable accommodation and stockpiles clean, tidy and free of detritus and litter at all times. This shall be included in its rates.</p>
182AR	<p>The Employer</p> <p>As a public body, the Employer is constantly interested in the well-being of its citizens and visitors. Therefore, discrimination of any form cannot be tolerated, either in the Contractor's recruitment or working practices, or in relations with the public. The Contractor's people must remain aware of their duty to deal courteously, fairly and thoughtfully with members of the public. Local residents may have strong views on some of our schemes and they must be politely referred to the appropriate officer as required.</p> <p>The contractor should note that the public will view its staff as representatives of The Employer and the Contractor's Staff should not act in a way that would bring into disrepute the reputation of The Employer.</p> <p>The Employer also takes seriously the safety and well-being of the Contractor's workforce and its own staff. Aggression, assault or attempted assault by any member of the public must also be reported so that joint action can be taken if necessary. The Contractor cooperates with the Employer's officers in this process. (This could include reporting to the police, having discussions with community leaders, "flagging" the location of an aggressive resident, etc.)</p>
183AR	<p>Requirements for Specialist Work</p> <p>Package Orders may require specialist works to be carried out by the Employer's contractor. These works pertain to the following:</p> <ul style="list-style-type: none"> • Street lighting, illuminated signs, non-illuminated signs and bollards to be carried out by the Employer's Highway Electrical Asset Team (HEAT) and

Clause No.	Title and Written Text
	<p>contractor.</p> <ul style="list-style-type: none"> • Installation of and alterations to traffic signals, including detector loops, will be carried out by the Employer's–Traffic Signals team's contractor. The Contractor installs civils works – ducts, chambers and the like. • Projects requiring more than 400m² of carriageway surfacing may be carried out by the employer's specialist surfacing contractor (Lot 1) if agreed by the Employer. • Tree planting and general planting shall be carried out by the Employer's appointed contractor. • Any other package specific work to be carried out by Others <p>The Contractor includes activities by the Employer's other contractors (specialist or otherwise) as described above and in specific packages, in all of its programmes for a project. The Contractor's programme(s) shall take into account lead times for the work done by the Employer's contractors (specialist or otherwise) and take due account of notice periods and support required for these contractors. Support will be as specified by a package.</p> <p>The Contractor also discusses coordination of the work done by the Employer's contractors (specialist or otherwise) with the Employer's Representative.</p>
184AR	<p>Protection from Nuisance due to the Works</p> <p>Existing roads, footways, rights of way, accesses to adjacent properties, buildings, etc., and any new roads and drains, whether part of the Site or not, which are being used by the Contractor or its Sub-Contractors' or Suppliers' vehicles or items of plant in connection with the works, shall be kept clean and free from all dirt, mud and material dropped from vehicles or tyres and tracks.</p> <p>No vehicle which is likely to deposit mud or other material onto the road surface shall be permitted back onto the public highway. The contractor is required to provide regularised cleaning of the highway or alternatively provide a suitable wheel washing facilities before the points of entry onto the public highway from the Site.</p> <p>Night time lighting associated with works should be located and positioned to avoid shining into the windows of neighbouring properties, or dazzling road users.</p> <p>Contractor should also avoid disrupting known bat routes through light overspill.</p> <p>In meeting its obligations under the Conditions of Contract, the Contractor shall provide, maintain and use as necessary suitable equipment, including mechanical/vacuum road sweepers throughout the duration of the works. Road sweepers propelled by tractors and with the brush at an angle to the road will not be permitted.</p>
185AR	<p>Temporary Parking Suspension</p> <p>Where instructed by the Employer's Representative for execution of the works on the <i>Affected Property</i> the <i>Contractor</i> shall temporarily suspend parking.</p>
201AR	<p>Disposal of material arising from site clearance</p> <p>Clause 201.6, at end of first paragraph, after "...shall be disposed of by him" add "in</p>

Clause No.	Title and Written Text
	<p>accordance with Appendix 2/3".</p> <p>This Sample Appendix lists materials arising from site clearance which shall generally be reused. This list is not exhaustive and will be refined and amended on a package-specific basis as necessary.</p>
205AR	<p>Protection of Street Furniture</p> <p>All covers and frames to manholes, gullies, stop-cocks, valves and the like shall be fully masked and marked by the Contractor at its cost, before the surfacing is laid. Masking material shall not overlap the edge of the ironwork by more than 5mm. The Employer's Representative may require masking of kerbs or channels in exceptional circumstances</p> <p>The masking shall be removed after the surfacing has cured and all masking materials removed to tip, to the satisfaction of the Employer's Representative. Where necessary, the Employer's Representative may instruct the Contractor to record the positions of such ironworks on the side of the carriageway to facilitate their locations after surfacing at no extra charge.</p>
206AR	<p>Site clearance of posts</p> <p>Refer to Appendix 2/7 for requirements for site clearance of posts.</p>
522AR	<p>Bedding and reinstatement around covers and frames</p> <p>Refer to Appendix 7/2 for requirements for bedding and reinstatement around covers and frames.</p>
644AR	<p>Filling of disused gully pots</p> <p>Refer to Appendix 6/16 for requirements for filling of disused gully pots.</p>
717AR	<p>Road humps and speed cushions</p> <p>Refer to Appendix 7/23 for requirements for road humps and speed cushions.</p>
1111AR	<p>Standard Traffic Islands</p> <p>Refer to Appendix 11/3 for requirements for standard traffic islands</p>
1112AR	<p>Additional requirements for footways and paved areas described as being used as cycleways</p> <p>The construction of cycle ways (other than cycle lanes on trafficked carriageway) is as specified in Appendix 11/1 and Series 1100 with the following additional requirements:</p> <p>Surface Regularity complies with Clause 702 and Table 2 (Class B road).</p>
3013AR	<p>Landscaping - Ground Preparation, Grass Seeding and Turfing</p> <p>Work by the Contractor to carry out grass seeding or turfing must not take place until the Employer's Representative(s) has inspected the site and confirmed in writing that the ground preparation work conforms to the contract. The Contractor must give the Employer's Representative a minimum of one week's notice for the inspection of the site.</p>

Clause No.	Title and Written Text
	<p><i>Handover</i> A specific package will require the Contractor to carry out work for an area(s) of landscaping either</p> <ul style="list-style-type: none"> • Up to the point of ground preparation (for the Employer to carry out grass seeding, turfing or planting) or • Ground preparation and grass seeding or turfing, <p>In the above scenarios the Contractor's landscaping works are not accepted for handover to the Employer, until the Employer's Representative(s) has inspected the site and confirmed in writing that the work conforms to the contract and is acceptable for handover. The Contractor must give the Employer's Representative one week's notice ahead of the time for inspection of the site.</p>
3014AR	<p>Trees and Tree Pits</p> <p>Tree pits shall be constructed as shown on the drawings and Appendix 30/13. The Contractor shall excavate, prepare and fill the tree pits in preparation for planting by others.</p> <p>Where required in the contract the Contract will cap the tree pit in accordance with Drawing SD-04-014 and maintain this until the tree is planted.</p>
3101AR	<p>Traffic Sensitive Routes</p> <p>Refer to Appendix 31/1 for requirements on traffic sensitive routes</p>

APPENDIX 0/2: TERMS AND ABBREVIATIONS

Clause 002 Terms and Abbreviations, sub Clause 1 – replace the second paragraph with:

Unless specifically defined otherwise the definitions of terms used in the Specification and associated documents are those in BS 6100, Building and Civil Engineering Vocabulary

The term “Employer” means the organisation or authority responsible for the works (and the funding), designed and prepared for the Contractor to carry out its works. The “Employer” also means the “Client”. Agreements, permissions etc. referred to in the Specification as being the responsibility of the Employer should be obtained from the Employer so named in the Conditions of Contract.

APPENDIX 0/3: LIST OF NUMBERED APPENDICES REFERRED TO IN THE SPECIFICATION

Below is the list of Numbered Appendices Referred to in the Specification for Highway Works and Contract-specific numbered Appendices devised for the Contract.

Contract-specific devised appendices are starred.

Appx . No.	Title	
	Introduction	
0/1	Contract-specific additional, substitute and cancelled clauses, tables and figures included in the contract: (above) <ul style="list-style-type: none"> 128AR: Traffic Management Act 129AR: Management of the Contract 130AR: Data Management and Information Systems 170AR: Health and Safety 171AR: Access for Fire Fighting Appliances 172AR: Forms and Reports 173AR: Emergency Call out 174AR: Personal Protective Equipment 175AR: Statutory Notices 176AR: General Environmental Requirements Environmental Protection 177AR: Site Waste Management Plan 178AR: Accredited Supervisor 179AR: Protection of Trees 180AR: Heras Fencing 181AR: Tidiness 182AR: The Employer 183AR: Requirements for Specialist Work 184AR: Protection from Nuisance due to the Works 185AR: Temporary Parking Suspension 201AR: Disposal of material arising from site clearance 205AR: Protection of Street Furniture 206AR: Site Clearance of Posts 522AR: Bedding and reinstatement around covers and frames 644AR: Filling of disused gully pots 717AR: Road humps and speed cushions 1111AR: Standard traffic islands 1112AR: Additional requirements for footways & paved areas to be used as cycleway 3013AR: Landscaping – Ground Preparation and, Grass Seeding and Turfing 3014AR: Trees and Tree Pits 3101AR: Traffic Sensitive Routes 	
0/2	Contract-specific terms and abbreviations	

Appx . No.	Title	
0/3	List of numbered appendices referred to in the specification and included in the contract	
0/4	List of drawings included in the contract	
	Preliminaries	
1/1	Accommodation for the Employer's Representative	
1/2	Vehicles for the Employer's Representative	
1/3	Communication System for the Employer's Rep/ Project Manager & Supervisor	
1/4	Working and fabrication drawings	
1/5	Testing to be carried out by the contractor	
1/6	Supply & delivery of samples to the Employer	
1/7	Site Extent and limitations on use	
1/8	Operatives for the Employer	
1/9	Control of noise, Vibration and pollution	
1/10	Structures to be designed by the contractor	
1/11	Structural elements	
1/12	Setting out and existing ground levels	
1/13	Programme of works	
1/14	Payment	
1/15	Accommodation Works	
1/16	Privately and publicly owned services and supplies	
1/17	Traffic safety and management	
1/18	Temporary diversions of traffic	
1/19	Routeing of vehicles	
1/21	Information Boards	
1/22	Progress photographs	
1/23	Risks to Health & Safety from materials or substances or Other	
1/24	Quality Management System	
1/25	Closed Circuit Television (CCTV) System for Traffic Management	
1/28*	Traffic Management Act - Permits	
1/29*	Meetings and Preventing Disputes	
1/30*	Data Management and Information Systems	
1/40*	Disposal of Material	
1/50*	General Environmental Requirements	
1/60*	Site Compound Area	
	Site clearance	
2/1	List of Buildings, etc., to be Demolished	
2/2	Filling of trenches and pipes	
2/3	Retention of materials arising from site clearance	
2/4	Explosives and Blasting	
2/5	Hazardous Materials	
2/6	Disposal of material arising from site clearance	
2/7*	Site clearance of posts	
	Fencing	

Appx . No.	Title	
3/1	Fencing gates and stiles	
	Restraint systems	
4/1	Road Restraint Systems	
	Drainage and service ducts	
5/1	Drainage requirements	
5/2	Service duct requirements	
5/3	Surface Water channels and drainage channel blocks	
5/4	Fin Drains and Narrow Filter Drains	
5/5	Combined Drainage and Kerb Systems	
5/6	Linear Drainage Channel Systems	
5/7	Thermoplastics structural wall pipes and fittings	
5/72	Setting of Gully Pots	
	Earthworks	
6/1	Requirements for acceptability and testing etc. of earthworks materials	
6/2	Requirements for dealing with Class U2 unacceptable material	
6/3	Requirements for Excavation, Deposition and Compaction (other than Dynamic Compaction)	
6/5	Geotextiles used to separate earthworks materials	
6/6	Fill to structures and fill above structural foundations	
6/7	Sub-formation and capping and preparation of surface treatment of formation	
6/8	Top soiling	
6/9	Earthwork environmental bunds, landscape areas & strengthened embankments	
6/10	Ground Anchorages, crib walling and gabions	
6/14	Limiting values for pollution of controlled waters	
6/15	Limiting values for harm to human health and the environment	
6/16*	Filling of disused gully pots	
6/33	Areas of Historical or Archaeological Interest	
	Road Pavements- General	
7/1	Permitted pavement options	
7/2	Excavation trimming and reinstatement of existing surfaces	
7/3	Surface Treatment	
7/4	Bond coats, tack coats and other bituminous sprays	
7/9	Cold Milling	
7/10	Not Used	
7/11	Overband and Inlaid Crack Sealing Systems	
7/13	Saw-Cut Crack and Seal Bituminous Overlays on Existing Jointed Concrete Pavements	
7/14	Preparation of Jointed Concrete Pavements Prior to Overlaying and Saw-Cut and Seal of the Bituminous Overlay	
7/15	Saw-Cut, Crack and Seal Existing Jointed Reinforced Concrete Pavements	
7/16	Cracking and Sealing of Existing Jointed Unreinforced Concrete Pavements and CBM Bases	

Appx . No.	Title	
7/17	Cracking Plant and Equipment Progress Record	
7/23	Road Humps And Speed Cushions	
7/71	Unbound, Cement and Other Hydraulically Bound Mixtures	
	Road Pavements - Concrete	
10/26	Concrete Placement and Finished Surface	
	Kerbs, footways and paved areas	
11/1	Kerbs, footways and paved areas	
11/2	Steps	
11/3	Standard Traffic islands	
	Traffic signs	
12/1	Traffic Signs: General	
12/3	Traffic Signs: Road markings and studs	
12/5	Traffic Signs: Traffic Signals	
12/18	Detector Loops	
	Road lighting columns and brackets	
13/1	Road lighting columns and brackets	
13/7	Information to be Provided When Specifying Cantilever Masts	
13/8 & 9	Data Sheets	
	Electrical work for road lighting and traffic signs	
14/1	Site records	
14/2	Location of Feeder Pillars	
14/4	Electrical equipment for road lighting	
14/5	Electrical equipment for traffic signs	
	Piling and embedded retaining walls	
16/1	Piling and Embedded Retaining Walls	
	Structural Concrete	
17/1	Schedule for the Specification of Designed Concrete	
17/2	Impregnation Schedule	
17/3	Surface Finishes	
17/4	Concrete - General	
17/5	Buried Concrete	
17/6	Grouting and Duct Systems for Post-tensioned Tendons	
17/8	Concrete –Surface Finishes	
	Structural Steelwork	
18/1	Requirements for Structural Steelwork	

Appx . No.	Title	
	Protection of Steelwork against corrosion	
19/1	Protection of Steelwork Against Corrosion	
	Waterproofing for concrete structures	
20/1	Waterproofing for concrete structures	
	Bridge Bearings	
21/1	Bridge Bearings	
	Bridge Expansion Gaps and Sealing of Joints	
23/1	Bridge Expansion Gaps and Sealing of Joints	
23/2	Sealing of Gaps Schedule (Other than in Bridge Deck Expansion Joints)	
	Brickwork, blockwork and stonework	
24/1	Brickwork, blockwork and stonework	
	Miscellaneous	
26/1	Ancillary concrete	
	Accommodation Works for statutory undertakers, provisional sums and prime cost items	
27/1	Provisional Sums and Prime cost items	
27/2	Works for Statutory Undertakers, Provisional Sums And Prime Cost Items	
30/1	Landscape and ecology general	
30/2	Weed control	
30/4	Ground Preparation	
30/5	Grass seeding, wild flower seeding and Turfing	
30/13*	Tree Pits	
	Additional Series - Factors	
31/1*	Traffic Sensitive Routes	

APPENDIX 0/4: LIST OF DRAWINGS INCLUDED IN THE CONTRACT

CONTRACT SPECIFIC DRAWINGS SUPPLIED TO EACH TENDERER

TENDER SPECIFIC
Package Specific

Table 4.1: Drawings

LIST OF BRISTOL CITY COUNCIL STANDARD DETAIL DRAWINGS

The list below highlights the Standard Drawings that are made available for inspection by Tenderers and Brought into the Contract by Reference.

Note: Where one or more drawings in a series are amended, the revisions are highlighted by an amendment letter as highlighted in the **Revision** column below:

Table 4.2: Bristol City Council's List of Standard Drawings

01 - Road Construction		
Drawing Number	Revision	Title / Description
SD01-001	F	Major Roads Flexible
SD01-002		Major Roads Rigid
SD01-003		Major Roads Concrete Isolation Slab
SD01-004	G	Minor Roads
SD01-005	H	Stone Paved Roads
SD01-006	I	Paved Footways & Paths
SD01-007	H	Paths in Grass Areas
SD01-008	G	Car Parks & Drives
SD01-009	F	Footway Crossovers
SD01-010	F	Carriageway Joints and Edging Details
SD01-011	F	Reinstatements 1
SD01-012	F	Reinstatements 2
SD01-013	E	Typical Road Profiles

02 - Kerbs and Edgings		
Drawing Number	Revision	Title / Description
SD02-001	G	Kerb Notes
SD02-002	H	Kerbs 1
SD02-003	F	Kerbs 2
SD02-004	H	Channels
SD02-005	G	Edgings
SD02-006	F	Block Paver Edge Details

03 - Crossovers and Pedestrian Crossings		
Drawing Number	Revision	Title / Description
SD03-001	F	Vehicle Crossovers
SD03-002	F	Pedestrian Drop Kerb and Cycleway Crossovers
SD03-003	H	Crossing Notes
SD03-004	E	Tactile Paving Controlled Crossings
SD03-005	F	Tactile Crossings Uncontrolled
SD03-006	F	Tactile Paving Cycle Access
SD03-007	H	Traffic Signals Controlled Pedestrian Crossings

04 - Traffic Management		
Drawing Number	Revision	Title / Description
SD04-001	F	Plateau Chicane Typical Layout
SD04-002	F	Chicane Construction Details
SD04-003	E	Road Humps
SD04-004	F	Speed Cushions
SD04-005	F	Island Types 1 & 2 & 3
SD04-006	E	Island Types 4 & 5
SD04-007	F	Island Type 6
SD04-008	D	Parking Bays
SD04-009	E	Disabled Parking
SD04-010	E	Pedestrian Guard Rails
SD04-011	E	Fencing
SD04-012	E	Cycle Stands Type BC
SD04-013	E	Bollards
SD04-014	E	Trees and Roots 1
SD04-015	D	Trees and Roots 2
SD04-016	E	Bus Stop Safe Havens
SD04-017		Bus Stop Carriageway Construction
SD04-018		K Barriers

05 - Drainage		
Drawing Number	Revision	Title / Description
SD05-001	F	Manhole Type A
SD05-002	F	Manhole Type B
SD05-003	F	Manhole Type C
SD05-004	D	Manhole Type E
SD05-005	E	Catchpits
SD05-006	E	Soakaways Off Highway Only
SD05-007	E	Gullies
SD05-008		Intlet Gullies
SD05-009	D	Trench Backfill and Pipe Detail
SD05-010	F	Storm Outfall Type 2
SD05-011	E	Storm Outfall Type 1
SD05-012	C	Storm Outfall Type 3
SD05-013		Typical Trash Screen
SD05-014	B	Swales
SD05-015	A	Filter Drains
SD05-016	A	Permeable Paving
SD05-017	B	Kerb Outlets to Swales

06 - Traffic Signals		
Drawing Number	Revision	Title / Description
SD06-001	E	Brick Access Chamber
SD06-002	E	Twin Wall Modular Access Chamber
SD06-003	E	Detector Loop Box
SD06-004	E	HDPE (BNET) Access Chamber
SD06-005	F	Signal Pole Base Entry Socket
SD06-006	E	Traffic Signal Controller
SD06-007	E	Temp Signal Pole Foundation
SD06-008		Mast Arm Signal Pole

07 - Street Lighting		
Drawing Number	Revision	Title / Description
SD07-001	D	Illuminated Bollards
SD07-002		Non-Illuminated Bollards
SD07-003	D	Lighting Columns and Signs
SD07-004	D	Street Nameplates
SD07-005	C	Utilities Recommended Positions in Footways
SD07-006	D	Lighting Col Installation
SD07-007	D	Lighting Col Planting Depths
SD07-008	D	Lighting Col Sign Attachments
SD07-009	D	Lighting Col Sign Attachments Two Columns
SD07-010	D	Lighting Identification Numbers
SD07-011	D	Cable Terminations Types 1-4
SD07-012	D	Beacons
SD07-013		Sign Config Notes
SD07-014	D	Sign Config Types A B & C
SD07-015	D	Sign Config Types D E F G & H
SD07-016	D	Sign Config Types J K L M & N
SD07-017	D	Lighting Ducts

08 - Public Rights of Way		
Drawing Number	Revision	Title / Description
SD08-001	D	Pedestrian Stile (Two Step)
SD08-002	D	Pedestrian Stile (Three Step)
SD08-003	D	Pedestrian Stile and Dog Gate 1
SD08-004	D	Pedestrian Stile and Dog Gate 2
SD08-005	D	Metal Kissing Gate
SD08-006	D	Wooden Kissing Gate
SD08-007		Timber Pedestrian Two-Way Gate
SD08-008		Timber Pedestrian One-Way Gate
SD08-009	D	Timber Bridleway One-Way Gate
SD08-010		Timber Bridleway Two-Way Gate
SD08-011		Metal Bridleway & Pedestrian One-Way Gate
SD08-012		Metal Bridleway & Field Two-Way Gate (2 in 1)
SD08-013		Metal Field Gate
SD08-014	D	Timber or Concrete Steps
SD08-015	D	Finger Signpost
SD08-016		Sleeper Footbridge
SD08-017		Standard Foot-Bridge
SD08-018		Waymark Post

Drawings Brought into the Contract by Reference

- Where there may be a conflict between standard details referred to in this Appendix and the Highway Construction Details (HCD) (published by The Stationary Office as Volume 3 of the Manual of Contract Documents for Highway Works) the Bristol City Council's (BCC) standard details take precedent. Unless otherwise stated the whole drawing list below is brought into the Contract.

Table 4.3: HCD drawings brought into the Contract by reference,

Drawing Number	Title
F1	Surface water drains – trench and bedding details
H1	Temporary fences types 1 and 2
H2	Temporary fences types 3 and 4
H3	Post and 4-rail wooden fence
H14	Timber palisade and close-boarded Fence
H15	Post and 4-rail wooden Fence
H17	Steel single field gate
H19	Steel extra width single field gate
H20	Steel double field gate
H30	Hinges for timber field gates
H31	Spring catch for timber field gates
H46	Rabbit mesh

APPENDIX 0/5: SPECIAL NATIONAL ALTERATIONS OF THE OVERSEEING DEPARTMENT OF SCOTLAND, WALES OR NORTHERN IRELAND

None.

APPENDIX 1/1: ACCOMMODATION FOR THE EMPLOYER'S REPRESENTATIVE

Accommodation Type A

The Contractor provides sufficient accommodation, at its own expense and allowed for in its rates, for the Employer's Representative, appropriate for the work to be carried out under the Package. It shall be sufficient to comply with the health, safety and welfare provisions of the CDM regulations 2015. The accommodation includes a desk and chair in an area suitable for reading and marking drawings, completing paperwork, and provision for welfare. There shall be power for charging mobile phones or laptop, and provision for making hot drinks. Unless otherwise stated in the Package, this accommodation may be integral with the Contractor's accommodation. The Contractor cleans and maintains it and provides consumables, water, power and lighting.

Accommodation Type B

The Contractor provides the following accommodation for the sole use of the Employer's Representative or Project Manager and Supervisor. It shall comply with the regulations applying to offices in addition to the health, safety and welfare provisions of the CDM regulations 2015.

Unless otherwise stated in the Package, the accommodation and contents shall be ready for occupation within one week of the starting date and shall be removed within one week of completion of the works.

The accommodation shall comprise the following:

- A secure office, which unless otherwise agreed shall be of the "container" type, i.e. of vandal resistant steel construction with steel shutters to the windows. Adequately insulated walls, ceiling and floor. Minimum size 25m². Divided internally into 2 or 3 areas. Minimum number of key copies 2.
- Furniture:
 - 2 desks each with lockable drawers
 - 1 lockable anti-tip 4 drawer filing cabinet
 - 1 lockable cupboard approx.. 1.2 x 0.4 x 2m. (wxdxh)
 - 2 keys for each lockable item.
 - 2 desk chairs (adjustable height, with arms & rollers)
 - 4 other chairs
 - Table ca 2m x 1m.
- Kitchen area: sink either plumbed in or to adequate waste facility, which shall be emptied regularly and cleaned adequately.
- Kettle, 6 mugs and teaspoons
- Refrigerator and microwave oven.
- Hanging / drying area with 6 coat hooks
- A regular supply of fresh drinking water (either direct mains feed or 5litre water container refreshed daily)
- Adequate heating

- Electric lighting and power supply (note: generator supply may not be acceptable in case of out of hours working.)
- Recycling facilities (which may be shared) for paper, bottles, cans and biodegradable waste.
- Boot scraper and door mat.

The equipment shall include the following personal protective equipment:

- 2 number high visibility coats to BS EN 471 (winter or summer weight as instructed by the Employer's Representative, in sizes to be agreed)
 - 2 number high visibility light-weight sleeved vests to BS EN 471.
 - 2 number helmets with ear defenders
 - 2 prs riggers' gloves
 - The PPE shall become the property of the Employer.
-
- Consumables shall include pencils, ball point pens & similar.

The welfare facilities shall include 2 toilets (1 male 1 female unless otherwise instructed by the Employer's Representative) with hot & cold or warm water. The toilets shall be for the sole use of the Employer's Representative and its visitors. Consumables shall include soap or other cleanser, Swarfega or similar, toilet paper, paper towels etc. The toilets must be established and maintained clean and usable, with adequate lighting and heating if required to prevent freezing.

The offices shall be approached via a hard standing and parking for 2 vehicles. The Contractor provides a facility for securing bicycles to the satisfaction of the Employer's Representative. The hardstanding and parking shall be constructed such that it drains adequately.

Accommodation Type C

TENDER-SPECIFIC:

The Contractor provides the following package-specific accommodation:

APPENDIX 1/2: VEHICLES FOR VEHICLES FOR THE EMPLOYER'S REPRESENTATIVE

TENDER-SPECIFIC:

The Contractor provides the following:

APPENDIX 1/3: COMMUNICATIONS SYSTEM FOR THE EMPLOYER'S REPRESENTATIVE

TENDER-SPECIFIC:

The Contractor provides the following:

APPENDIX 1/4: WORKING AND FABRICATION DRAWINGS

1. The Contractor shall provide working and fabrication drawings for the Works described in Table 1/4.1 for the approval of the Project Manager:

- In support of its Programme
- to illustrate its proposals for traffic management measures and temporary diversion of traffic
- Site Accommodation
- for deployment of Heras and other fencing and pedestrian barriers

Table 4.1

Description of Work	Minimum period for submission of drawings
Working drawings shall be supplied by the Contractor for all the elements of the Works designed by or on behalf of the Contractor	2 weeks prior to start of construction works or production of elements whichever is first
Pavement Treatment and Constraints Plan	4 weeks before the commencement of the pavement treatment works. Subject to TTRO/TTRN and Passenger Transport leading time requirements. See Appendix 1/13.
Night time working	4 weeks before start of night working. Subject to TTRO/TTRN and Passenger Transport leading time requirements. See Appendix 1/13.
Temporary Traffic Regulation Order (TTRO) Plan(s)	At the time of submission of the TTRO application. See Appendix 1/13.
Temporary Traffic Regulation Notice (TTRN) Plan(s)	At the time of submission of the TTRN application. See Appendices 1/13 and 1/28.
Road Closure Plan(s)	3 weeks before

Description of Work	Minimum period for submission of drawings
	implementation of closure. Subject to Permit, TTRO/TTRN and Passenger Transport leading time requirements. See Appendices 1/13 and 1/28.

TENDER-SPECIFIC:

The Contractor provides working drawings for the following: Package-specific requirements

APPENDIX 1/5: TESTING TO BE CARRIED OUT BY THE CONTRACTOR

1. Tests comparable to those specified in this Appendix will be necessary for any equivalent work, goods or materials proposed by the Contractor (see Clause 105) and are at the Contractors cost. The Contractor will produce evidence of test results on request.
2. (N) Indicates that a NAMAS test report or certificate is required.
3. Unless otherwise shown in this Appendix tests and test certificates for work, goods or materials as scheduled under any one Clause are required for all such work, goods or materials in the Works.
4. Unless otherwise shown in this Appendix, test certificates for work, goods or materials as scheduled under any one Clause are required for all such work, goods or materials in the Works in Compliance with Development Industry Code of Practice (DoWCoP) or any other legal requirements.
5. Test reports and certificates shall bear suitable identification compatible with the Contractor's registration of the samples tested, and shall indicate the edition dates of specifications used for compliance evaluation.
6. All Ready-mixed concrete should be certified by BSI for conformity to BS EN 206-1 and its UK complementary standard BS 8500 Parts 1 and 2.
7. Where the quantity of materials used in the Works is less than the quantity described under 'Frequency of Testing' then the quantity described under 'Frequency of Testing' shall be read as the quantity used in the Works.

Table 5.1

Clause	Works, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
301	Timber		All timber	Required	Forest Stewardship Council certificate
306	Permanent fencing	Cover to reinforcement	1 per consignment (max 1 per 100 components) (BS 1722)		Tests/samples should not normally be required.
308	Gates and stiles	Cover to reinforcement	1 per consignment (max 1 per 100 components) (BS 1722)		Tests/samples should not normally be required.
402	Welding	Welding Procedures Welder Qualifications Production Testing	(Every 7 years) (Every 5 years) 402.6(iv)		Quality Management scheme applies
404	Anchorage in drilled holes and Post foundations	Loading test on site	One per installation		Contractor to provide test equipment and carry out the test
501	Pipes for drainage and service ducts, Vitriified clay, Concrete-Pre-stressed not exceeding 900mm dia., Other materials			Only required for pipes which are not kitemarked	Product certification scheme applies.

Continued overleaf

Highways Asset Management & Associated Works Framework 2021-2025

Clause	Works, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
507	Chambers, Pre-cast concrete			Required	Manufacturer's certification of strength class
507	Chamber covers			Required	Manufacturer's certification of strength class
508	Gullies and pipe junctions, Precast, Clay or cast6 iron				Manufacturer's certification of strength class
509	Watertightness of joints	Air test	All pipelines with watertight joints (As required in Appendix 5/1 for partly watertight joints)	Required	Manufacturer's certification of strength class
514	Fin drains	Manufacturer's tests		Required	
515	Narrow filter drains, Geotextiles, pipes and Fittings	Manufacturer's tests		Required	BBA certification (or equivalent) applies.
516	Combined drainage and kerb systems	Load test			Certification that the systems comply with Clause 516 is required.
517	Linear drainage systems	Load test			Certification that the systems comply with Clause 516 is required.
601	Capping layer (6F1 and 6F2)	Tests in Table 6/1	As instructed by Employer's Representative	Required	
601 App 6/1	Disposed excavated material	Disposal	Each load	Required	Certification of volumes and type of waste taken to tip
609 621	Geotextiles	Tensile load	1 per grade per source	Required	Quality scheme applies. Any specific requirements are given In Appendix 6/5 or 6/9 as appropriate
618 & App 6/8	Imported topsoil 5A for use in planting areas	BS3882	Before import, as instructed by Council's Employer's Representative	Required	
	Recycled topsoil 5B	BS3882		Required	Must be subject to tests to ensure contamination present is within acceptable limits – see guidance note. Full compliance with BS 3882 per source.
801	Type 1 Subbase	Tests in table 8/1	As instructed by Employer's Representative	Required	Frequency of testing will depend on source variability and size of scheme.
801	Type 2 Subbase	Tests in table 8/1	As instructed by Council's Employer's Representative	Required	
801	Type 3 Subbase	Tests in table 8/1	As instructed by Council's Employer's Representative	Required	
801	Category B Subbase	Tests in table 8/1	As instructed by Council's Employer's Representative	Required	

Continued overleaf

Clause	Works, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
801	Type 4 Subbase	Tests in table 8/1	As instructed by Council's Employer's Representative	Required	
912	Surface Course	Aggregate grading, pen & % binder	1 per 75 tonnes (minimum 1 per day)	Required	
915 925	Coated chippings	Resistance to polishing (PSV) (N)	1 per stockpile or as required	Required	Employer's Representative shall retain the right to carry out independent testing of any proposed source and to categorise aggregate sources based on historical and/or in-service performance.
921	Surface macrotexture	BS EN 13036-1 Volumetric Patch Technique (N)	As specified in Clause 921,922 and 942 (13) or as required by the Employer		The precise location of the tests shall be clearly identified on the report so that in-service performance tests can be conducted at a later date.
924	High friction surface	Quality control checks	As required in sub-clause 924.5		BBA HAPAS Roads and Bridges Certification (or equivalent) applies
929	Base	Density & void content	As instructed by Council's Employer's Representative	Required	
930	EME2 Binder Course	Binder & void content	1 per location	Required	
937	Stone mastic asphalt (SMA) binder course and regulating course	Binder drainage tests	In accordance with DD 232	Required	National quality management sector schemes apply
1101	Precast concrete kerbs, channels, edgings and quadrants	Bending strength	Minimum of 8 per 1000 units of each product (BS EN 1340)	Required	
1107	Concrete block paving	Compressive strength	Minimum of 8 per 1000 units of each product (BS EN 1340)	certification	
1202	Permanent traffic signs			Required	Certificate that the traffic sign is capable of complying with BS EN 12899
1421	Cable				Product certification scheme applies
1424	Lighting Units	Tests specified in Clause 1424	Each unit	Required	Certification that the installation complies with the IEE Wiring Regulations is required
	Networks		Each network	Required	
1707	Concrete	Cube strength (N/mm ²)	Reinforced concrete – four cubes per delivery, whichever represents the lesser volume,	Required	Testing shall comply with Clause 1707 and to ensure environmental parity cubes should be stored onsite in containers or in such a way that their sides are well insulated and protected from wind chill or frost.

Concrete Bus Stops

8. Specified Concrete mix for the Bus Stops are PAV2 (C32/40) to BS 8500. The minimum strength requirement is 25 N/mm² before opening to traffic after a minimum of 14 days upon completion of the construction of the slab (or more depending on ambient temperatures).
9. For Concrete Placing and Finishes see Appendix 10/26. The minimum testing requirements required by Employers will be concrete cubes to be taken to enable standard testing at 7 days and 28 days in accordance with BS EN 12390.
10. To assess the time for use of a concrete slab by traffic, the strength development rate may be predetermined by cubes stored onsite in containers or in such a way that their sides are well insulated and protected from wind chill or frost.

TENDER –SPECIFIC

The package-specific testing requirements are: (may include for instance tests for contaminants in excavated materials; compliance with surface regularity requirements etc.)

APPENDIX 1/6: SUPPLY AND DELIVERY OF SAMPLES TO THE EMPLOYER

Sampling and Testing

1. National Quality Management Sector Schemes shall apply hence the supply and delivery of samples is not required unless specifically stated in the Package of works or the testing requirements referred to in Appendix 1/5.
2. The Contractor supplies samples, or if the Employer's Representative agrees, invites the Employer's Representative to visit and inspect, samples of stone for Gabions (see Appendix 6/10) and Brickwork, Blockwork and Stonework (see Appendix 24/1).
3. Samples comparable to those specified in this Appendix will be necessary for any equivalent work, goods or materials proposed by the Contractor (see sub-Clause 105.5 of series 100)
4. If specifically requested by the Employer prior to or during delivery of the works the Contractor shall at no additional expense to the Employer provide samples, which shall include goods and materials and shall deliver these to the Employer.
5. The rates of sampling shall be as instructed by the Employer's Representative or the Employer.

TENDER-SPECIFIC

The Contractor supplies samples as follows: Package-specific requirements

APPENDIX 1/7: SITE EXTENTS AND LIMITATIONS ON USE

1. The site extents are as shown on the Tender Specific Construction Drawings.
2. The Contractor shall agree with the Employer's Representative the extent of the site necessary to undertake the works defined in a package.
3. The area site extent defined by the scope shall include all areas of highway or land under the authority of the Employer necessary for completion of the works, including traffic management and statutory undertaker works which may fall outside the area where the main package of works is required.
4. Any contact by the Contractor with owners of un-adopted roads and land owners should be carried out with the agreement of the Council's Employer's Representative or the Project Manager if special access is required to that area.

TENDER-SPECIFIC

Package Specific Requirements:

APPENDIX 1/9: CONTROL OF NOISE, VIBRATION AND POLLUTION

1. The Contractor's attention is drawn to the requirement of Section 60 and 61 of the Control of Pollution Act 1974 and to BS 5228 Parts 1 & 2: 1997 'Code of Practice for Basic Information and Procedures for Noise and Vibration Control'. Further advice regarding these provisions may be obtained from the Neighbourhood Enforcement Section of Bristol City Council.
2. The normal working day for the purposes of noise and vibration is regarded as 08.00 hours to 18.00 hours Monday - Friday and 08.00 hours to 13.00 hours Saturday.
3. If the Contractor wishes to work outside these hours the proposal shall in the first instance, be referred to the Employer's Representative, who shall consult the Neighbourhood Enforcement Section of Bristol City Council prior to giving a decision. Works undertaken outside the hours detailed above shall consist only of the work required under Appendix 1/17, or otherwise under the Contract, to be undertaken on a Sunday, emergency work or works necessary where safety would otherwise be at risk or where required by the Contract.
4. The Contractor shall notify in writing to the Neighbourhood Enforcement Section the name and address of the main Contractor and any sub-Contractors, who it is intended shall work on the site, as soon as it is practicable before the commencement of any works. This notification is to include a telephone number for use in any emergency. (A number at which someone can be contacted regarding noise - especially noise at night will be sufficient).
5. The date of commencement of the works shall be notified in writing to the Neighbourhood Enforcement Section as soon as is practicable before the commencement of operations, and in any event not less than 7 days prior to the start of work.
6. Any emergency deviation from these conditions, such as the use of unusually noisy equipment or working outside normal working hours, shall be notified to the Neighbourhood Enforcement Section as soon as it practicable before the commencement of work.
7. The best practicable means, as defined in Section 72 of the Control of Pollution Act 1974 to reduce noise to a minimum, shall be employed at all times.
8. All vehicles plant and machinery used for the purposes of the work shall be fitted with effective exhaust silencers where necessary and be maintained in good and efficient working order in accordance with the manufacturer's instructions.
9. All compressors shall be sound reduced models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use, and all other ancillary pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers.
10. Where practicable the use of pneumatic equipment shall be adjusted to the use of hydraulic equipment.
11. All equipment in intermittent use shall be shut down in the intervening periods between works or be throttled down to a minimum.
12. All pumps which are to be used outside the normal working day, or near noise sensitive premises shall be of the electric type whenever practicable, run off a mains supply.
13. All combustible waste material must be removed from site and no materials shall be burnt on site.
14. Any compressor, tower crane, welding generator, power generator, hand held concrete breaker/pick, manufactured on or after the 26 March 1986 must comply with the appropriate E.E.C. Directive and bear the [E] mark indicating the sound power level in dB(A) guaranteed by the manufacturer.

15. Rotary masonry cutters shall be operated with integral water based dust suppression.
16. Lorries for moving excavated material, plant and equipment, shall not enter or leave the site outside the normal working day.
17. Where possible, plant must be housed in acoustic or similar, enclosures. Plant and equipment should be carefully sited to minimise the effects of noise and pollution.
18. The equivalent continuous A-weighted sound pressure level (Leq) shall not exceed 75 dB(A) at the boundary of any residential property during the normal working day. (The Leq can be regarded as the average noise level over a given period of time). The maximum sound pressure level shall not exceed 80 dB (A) at the boundary of any residential property during the normal working day. The maximum sound pressure level shall not exceed the ambient level at the boundary of the residential property outside the normal working day. All sound pressure levels shall be measured in decibels on the 'A' at a height of 1.5 metres above ground level.
19. If work is authorised outside the stated hours, any noise generated by reason of this development shall not result in an increase of the pre-existing background noise level of more than 5 dB(A) when measured one metre from the façade of the nearest noise sensitive accommodation and rated in accordance with BS 4142 1997, 'Method of Rating Industrial Noise Affecting Mixed Residential and Industrial Areas'. In this context, background level is construed as measuring the level of noise which is exceeded for 90% of the time. The applicant must undertake for such an assessment to be carried out by a competent person prior to the commencement of the development and submit it to the Neighbourhood Enforcement Manager, of the City Council; the measurement must include at least one taken at the nearest noise sensitive location.
20. Battery operated temporary traffic signals are to be used in lieu of generator-powered sets, unless otherwise agreed with the Employer's Representative.
21. Any noise from ventilation systems used to ventilate tunnels and shafts or any other equipment, such as generators, required to maintain either the temporary or permanent works shall not exceed the pre-existing background noise level at the nearest noise sensitive premises.
22. Structural vibration levels at buildings in the immediate vicinity from the Contractor's activities shall not exceed a level of an equivalent vector sum particle velocity of 10.0 mm per second.
23. The Contractor must schedule its daily work programme and deliveries to ensure that all operations can be completed within the normal working day (sub clause 2).
24. The Contractor shall comply with the above requirements unless approval is sought and obtained for any deviation from the Employer's Representative. The Contractor will be required to co-operate and assist the Employer's Representative in a programme of public consultations to ensure residents awareness of the environmental effects and safety measures adopted for this scheme.
25. The rates and prices inserted by the Contractor shall be deemed to include for all costs incurred in complying with these requirements.
26. The Employer's Representative has the right to order the Contractor to cease using any item of plant insufficiently silenced or generating noise levels in excess of those specified.

TENDER-SPECIFIC

Package Specific Requirements:

APPENDIX 1/10: STRUCTURES TO BE DESIGNED BY THE CONTRACTOR

TENDER-SPECIFIC

Package Specific Requirements:

APPENDIX 1/11: STRUCTURAL ELEMENTS

TENDER-SPECIFIC

Package Specific Requirements:

APPENDIX 1/12: SETTING OUT AND EXISTING GROUND LEVELS

1. Unless otherwise specified by the Employer's Representative, the setting out of the Works is undertaken by the Contractor at the expense of the Contractor.
2. Discrepancies between the site and the Drawings are brought to the attention of the Employer's Representative as soon as the Contractor is aware of them. The Contractor reinstates any survey points removed.
3. Alignments of kerbs, channels etc. are as shown on the drawings or as agreed with the Employer's Representative.

APPENDIX 1/13: PROGRAMME OF WORKS

1. The Contractor provides the Employer's Representative with the Programme of Works in the form of a Gantt Chart and issues it in Microsoft Project form and in pdf form. It shall be accompanied by a referenced location plan.
2. For Lot 5 packages, the programme shall show the start date, completion date, critical path, tasks required to fulfil the scope and any other information as requested for individual packages. The programme shall be submitted with the signed P01.
3. For Lot 6 packages, the programme shall include information referred to in Clause 31 of NEC4 ECC Option B and as requested for individual packages.
4. The Programme (for all packages) shall take into account the information discussed in Tables 1.13.1, 1.13.2 and 1.13.3 below and other time dependent information referred to in the contract and demonstrate how these are accommodated. The aforementioned tables may have package specific requirements.
5. The information that the Contractor has to take into account in his programme does not apply to maintenance works that have a 7 or 28 day response time, but will be provide a programme as per the relevant package and as instructed by the Employer's Representative.
6. The contractor shall update the programme for all packages:
 - On a monthly basis,
 - If there is a significant delay for any reason,
 - If there is a change in the scope of the works,

- If there is a change in the Contractor’s programme,
- As requested by the Employer’s Representative,

7. Updated programmes shall include information pertaining to the work done to date, the current planned and completion dates and brief details of compensation events and Early Warning Notices associated with any delays or time saved.

Table 1.13.1

	Item / work type	Constraint
1	Sectional completion	<i>Package-specific if in the Contract</i>
2	Work affecting traffic (vehicular, cycle or pedestrian)	<i>Package-specific Highway Authority requirements</i> See also App 1/17 and 1/28
3	Work in each street, junction etc. affecting frontages and accesses	The Contractor shall ensure that access to private properties is maintained. List Constraints: Please note that for the areas that are not adopted highway but privately maintained space, access requires special authorisation via the Client.
4	Specifically, work in traffic sensitive locations	As per specific package requirements. Refer to App 1/17 & 31/1. <i>Package-specific requirements</i>

5	Work which the Contractor proposes to carry out outside normal working hours	See Appendix 1/9
6	Work near schools and public venues	Subject to <i>Package-specific requirements</i>
7	Traffic Orders – notice required by the Highway Authority (The Contractor allows additional time for consultation etc.)	<p>Amending or making:</p> <ul style="list-style-type: none"> • Temporary Traffic Regulation Orders (TTRO) – 8 weeks • Temporary Traffic Regulation Notices (TTRNs) – 2 weeks • See Appendix 1/17 <p>Authorising temporary traffic signals - 7 days;</p> <p>Approving traffic management proposals and temporary diversions of traffic (where traffic order not required) – See Appendices 1/17 and 1/28</p>
8	Requirement for permanent traffic orders (eg. to come into effect)	<i>Package-specific</i>
9	Requirements for Permits	See Appendix 1/28
10	Periods for work by the Employer’s traffic signal installers – this may include temporary alterations to existing equipment.	<p>Traffic Signals require the following periods to carry out their work: <i>See also appendix 1/16 and Appendix 1/17.</i></p> <p><i>Generic:</i> <i>Allow minimum</i></p> <ul style="list-style-type: none"> • <i>2 weeks leading time before the traffic signals contractor can commence work on site</i> • <i>2 days to for removal of existing equipment including cables</i> • <i>1 week for the installation of signal equipment for a new crossing</i> • <i>3 weeks for the installation of signal equipment for a new junction.</i> <p><i>NB: The slot cutting for new signal loops cannot be installed until all ducts, chambers, carriageway markings are completed.</i></p> <p><i>Package-specific</i></p>
11	Periods for work by the Employer’s street lighting and electrical contractors	<i>Package-specific schedule of periods required</i>
12	Works to privately-owned services & supplies	See Appendix 1/16
13	Works to public services and utilities	See Appendix 1/16.
14	Works by other contractors working for the Employer	<i>Package-specific</i>
15	Accommodation of public events & other special requirements	<p><i>Package-specific if in the Contract</i></p> <p>Also refer to Table 1.13.3</p>

16	Accommodation works and any other requirement for access outside highway	See Appendix 1/15
17	Trials, submissions for technical acceptance, Restrictions arising from the use of substances hazardous to health, etc	<i>Package-specific if in the Contract</i>
18	High Friction Surfacing (HFS)	<p>Specific HFS in the contract may need to be laid at a time of year at which the temperature is as required for this work to take place.</p> <p>A Completion Certificate may be issued at the completion of all the completed works excluding the HFS. The certificate may state that the works are completed except for the HFS work which shall be completed in the nearest appropriate season when the temperature is appropriate.</p>
19	Tree, plants and hedgerow Works	<p>The removal/planting of trees, plants, hedgerows by the Contractor or Others. The Contractor will note that nesting season is from February until August.</p> <p><i>Package-specific if in the Contract</i></p>
19	Tree, plants and hedgerow Protection	Tree protection fencing shall be installed at locations shown on the drawings and prior to any activity in the vicinity of trees.

Temporary Passenger Transport Arrangements

8. Where the Contractor's works will require temporary passenger transport arrangements, such as the suspension of a bus stop, a bus lane, the diversion a bus route or the suspension of a taxi rank, it will be responsible for making a request for this to be implemented, to the Passenger Transport team in Bristol City Council (BCC). The request should include the specific reason(s) for the temporary arrangements, the relevant proposed traffic management plan (that has been approved by the BCC Network Management team) and the proposed duration.
9. The email address for initial contact with the BCC Passenger Transport team is traffic@bristol.gov.uk.
10. Table 1.13.2 states the required lead in time, from the date of requesting permission to implement the temporary passenger transport arrangement and the date of the proposed commencement of the arrangement. It also states the associated measures required to be implemented.

Table 1.13.2

Temporary Public Transport Arrangement	Duration	Minimum Lead In Time To Make Request to Public Transport	Associated Requirements/Measures
Bus Stop Suspension	Up to 30	14 Days	Bristol City Council will arrange facilities for a temporary bus stop, unless the Contractor is required

Temporary Public Transport Arrangement	Duration	Minimum Lead In Time To Make Request to Public Transport	Associated Requirements/Measures
			to do so in the Scope of the Works or by means of an instruction by the Project Manager.
	Over 30 days	14 Days	The Contractor is required to provide facilities for an alternative stop as approved by BCC, including temporary raised kerbs, shelter and necessary signage. These temporary measures will need to be maintained by the Contractor for the duration that the alternative stop is in use.
Bus Lane Suspension	Unlimited	14 Days	If a bus lane is to be suspended so that it will temporarily be used as a general traffic lane, then the Contractor will erect temporary signs (and other measures if required) as approved by BCC, informing the public of the arrangements.
Bus Route Diversion	Up to 3 Weeks	28 Days	
	Over 3 Weeks	42 Days	This scenario engagement with the Public Transport Team leading up to the start of the diversion to provide an update on the progression of the works.
Taxi Rank Suspension	Up to 3 Days	14 Days	
	Over 3 Days	28 Days	The taxi rank must be relocated by the Contractor, including signage and where necessary fencing closing the existing rank and the provision of a sign for and signage directing members of the public to the rank's new temporary location.

Table 1.13.3 (The table below is a list of events that can potentially impact the works)

Key Events Description	Date	Impact on the highway

Package Specific

APPENDIX 1/14: PAYMENT

In order to assist the Employer's Representative to assess the amount due, the Contractor submits, on or before each assessment date, a statement with the information below.

The Contractor allows the Employer's Representative to inspect invoices for work, goods and materials included in the statement as may be required to establish costs.

For packages let under the NEC4 Engineering & Construction Short Contract (Lot 5), unless Option Z9 is operational, the monthly statements submitted to the Employer's Representative by the Contractor shall:

- be agreed with the Employer's Representative in advance of submission wherever possible;
- whenever dealing with matters covered by the Price List, be set out under Part and Section headings similar to those in the Price List and shall separately identify each item and specify quantity, unit, rate and value;
- show items not described in the Price List, but appropriate for inclusion as measured work, at the end of the relevant section or under new section headings as appropriate indicating quantity, Schedule of Rates rate and value;
- in respect of all other matters referred to which the Contractor considers himself entitled, separately show in the statement details including quantities, units and rates of goods and/or materials.
- in the case of Compensation Events resulting from an instruction changing the Scope, indicate the quantity, Schedule of Rates rate, if applicable, and value;
- Include a schedule of progress on Early Warnings and Compensation Events.
- Include progress reports linked to the requirements of Appendix 1/13 for all interim payments;
- Include progress photographs progress as described in Appendix 1/22.
- Shall be accompanied by an up to date progress programme.

If Option Z9 is operational, the Contractor agrees the monthly statement with the Employer's Representative.

For packages let under the NEC4 Engineering Construction Contract Option B Form of Contract (Lot 6), the monthly statements shall:

- be agreed with the Project Manager in advance wherever possible;
- identify the work completed and provide details of how the application amount has been assessed;
- in the case of Compensation Events resulting from an instruction changing the Scope, indicate the quantity, Schedule of Rates rate, if applicable, and value;
- full information on all other matters referred to which the Contractor considers himself entitled;
- Include a schedule of progress on Early Warnings and Compensation Events.
- Include progress reports linked to the requirements of Appendix 1/13 for all interim payments;
- Include progress photographs progress as described in Appendix 1/22.
- Shall be accompanied by an up to date progress programme.

Bristol City Council, in keeping with its environmental policy, uses electronic procurement and, so far as possible, electronic payment mechanisms. The Contractor establishes and maintains a system for receiving orders and billing to and from the Council as Employer electronically either by

joining any arrangement set up by the Council or by being seamlessly compatible with it. The Contractor shall also accept payments by BACS. The Contractor is responsible for ensuring that its system operates reliably and securely.

Subject to further methods being set up, upon receipt of the certificate from the Project Manager or Employer's Representative, the Contractor directs invoices for payment by Bristol City Council electronically to invoices@bristol.gov.uk with a simultaneous copy to the Project Manager or Employer's Representative.

APPENDIX 1/15: ACCOMMODATION WORKS

1. In carrying out Accommodation works, the Contractor takes care to prevent trespass and avoid damage to the owner's property. The Contractor carries out a condition survey before commencing work and submits it to the owner and the Employer's Representative for agreement.
2. Unless otherwise stated in the Contract, Accommodation Works comply with the relevant parts of the Scope, and are paid for in accordance with the relevant parts of the Pricing Information.

The Accommodation works are as follows: Package-specific entries

Owner:	Location (drawing ref)	Details:
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APPENDIX 1/16: PRIVATELY AND PUBLICLY OWNED SERVICES AND SUPPLIES

1. Statutory Undertakers' apparatus and private services are present throughout the area of Scope, and the Contractor is deemed to be aware of the density of apparatus, especially in city centre locations.
2. The utilities, Authorities and Statutory Undertakers listed in Annex 8 Generic Site Information have equipment and areas of authority in the Bristol Area. The Contractor establishes contacts with their representatives and obtains, familiarises himself with and complies with the special requirements of these bodies.
3. The Employer's Representative will hand over all the information known to it relevant to individual Package Orders. However, the information is unlikely to include the positions of services to individual properties and may be incomplete in other ways. The Employer does not take any responsibility for the accuracy or completeness of the information.
4. For more information on the location of pipelines, mains and cables the Contractor shall contact the relevant Statutory Undertakers themselves (contact information below).
5. The Employer will issue orders to the utility for any alterations or diversions required to be carried out by the utility. The Contractor may be required to carry out supporting works (laying ducts, excavating trenches etc.) as part of Package Contracts.
6. The Contractor complies with the special requirements of utilities, Authorities and Statutory Undertakers. The Contractor ensures that he obtains the current special requirements in advance of commencing work.
7. Details of the Statutory Undertakers' plant for each site will be made available to the successful tenderer, prior to the commencement of work, in the form of plans received from the Statutory Undertakers with an accompanying cover sheet listing specific details (refer to package-specific schedule). However, it may also be necessary to re-set to line and level the various surface covers of the Utilities to their requirements.
8. The Contractor shall make arrangements with the Statutory Undertakers and others concerned, for the co-ordination of its work (including Accommodation Works by a Utility Contractor) with all work which needs to be done by them or their contractors concurrently with the works. This includes Service Diversion Works which will be listed on a package specific basis. Compliance with the periods of notice given in this Appendix does not relieve the Contractor of its obligations.

9. The Contractor, on receipt of an electrical certificate from the Employer's street lighting contractor that street lights or other electrical equipment are ready to receive electrical connection, arranges for Western Power (or Midland Electricity) to complete the connection. The date arranged is notified to the Employer's Representative without delay.
10. The Contractor shall make arrangements with the Statutory Undertakers and others concerned for the phasing of all necessary disconnections and diversions of private services affected by the Works.
11. Disconnected apparatus can be removed by the Contractor only with the prior approval of the Authority concerned.
12. The Contractor complies with those parts of Sewers for Adoption 7th Edition which applies to the works.
13. On request, the Contractor provides evidence to the Employer's Representative of the notice given to the utilities and other correspondence between them.
14. Private services to individual properties and other services not listed in this Appendix may not be shown on the above drawings. The Contractor shall deal with these in accordance with Clause 116 of the Specification for Highway Works.
15. Table 16.1 shows a list of contacts for publically owned services and supplies. The information in the table is valid at the time of the tender of the Framework Contract and will change for package specific works. The list is not exhaustive.
16. Table 16.2 shows a list of contacts for privately owned services and supplies. The contacts include the Employer's internal asset owners and the Employer's contractors. The information in the table is valid at the time of the tender of the Framework Contract and may change for package specific works. The list is not exhaustive.

Table 16.1 – List of Contacts for Publically Owned Services and Supplies (*Package Specific*)

Company	Address	Contact
Bristol Water plc.	Developer Interface Team PO Box 218 Bridgwater Road Bristol BS99 7AU	Sharon Ranahan Tel. 01179665881 developer.interface@bristolwater.co.uk Nicole Lockyear Tel: 0117 9638277 Development.service@bristolwater.co.uk
Wales and West Utilities Ltd.	Wales and West House Spoooner Close Coedkernew Newport NP10 8FZ	WWU Plants Protection Team Tel.:02920278912 dig@wwutilities.co.uk
Openreach (formerly BT Open reach)	Repayments (Alterations) 52-70 The Boulevard Weston-super-Mare North Somerset BS23 1PQ	Mark Palmer Tel. 0117 3024442 mark.2.palmer@openreach.co.uk
Western Power Distribution	Avonbank Feeder Road Bristol BS2 0TB	Adam King Tel. 0117 933 2122 or 0117 933 2267 ngapper@westernpower.co.uk

Company	Address	Contact
Virgin Media	700 Waterside Drive Aztec West Almondsbury Bristol BS32 4ST 0117 909 7321 / 0117 983 9000	Matthew Gane Tel. 03703 904321 matthew.gane@virginmedia.co.uk
Wessex Water	Developer Services Wessex Water Claverton Down Bath BA2 7WW	Tel: 01225 526333 sewer.connection@wessexwater.co.uk Development Team (Bristol) Tel: 01225 522682 development.north@Wessexwater.co.uk

Table 16.2 – List of Contacts for Private Services and Supplies including those Owned by the Employer (*Package Specific*)

Asset	Company	Address	Contact
Traffic Signals	Bristol City Council Signals and Traffic Control	Bristol City Council, Signals and Traffic Control 100 Temple Street P.O Box 3399 Bristol BS1 9NE	Signals and Traffic Control Bristol City Council traffic.signals@bristol.gov.uk
	Dyniq (BCC term contractor)	Dynniq UK Ltd Unit 10, Avon Riverside Victoria Road, Avonmouth Bristol, BS11 9DB	Graham Francis Graham.Francis@dynniq.co.uk
Sustainable Transport	Bristol City Council Sustainable Transport	Bristol City Council, Highways and Traffic Sustainable Transport 100 Temple Street P.O Box 3399 Bristol BS1 9NE	passenger.transport@bristol.gov.uk
	Clearchannel (BCC Bus and taxi shelter term contractor)		Samantha Williams, Estate Manager (Birmingham and Bristol) Clear Channel UK Ltd E: Samantha.Williams@ClearChannel.co.uk M: 07894 565689

Asset	Company	Address	Contact
Electrical Equipment including street lighting, illuminated signs and other electrical equipment	Bristol City Council Highway Assets Electrical Team (HEAT)	Bristol City Council, HEAT 100 Temple Street P.O Box 3399 Bristol BS1 9NE	HEAT streetlighting@bristol.gov.uk 01179223250 HEAT Site Coordination andy.rugman@bristol.gov.uk
BNET	Bristol City Council BNET	Bristol City Council, Connected City Service 100 Temple Street P.O Box 3399 Bristol BS1 9NE	BNET Duct & Fibre: BNET@bristol.gov.uk & Emma.howarth@bristol.gov.uk CCTV: amy.kedward@bristol.gov.uk & gareth.mills@bristol.gov.uk Traffic Signals: jackie.davies@bristol.gov.uk & traffic.signals@bristol.gov.uk Chroma Vision: info@chroma-vision.co.uk & s.dowden@chroma-vision.co.uk emergency 07017551065
	Chroma Vision: (BCC Fibre & CCTV term contractor)	Fibre and CCTV (BNET / Reduffson duct /chambers)	info@chroma-vision.co.uk & s.dowden@chroma-vision.co.uk emergency 07017551065

The package-specific schedule is: (file number)

APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

1. Work packages are constructed mainly in highway or in land owned by the Local Authority. In highway, the Contractor complies with the requirements of the Highway Authority. The Employer may also be Traffic Authority. Under the Road Traffic Acts, the Employer is therefore required to consider the effect of work on the flow of traffic. The Contractor familiarises himself with the requirements in relation to traffic regulation orders and the like in order to avoid delay to its Programme of works.
2. Non-highway includes “public open space” – i.e. land through which the public has access or uses for leisure purposes. The safety of pedestrians, cyclists, riders and other users requires provision at least similar to that in highway.

General Requirements

The Contractor shall provide traffic safety and management and associated work as described in Clause 117 and the following paragraphs.

1. The Contractor shall, after consultation with Bristol City Council's (BCC) Network Management team (or the relevant Employer's equivalent) prepare and submit traffic safety and management proposals at least 4 weeks before commencement of major or standard works on the highway and must be submitted by the Contractor to the Permit team. It must also be submitted as part of the Permit application in accordance with Appendix 1/28. For Minor Works the traffic and safety management proposals must be submitted a minimum of 7 days before commencement.
2. The Contractor shall inform the Employer's Representative and the (BCC) Network Management team (or the relevant Employer's equivalent) of any subsequent changes to agreed traffic management plans. When the Contractor updates the Permit in accordance with Appendix 1/28, it shall also submit updated traffic safety and management proposals.

Traffic Safety and Management

3. All temporary traffic management measures are deemed to be included in the rates and prices for individual work items except for the following where specifically required in writing by the Employer's Representative:
 - Temporary Traffic Signals, and stop/go board controls
 - Speed Control (using TTRO's)
 - Emergency Traffic Management (for potholes and the like – for example “Basic Site Layout” page 10 of the Safety at Street Works and Road Works: a code of practice).
 - Motorway and Dual Carriageway Temporary Traffic Management
 - Temporary Road Closure and Diversion Traffic Management
 - Temporary Footway Closure and Diversion Traffic Management
 - Temporary PROW Closure and Diversion of pedestrians and cyclists.
 - Temporary Footway Closure with associated ramps,
 - Miscellaneous Temporary Traffic Management
 - No parking cones

- Convoy and safety vehicles

Responsibility for traffic management

4. The Contractor shall be responsible for traffic management and safety and associated work as described below in accordance with current legislation and any updates thereof:-
 - Chapter 8 of the Traffic Signs Manual Parts 1 and 2, 2009 and Part 3, 2020
 - Safety at Street Works and Road Works: a code of practice 2013 (also known as 'The Red Book')
 - New Roads and Street Works Act 1991 (especially section 65 and 124) as modified by statutory instruments
 - An Introduction to the Use of Vehicle Actuated Portable Traffic Signals 2016
 - The Traffic Signs Regulations and General Directions 2016
 - NJUG recommendations,
 - Road Traffic Acts,
 - Road Traffic Regulation Acts,
 - Traffic Management Act 2004 – see also Appendix 1/28
 - Construction (Design and Management) Regulations 2015.
5. The Contractor shall take into account any restrictions or specific requirements, including permitted hours of operation, given by Employer when developing its traffic management proposals. This shall also include consideration of the traffic sensitive streets, public events and park events listed in the scope and works being carried out by other Contractors working for the Employer or Statutory Undertakers.
6. Duct crossings of driveways and accesses shall be completed during the course of one working day. Traffic islands shown on the drawings shall normally be substantially completed during the course of one working day unless otherwise agreed with the Employer's Representative.
7. The Employer's Representative will have assessed the traffic safety and management requirements at design stage. Where the requirements exceed what would normally be expected (e.g. substantially more complicated than the standard layouts in the Red Book), Contractors will be invited to price a supplementary Bill of Quantities or use existing priced rates in Series 100 Traffic Management as approved at the time by the Employer. Any site specific requirements will be notified to the Contractor with the Works offer or tender invitation.
8. No work shall be started until all the necessary signs (properly illuminated where necessary), cones, barriers and traffic control have been provided, set out and are operational.
9. All temporary barriers, fencing (including Heras fencing), coning, signing, marking, etc., shall be properly maintained. The Contractor shall ensure that all traffic management measures are checked regularly and any faults recorded and rectified immediately. As a minimum, the Contractor checks all measures at the start of every shift before any work begins on site.
10. Pedestrian access and crossing points shall be clearly signed and maintained throughout the length of the Works. The Contractor shall provide temporary footways of not less than 1.2m wide where a greater distance is not possible. Temporary access ramps shall be constructed.

Temporary pedestrian barriers, either of metal or plastic, whether provided as part of the Contractor's Chapter 8 compliance or instructed by the Employer's Representative, shall be painted or otherwise marked to ensure visibility. They shall be locked together in accordance with the manufacturer's directions and the feet weighted with sand bags to ensure that they are not dislodged.

11. Temporary signals must be vehicle actuated but capable of manual override. Signals must not be operated on a fixed time basis. Unless otherwise agreed, radio controlled battery operated signals are to be used in built-up areas. Temporary traffic signals have to be maintained in accordance with Chapter 8 signs. Portable Traffic Signal batteries should be changed more frequently than specified by their manufacturer and in any event on a Friday to reduce the risk of malfunction over a weekend resulting in avoidable congestion and delay.
12. In traffic sensitive areas during the peak periods (as agreed by the BCC Network Management team and the Employer's Representative), the signals shall be operated manually by an appropriately qualified operative to ensure that traffic queuing is reduced as much as possible unless alternative smart signals are employed such as Urban Traffic Control linked signals or Autogreen algorithm signals are employed.
13. Works in the vicinity of Signal Controlled Pedestrian Crossings requiring traffic control shall only be undertaken when the traffic signals have been switched off by a member/representative of BCC Signals Team, the Contractor has alternative crossing measures in place and has provided appropriate traffic signs informing drivers, cyclists and pedestrians alike.
14. Any proposed closure will require, a letter to residents affected by the works, advanced signing to be supplied, erected (and maintained) at least 2 weeks in advance.

Traffic Orders and Notice to Use Temporary Traffic Signals

15. Where traffic control has to be carried out by temporary traffic signals, their use must be notified on the appropriate form ("Portable Traffic Signals") and submitted for authorisation to Highway Network Management with 7 days notice by the Contractor.
16. The Contractor should note that a minimum of 8 weeks notice is required for the Employer to make arrangements for making Temporary Road Closures for a Temporary Traffic Regulation Order (TTRO). A Temporary Traffic Regulation Order Notice (TTRN) requires a minimum of 2 weeks notice.
17. To apply for road closures, temporary traffic signals etc. see Bristol City Council's website: www.bristol.gov.uk under Road and Highway Licences.
18. In the event of traffic delays or incidents which may affect traffic on the M32, M4 or Trunk Roads, the Contractor must notify Highways England Regional Control Centre 0117 3165700 without delay and inform the Employer's Representative that he has done so.

Contractor Staff Responsibility

19. The Contractor shall nominate a member of its site staff to act as Traffic Safety and Control Officer. The Contractor shall provide the Employer's Representative with the name of this officer (and its nominated deputy) and with the telephone number or details of other means by which they or one of them can be contacted during working hours. This information shall be provided prior to the commencement of work on site.
20. The Traffic Safety and Control Officer or its nominated deputy (also qualified at a relevant National Highway Sector Scheme(s) to an appropriate level), shall be on site at all times when the work affecting highway is proceeding and shall be readily available to deal with matters relating to traffic safety and control including:-

- Liaison with the Employer's Representative, Police and Highway Authority on aspects of day to day operation of traffic safety and control.
- Provision of emergency cover outside normal working hours.
- Ensuring that all equipment is regularly inspected and maintained in good working order.
- Safety of pedestrians and cyclists
- Compliance with the Equalities Act
- Monitoring the flow of traffic.

If the Package requires the deployment of recovery vehicles, the responsibilities of the Traffic Safety and Control Officer and of its nominated deputy shall also include the following matters:

- Monitoring, with the assistance of sufficient mobile personnel and of sufficient other suitable and appropriate aids, the flow of traffic within the area and within the period defined for the vehicle recovery service;
- Ensuring that, within 5 minutes of notification of the occurrence of an incident, as defined below, resulting in stationary traffic on a highway open to the public, the incident is reported to the vehicular recovery service;
- Recording and logging all incidents and all movements of recovery vehicles and, when called, all movements of the emergency services. For the purpose of this Appendix, an incident is defined as a shed load, vehicle breakdown, vehicle abandonment or road traffic accident, whether or not the latter involves personal injury.

Contractor's Proposals

21. In accordance with Clause 117 and Appendices 1/4 and 1/13 the Contractor shall submit to the Employer's Representative for approval the following:-

- Full details of the phasing of the Works as it affects all public and private roads, bridleways, public footpaths and public and private accesses.
- Drawings in dwg and pdf formats showing the following details (this list is not exhaustive):-
 - (i) position of traffic signals
 - (ii) width of lanes
 - (iii) working areas
 - (iv) safety zones
 - (v) access and egress details
 - (vi) Chapter 8 layouts
 - (vii) supply routes
 - (viii) Traffic safety and control phasing;
 - (ix) Traffic order requirements (including details of those already obtained);
 - (x) Stop / go boards;
 - (xi) Footway and/or cycle track closures
 - (xii) Lane closures
 - (xiii) Diversion routes and layouts
 - (xiv) Existing and proposed temporary road markings;
 - (xv) Crossovers (include construction details and geometrical design required where this has not been shown on the Drawings);
 - (xvi) Mobile lane closures and convoying proposals;
 - (xvii) Running lane for emergency vehicles;
 - (xviii) Location for emergency vehicles;
 - (xix) Timing of operations;

- (xx) Temporary lighting requirements;
- (xxi) Temporary emergency telephone numbers;
- (xxii) Restrictions arising from the use of substances hazardous to health.
- (xxiii) Provisions for the protection of landscaping including trees

Traffic management proposals must be agreed in advance with Highways Network Management before they are put in place on Site.

Additional Temporary Barrier Protection

22. When instructed by the Employer's Representative or the Highways Network Management, in addition to the requirements of the law or of Chapter 8 of the Traffic Signs manual, the Contractor supplies, maintains and removes universal traffic separators, traffic separator logs, etc.
23. The Barrier Protection must be maintained and moved or removed as required by the progress of the Works. They must be interlocked and/or weighted down by sandbags or water as appropriate so that they remain in position.

Miscellaneous Temporary Traffic Management

24. Upon instruction from the Employer's Representative, the Contractor shall supply, install and later remove road markings and driver information boards additional to those required under Chapter 8. Road markings and information boards shall comply with the appropriate parts of Series 1200.

Temporary Pedestrian Signals

25. If instructed by the Employer's Representative or indicated in the Contract, the Contractor shall supply and maintain temporary pedestrian signals including the associated coning & signing. Care should be taken in placing them to ensure the safety of pedestrians using them or the adjacent footway.

Temporary use of existing signals Utilising a Proprietary System

26. If instructed by the Employer's Representative or indicated in the Contract, the Contractor shall supply and fix existing signal poles with a proprietary means of structural support such as NAL blocks or similar approved. The Contractor shall also provide temporary coning, protection, signs etc. required by Chapter 8. Refer to SD 06-009. There should be no trailing cables. Cables should be slot cut into the surface or appropriately protected. The Contractor shall move the proprietary signal arrangement as required by the agreed temporary traffic measures and eventually remove or dispose. Bristol City Council's (or the relevant Employer) Traffic Signals contractor will supply the poles and carry out connection or disconnection, for which the Contractor shall give a minimum of 2 weeks notice to the Employer as highlighted in Appendix 1/16. This work will take place in restricted hours or outside normal hours at traffic sensitive locations.

Construction of Concrete Slabs

27. The Contractor shall erect temporary signs informing the public that traffic management measures are in place to allow for the curing of the concrete.

Temporary road closures

28. An indicative drawing showing the minimum signage for road closures is provided in Volume 1.5 of this contract. "Road closed ahead" signs and diversion signs will be required, appropriate to the road and footway layout, and the Contractor should expect to have to supply and maintain up to 20 signs.

Convoy vehicles

29. If instructed or agreed by the Employer's Representative or by the Traffic Authority, the Contractor deploys, maintains and provides drivers for Convoy Vehicles to enforce low speeds.

Package-specific requirements for Convoy Vehicles -not specified

Removal of redundant traffic management equipment

30. When a traffic management system is no longer required, all the associated signs, cones, lamps, barriers etc. are to be promptly removed. The removal of all such equipment is part of the Contractor's responsibilities and any delay may delay the Completion certificate.

Traffic Management on the M32, M4, M5 or Trunk Roads

31. The Employer is not Traffic Authority for these roads. The Contractor's Traffic Safety and Control Officer shall attend meetings, at least weekly, with representatives of Highways England and/or their service provider to discuss the progress of traffic management and the effect of the Works on the highway network.
32. The Contractor ensures that traffic management is carried out only by organisations approved by Highways England or their service provider and the Employer's Representative.
33. The Contractor provides, maintains, moves and finally removes road signs, cones etc. as required. All traffic management shall, unless otherwise required by Highways England or their service provider, be in strict accordance with Chapter 8. Unless otherwise stated, lane closures, narrowing etc. shall be "relaxed", that is they shall be laid down at the end of the working session.

Package-specific requirements: schedule of requirements for and constraints on lane closures on the M32, M4 or Trunk Roads

No Parking cones, qualified person and vehicle

34. If required under the Package, the Contractor supplies qualified operatives with No Parking Cones and a pickup or similar light vehicle to manage local temporary parking restrictions under the instruction of the Employer's Representative.

APPENDIX 1/18: TEMPORARY DIVERSIONS OF TRAFFIC

1. The Contractor shall maintain all pedestrian and vehicular routes unless otherwise agreed with the Employer's Representative. Blocking of access to individual properties (crossing points and vehicular crossings) only occurs with the agreement of the occupier.
2. The Contractor ensures that adequate access is provided in accordance with the Equalities Act 2010.
3. Refer to Appendices 1/13, 1/17 and 1/28 for notice periods required for the Employer's and the emergency services for all traffic diversions and lane closures. The Contractor complies with constraints on diversions which are indicated in a package.

Package-specific requirements

APPENDIX 1/19: ROUTEING OF VEHICLES

1. The Contractor submits its proposed vehicle routes as part of its proposals under Appendix 1/17 unless the Contract states otherwise.

APPENDIX 1/21: INFORMATION BOARDS

Advanced Information Signs

4. Information signs are to be erected on all entry routes to the Site two weeks prior to the commencement date. The signs shall be in accordance with sign to diagram 7003.1 of the TSRGD 2016 and Chapter 8 of the Traffic Signs Manual. The signs shall as a minimum show commencement and completion dates. Logos, symbols and wording shall be agreed by the Employer. Unless otherwise agreed with the Employer, the signs shall be Class 1 reflective with black machine printed lettering having a minimum 'X' height of 100mm. The signs shall be mounted on a trestle A frame secured to withstand wind loading.

Site information Sign/Board

5. The Contractor shall supply and erect courtesy/information boards on each site giving at least the name of the Contractor, the name of the scheme and expected duration, and an emergency 24 hr contact phone number (24hours a day, seven days a week). See Clause 173AR. The Permit number must be on the information board. The signs shall be in accordance with sign to diagram 7008 of the TSRGD 2016 and Chapter 8 of the Traffic Signs Manual and similar to that shown below. It shall incorporate logo and wording as agreed by the Employer.



Emergency Call Out

6. The Contractor shall display on Site a purpose made sign indicating the Company's full name and emergency telephone and Permit number should an emergency arise on the Site.
7. In the event of an emergency, the Contractor shall attend on site within two hours of the contact person having been informed of the nature of the emergency. The Contractor will notify the emergency services if necessary. The Contractor shall provide the Employer's Representative with evidence that such arrangements have been made and if required that the emergency services and Local Authority's emergency response have been informed.
8. The Contractor shall keep the Employer's Representative informed of the contact name and number for enquiries arisen during and outside of working hours.

APPENDIX 1/22: PROGRESS PHOTOGRAPHS

1. Unless otherwise instructed by the Employer's Representative the Contractor shall provide photographs as per below.
 - The Contractor shall ensure that all recorded photographs are provided before the progress meetings.
 - The Contractor shall provide progress photographs daily until completion.
 - The Contractor shall provide photographs for all stages of construction including formation, subbase and final surfacing.
 - The Contractor shall provide photographs of any exposed statutory undertakers equipment to support the as built drawings for the Health and Safety File.

APPENDIX 1/23: RISKS TO HEALTH AND SAFETY FROM MATERIALS OR SUBSTANCES OR OTHER

1. In planning and carrying out its work, the Contractor takes into account the hazards normally associated with work in urban Bristol.

Risks to Health and Safety from Substances Hazardous to Health

2. In the event that hazardous materials are found during site clearance operations, the Contractor stops work and notifies the Employer's Representative immediately. Appropriate steps are taken to prevent access by any person onto the affected part of site. No plant, equipment, material, personnel etc. leaves the affected part of site unless authorised by the Employer's Representative. Methods for handling and disposal of material will be agreed between the Contractor and the Employer's Representative.
3. In addition to complying with the Control of Substance Hazardous to Health(COSHH), Control of Asbestos at Work (CAW) and Control of Lead at Work(CLAW) Regulations, the Contractor shall take into consideration the guidance given in the following publication to prevent, control or monitor exposure of members of the public to particular substances hazardous to health used or generated in or about the Works :
 - Department of Transport Manual of Contract Documents for Highway Works: Volume 6 (Departmental Standards and Advice Notes on Contract Documentation and Site Supervision): Section 2, Part 1: SA8 'Use of Substances Hazardous to Health in Highway Construction'.
4. The Advice Note, SA8, 'Use of Substances Hazardous to Health in Highway Construction', contains data sheets on the following substances hazardous to health :

(a) Hazard Data Sheets : Low Risk Substances

Bituminous Tapes
Sand
Natural Aggregates
Pulverised Fuel Ash
Blast Furnace Slag
Treated Timber
Dust from cutting of soft woods
Dust from cutting of macadams/asphalts
Water Based Admixtures

(b) Hazard Data Sheets : Moderate Risk Substances

Coated Road stones (Macadam/HRA)
Line Marking Paints
Phenolic Undercoats/Finishes
Alkyd Undercoat/Finishes
Acrylated Rubber Primers/Undercoats/Finishes
Chlorinated Rubber Primers/Undercoats/Finishes
Vinyl Primers/Undercoat/Finishes
Timber Primers/Finishes
Varnishes for Wood

Thermoplastic
Bitumen Joint Sealing Compounds etc.
Cement
Cementitious Mortars and Grouts
Concrete
Bituminous Waterproof Adhesive Membrane
Bitumen Cutback
Coal Tar Creosote
Dust from cutting of cement, concrete etc.
Phenoxyalkanoic Acid Herbicides
Glyphosate Herbicides
Metallic Abrasive for Blasting
Solvent Based Concrete Curing Agents

(c) Hazard Data Sheets : High Risk Substances

Polyurethane Bridge Deck Waterproofing Systems
Polyurethane Primers/Undercoats/Finishes
Polyurethane Sealants
Epoxy Adhesives with Flammable Solvents
Epoxy Adhesives with Non-Flammable Solvents
Epoxy Adhesives with Water Base
Epoxy Mortars
Epoxy Based Primers/Undercoats/Finishes
Polyureide Bridge Deck Waterproofing Membranes
Bituminous Primers and Coatings
Dust from cutting of hard woods
Silicone Waterproofing Agent

(d) Asbestos Data Sheets

Asbestos Based Materials (friable)
Asbestos – Cementitious

(e) Lead Data Sheets

Leaded Based Coatings
Paints with Lead Pigments

(f) Documented COSHH Assessments

As required

5. The list of substances contained in Advice Note SA8 'Use of Substances Hazardous to Health in Highway Construction' is not exhaustive and the Contractor shall provide BCC with similar information for other substances hazardous to health which have not been listed.

Other Risks

6. In planning and carrying out its work, the Contractor should consider other risks that may not normally be associated with work in urban Bristol. This could include:

- Infectious diseases
 - Infectious diseases in the context of a pandemic
 - Flooding
 - Severe Storms
 - Events due to failures associated with statutory undertaker assets
7. If the above events are relevant to a specific package the Contractor shall ensure that it follows laws and guidelines provided by the government including but not limited to its agencies such as the HSE. The above list is not exhaustive.

TENDER SPECIFIC

Package-specific requirements

APPENDIX 1/24: QUALITY MANAGEMENT SYSTEM

1. The Contractor shall operate a quality management system complying with BS EN ISO 9001 and Clause 104. The quality management system shall be described in a Quality Plan that shall be submitted to the Employer for its acceptance.
2. The Quality Plan shall fully describe the Contractor's:-
 - (a) Management;
 - (b) Organisation;
 - (c) Responsibilities;
 - (d) Method statements and construction procedures;
 - (e) Processes;
 - (f) Construction quality control;
 - (g) Resources;
 - (h) Programme;
 - (k) Supplier's Quality Plans

For the quality management system from design (where applicable) to procurement, construction, completion, testing and commissioning of the Works until the formal Adoption.

3. Any sub-contractor appointed by the Contractor shall operate a quality system enabling them to comply with the Contractor's quality management system.
4. Quality Plans shall confirm with the requirements detailed in this Appendix.
5. Items (a), (b) and (d) listed in 2 above shall be submitted to the Employer for their acceptance not later than 21 days after the award of the Contract. Where the remaining items were not required to be returned with the Contractor's Tender, they shall submit other parts of the Quality Plan prior to commencement of any related work or activity and to a timetable indicated in item (a).
6. The Quality Plan shall include the following:-
 - (a) Definition of the Contract and its documentation;

- (b) The organisation of the Contract, including the lie of command and communications links between parties involved in the Contract;
- (c) Names, roles, responsibilities and authority of the principals and key personnel;
- (d) Control of liaison and meetings with third parties;
- (e) Identification of the Contractor's own staff responsible for overseeing each major activity;
- (f) The Principal Contractor's control over sub-contractors;
- (g) Document control;
- (h) Programme for submission of method statements and suppliers quality plans. The Quality Plan shall identify procedures (which may be part of the Contractor's general procedures) that cover the topics listed below. Copies of these procedures shall be made available to the Employer on request.
- (i) The quality plans for sub-contractors and suppliers of work, goods and materials which are the subject of quality management schemes;
- (j) Procedure for the preparation, review and adjustment of programmes for the effective progression of the Works and the recording of this;
- (k) Control and approval of purchases of materials;
- (l) Control of off-Site activities (where appropriate);
- (m) Procedures for the regular review and recording by the Contractor of the quality of the Works;
- (n) Control of personnel selection, based on their care, skill and experience;
- (o) Management view/audits to monitor and exercise adequate control over the implementation of the quality plan;
- (p) Any other relevant item.

7. Quality Plan shall include detailed method statements for each major activity whether directly controlled or sub contracted. The method statements shall identify hold points and invoke:-

- (a) Work instructions;
- (b) Quality control procedures;

- (c) Compliance testing/inspection arrangements;
- (d) Work acceptance procedures;
- (e) Risk assessments for all activities that might affect the quality of the permanent and temporary works. Method statements are required for the following principal activities:
 - (i) Traffic safety and management;
 - (ii) Setting out;
 - (iii) Milling/planning;
 - (iv) Pavement construction;
 - (v) Road markings and studs.

8. Method statements should describe each stage of the construction, identify the plant and materials to be used, temporary works, safety measures, working space considerations, and where appropriate the requirements for skilled labour and/or supervision. Where work is subject to environmental control, e.g. temperature, noise control, working hours, traffic conditions etc., these should be stated. Hold points should be identified for stages at which checks are necessary before continuing. The authority to release the hold point shall be identified.

9. The Quality Plan shall identify the relevant construction procedures in the contractors' own Quality Management System (and provide copies on request). These procedures invoked by method statements will typically include, from the quality controls required by the Contractor's construction quality control:-

- (a) Control, identification and traceability of materials;
- (b) Procedure for the prevention of inadvertent use, installation or covering up of non-conforming work;
- (c) Other corporate and/or contract specific work instructions to be applied.

10. The Quality Plan shall include details of the Contractor's organisation for quality control, identifying procedures (which may be part of the Contractor's general procedures) that cover the topics listed below. Copies of these procedures shall be made available to the Employer on request. The statements shall include:-

- (a) The responsibility for the initiation and updating of the Quality Plan;

- (b) Responsibility of the 'Management Representative for quality' for compliance with it;
- (c) Responsibility for the adequacy of the quality records produced.

11. The Quality Plan shall also include the following:-

- (a) Arrangements for 'receiving' and 'in process' testing;
- (b) Control of test laboratories;
- (c) Control of test, measuring and inspection equipment;
- (d) Document control, including their identification, traceability requirements, control of document issues and their status;
- (e) Procedure for monitoring and recording the inspection, test and approval status of the constructed/installed work;
- (f) Procedures for tests and inspections for the purpose of the Contractor certifying that prior to covering up, each part of the Works is complete and conforms to the Contract;
- (g) Procedure for the review of work submitted for review but not accepted as conforming to the Contract;
- (h) Procedure for the collation of quality records as identified in BS EN ISO 9002, and provision of copies when requested by the Employer;
- (i) Arrangements for 'as built' drawings (The Contractor shall be responsible for preparing the as built drawings).

12. The Quality Plan shall include the following relating to Suppliers:-

- (a) Definition of the product or service to be provided;
- (b) The organisation of the Supplier describing the line of command and stating the name of the senior manager responsible for the contracted work and the name of the Supplier's on Site management representative. Contact details shall be provided;
- (c) * Identification of the relevant parts of the Suppliers quality system relevant to the product or service being provided (Copies to be provided to the Employer on request);

- (d) The control of personnel selection (at Works and on Site), including special requirements for skilled personnel, e.g. certification of welders, training of operatives, experience requirements etc.;
- (e) Specific procedures relating to the following:-
 - (i) * Receipt and examination of certificates of conformity and test results for purchased products;
 - (ii) * Product identification and traceability;
 - (iii) * Handling, storage, packaging and delivery to Site and storage and handling on Site;
 - (iv) Quality records.

Items marked * - where available and appropriate, copies of the Supplier's quality system/general procedures may be acceptable.

APPENDIX 1/25: CLOSED CIRCUIT TELEVISION (CCTV) SYSTEM FOR TRAFFIC MANAGEMENT

1. Unless other stated in package-specific documents, the Employer provides and operates CCTV. The Contractor allows access to the Employer's contractor to install and service the cameras, which are at: *package-specific requirements*.

APPENDIX 1/28: TRAFFIC MANAGEMENT ACT – PERMITS

1. The Contractor shall comply with the relevant Local Highway Authority (LHA) Permit Scheme as introduced by Part 3 (sections 32 to 39) of the Traffic Management Act 2004 (TMA) and as regulated in England by the Traffic Management Permit Scheme (England) Regulations 2007 (the 2007 regulations).
2. The contractor is responsible for applying for and maintaining up to date and valid statutory Permits through The Street Manager system (or alternative web-based system as required by the Employer) to reflect their programme and traffic management proposals. From 1st April 2020 Bristol City Council, Bath and North East Somerset, North Somerset and South Gloucestershire have been operating a Permit Scheme for Road Works and Street Works. The contractor is responsible for applying for Permits and maintaining these statutory notices through Street Manager (or otherwise required). A copy of the valid permit should be held and available to view on a handheld electronic device on site for inspection. The Permit number displayed as per Appendix 1/21.
3. It is acknowledged by the parties that the Contractor is not required to pay Permit fees for work undertaken on behalf of the highway authority. Therefore in so far as the Contractor is required by the Contract to obtain LHA Permits for the provision of the works, these shall not attract any permit fees.

4. The Street Manager system (or alternative web-based system) allows for the notices and permit documents that are needed for road works to be exchanged between LHAs from the works promoter, who may be a utility company, a highway's works team or a contractor appointed by the Client.
5. The Permit Scheme and supporting legislation is to support and encourage forward plans to be submitted by all accredited contractors that wish to work on the highway, so that others can see who might be planning works in a particular area at some point in the future. This will support and identify opportunities for collaboration and joint works which, in turn, can lead to benefits including for example, reductions in congestion or the same stretch of road being dug up on several separate occasions by different works promoters. The Street Manager system is an authoritative record of the two-way communication between the LHA and the works promoter to, for example, query times and plans, and record details of the works.
6. When the construction of a scheme is planned highway space will only be allocated on application with works to be completed during agreed periods. All contractors will be required to adhere to the Bristol Code of Conduct for Roadworks and Streetworks that includes encouragement of collaborative working between parties needing to occupy the highway including in close proximity or sharing space where it is safe to do.. Please note that any work involving occupation of the highway is "registerable" and will require a Permit. 'Registerable' works are works that meet one or more of the criteria listed below:
 - Involve the breaking up or resurfacing any street.
 - Involve opening the carriageway or cycleway of traffic-sensitive streets at traffic-sensitive times.
 - Require any form of temporary traffic control as defined in the Code of Practice for Safety at Street Works and Road Works.
 - Reduce the lanes available on a carriageway of three or more lanes.
 - Require a temporary traffic regulation order or notice, or the suspension of pedestrian facilities.
 - Require a reduction in the width of the existing carriageway of a traffic sensitive street at a traffic-sensitive time
7. The LHA has a duty to minimise the impact of the works by reducing congestion and the impact of works and there is always the possibility that several contractors may end up working in the same location at the same time. To avoid this contractors have to make a timely application for a Permit to work at each location and if not breaking the ground they apply for a Permit for 'coordination purposes only'. The Network Management team can ensure that contractors programme of works do not clash thus complicating CDM and Principal Contractor roles. Table 28.1 (below) provide the notice periods for various activity types on the highway. The Contractor shall follow the requirements in Appendices 1/13 and 1/17 in meeting its obligations in this appendix. Traffic management proposals should be submitted in advance, in accordance with Appendix 1/17.

APPLICATION AND RESPONSE TIMES (IN WORKING DAYS)				
ACTIVITY TYPE	Minimum application periods ahead of proposed	Minimum period before	Response times for issuing a permit or seeking further	Response times for

	start date		permit expires for application for variation (including extension)	information or discussion		responding to applications for permit variations
	Application for Provisional Advance Authorisation	Application for Permit		Application for Provisional Advance Authorisation	Application for Permit	
Major - Work duration > (11 working days or more)	3 months	10 days	2 days or 20% of the original duration whichever is the longer	1 calendar month	5 days	2 days
Standard Work duration – (4 to 10 working day inclusive)s	N/A	10 days		N/A	5 days	
Minor (Work duration - 3 working days or less)s	N/A	3 days		N/A	2 days	
Immediate (Urgent works)	N/A	2 hours after		N/A	2 days	

Table 28.1

APPENDIX 1/29: MEETINGS AND PREVENTING DISPUTES

Meetings and Reports

The Contractor is required to attend regular progress meetings, approximately monthly depending on Contractor's performance, progress and programme and at the request of the Employer's Representative. These meetings are normally held in the Contractor's site offices or the Employer's office.

All meetings including, the construction pre-start meeting, progress and meetings near to and after Completion should take place in a venue appropriate in size to accommodate the number of required attendees and equipment. These meetings will be held at locations agreed by the Employer's Representative.

It may not be possible to meet in a particular venue(s) due to government laws or guidelines. If this is the case then a venue or location for meeting must be appropriate to government laws and guidelines, which may mean other methods of meeting must be undertaken, such as video conferencing.

The Contractor shall attend meetings as requested by the Employer's Representative. Short to medium term critical tasks may require meeting more regular than monthly.

The Contractor shall attend, and also ensures that its sub-contractors attend or others attend, Early Warning meetings as and when required and if identified in the Early Warning Notice.

In preparation for progress meetings, the Contractor sends the following to the Project Manager / Employer's Representative, at least 24 hours before the meeting:

- Progress report
- Photographs
- A draft up to date programme in accordance with Appendix 1/13. This includes accurately showing the activities completed those in progress (% completed) and those still to be carried out. The programme shows (not necessarily in the same view) the effect of Compensation Events to date. The Contractor may amend its draft programme and formally submit it (for acceptance if relevant) after the progress meeting.
- A summary of resources used and proposed.
- A list of Early Warning Notices together with their current position: e.g. dates of Early Warning meetings, instructions given etc.
- A list of Compensation Events and their current position. (These two lists may be combined by agreement between the Employer's Representative and the Contractor)
- A list of Defects notified and progress on correcting them.
- Risks not yet covered by EWN and not in the Early Warning register
- A statement of the most recent payment application and the sum received to date by the Contractor.

The Contractor may amend his draft programme and formally submit it for acceptance after the progress meeting.

Preventing disputes

2. The Contractor cooperates with the Project Manager and with the Employer to avoid disputes, using an internal resolution process.
3. If the Contractor is dissatisfied with an action or inaction or decision of the Employer's Representative, Project Manager or Supervisor, he asks the matter to be referred to the Internal Resolution Process. The internal resolution process comprises a joint review of the matter by a senior representative of the Contractor and a senior officer of the Employer and the Project Manager. This review should take place not more than two weeks after the request. The review attempts to resolve the matter amicably. If the matter is not resolved forthwith, it may be regarded as a dispute subject to a notice of adjudication.

APPENDIX 1/30: DATA MANAGEMENT AND INFORMATION SYSTEMS

1. Knowledge of the asset, its condition and performance is vital for making the right investment decisions, as well as for demonstrating to senior decision makers and stakeholders the overall investment requirements. It also enables effective communication.

2. It is recognised that asset management systems are essential for managing highway infrastructure assets and in particular, required to deal with the increasing amount of information and data available.
3. The Employer requires the Contractor to integrate with Employer's Integrated Asset Management System. This is subject to change and the Employer would involve the Contractor if this was to take place.
4. All the requirements for integration can be found in Volume 1.6 of this contract which contains Appendix 1/30-a, 1/30-b, 1/30-c & 1/30-d.

TENDER SPECIFIC

Package Specific

APPENDIX 1/40: DISPOSAL OF MATERIALS

See Appendix 6/2

5. All unacceptable and surplus materials (other than those classified as Class U2 materials as defined in Clause 601.3 of the Specification) to be removed from Site shall be classified as Controlled Waste and the Contractor will be required to dispose of such materials in accordance with relevant legislation. The Duty of Care imposed by the Act shall apply to the Contractor as producer of the waste.
6. This shall also apply to any sub-contractor employed by the Contractor. All waste material haulage must be undertaken by a carrier registered to Transport Controlled Waste and each load must be accompanied by a transfer note and transported in sheeted wagons.
7. All waste must be removed to a site licensed to accept the waste in question.
8. Please note that contractor is responsible for proper sorting of materials such as concrete and asphalt that can be recycled for use in construction.
9. The remaining non-inert substances in construction waste such as bamboo, timber, vegetation, packaging waste and other organic materials that are not suitable for land reclamation should be reused, recycled, or composted.
10. Bristol City Council promotes the reuse and recycling of construction waste where possible and the contractor is required to meet the Council's Environmental policy and objectives. See Appendix 50.

APPENDIX 1/50: GENERAL ENVIRONMENTAL REQUIREMENTS

For BCC Environmental Requirements please see the link below.

https://www.bristol.gov.uk/en_US/policies-plans-strategies/energy-and-environment

APPENDIX 1/60: SITE COMPOUND AREA

1. The area set aside for the site compound is shown on the package specific drawings.
2. The Contractor shall allow for all items contained in the list below in the sums against the Temporary Accommodation items in the Bill of Quantities, (100-Preliminaries).
3. The Contractor's attention is drawn to the following list:

- The areas of land that are agreed in a work package as available for the construction of the works and the site compound must be adhered to.
- Existing kerbs and paved area which are not to be replaced must be protected, any kerbs or pavement damage during the construction period will require replacing at the contractors cost. If the works require the Contractor or its sub-contractor equipment to mount any kerbs, railway sleeper or other substantial protection shall be provided to protect the kerbs.
- All vehicles visiting the site shall, where practicable, be parked within the site compound. If this is not possible parking must be legal and as specified in the Highway Code unless special dispensation has been afforded by the Traffic and Parking management team.
- All gullies, manhole cover and frames must be protected from contractors' equipment. Any damage incurred during the construction period will require replacing at the contractors cost. If any site materials enter into a gully the Contractor shall be responsible for cleaning the gully out completely at its own cost.
- Site traffic on grassed or landscaped areas should be mitigated using a recognised ground protection system that is heavy duty and able to offer the ground care solution for construction sites. The type of ground protection system requires the approval of the Employer.
- If the Contractor wishes to apply to the Employer to construct a temporary haulage road. To protect the existing non metalled surfaces a layer of geotextile membrane shall be placed between the existing ground and the imported material. On completion of the scheme all imported material and the layer of geotextile membrane shall be removed off site and the ground levels shall be returned to their original levels and condition as instructed by the employer's representative.
- If the Contractor wishes to construct a hard standing area within the site compound a layer of geotextile membrane shall be placed between the existing ground and the imported material. On completion of the scheme all imported material and the layer of geotextile membrane shall be removed off site and the ground levels shall be returned to their original levels and condition as instructed by the employer's representative.
- Skips, materials, equipment etc. shall not be permitted to be stored outside the limits of the site for any period of time all debris must be removed at the end of working day unless dispensation is given by the Employer's Representative. Local Highway Authority (LHA) projects do not require a license. Please note that for non-LHA projects the Contractor may require a Licence before placing building materials, including storage containers, on the highway. The guidance and licence application can be obtained at

<https://www.bristol.gov.uk/roads-and-highway-licences/building-materials-on-a-highway-licence>

- During the compound set up/removal, deliveries to site etc. the Contractor shall take measures to ensure that the carriageway/footway is not marked/deformed/broken in any way. Possible ways of marking/deforming/breaking the carriageway/footway is by plant/vehicles stabilisers, lorries/trailer tail gates etc. Any marks/deformation/breakages of the carriageway/footway caused due to any plant/vehicle/persons shall make the Contractor liable to resurface/repair the whole width of the carriageway/footway to a suitable tie in agreed by the Employer's Representative of the outer most defect as instructed by the Employer.
- Existing street lighting and other electrical apparatus (including columns), within the site boundary must be protected during the construction period. Damage incurred as a result

of contractors operations, during the construction period is a defect (any defect correction works required will have to be completed to the Employer's specification and approval).

- All grassed or landscaped areas disturbed during the construction phase shall be brought to, as a minimum, pre-existing condition within the Defects Correction period.

Site Security:-

4. The provision of suitable barriers and if required mesh panel fencing (such as heras fencing) will be used to ensure safety for all pedestrian and highway users and safety signage will be put in place;
5. There will be removal of all plant / equipment / materials / etc. at the end of each working day, or where this is not practicable, the provision of adequate means for security (e.g. covers and immobilising) will be implemented.
6. Risk Assessments will be undertaken to establish the appropriate control measures and reviewed on a regular basis.

Site Access and Egress:

7. All site vehicles will not use the existing public highway for parking other than where permitted by approved traffic management and procedures. All permitted parking areas will be agreed with the Employer.

Unloading / Loading & Layout Areas:

8. These will be agreed with the Employer's Representative and set up accordingly, as required. Waste will be removed from site and not left overnight.

Routes for Construction Traffic:

9. All site and delivery vehicles will use a predetermined route(s). For delivery/collections the driver will phone site in advance of the time of arrival (this includes all Grab, Tipper and large vehicles).
10. Deliveries will be arranged to avoid detrimental impact on traffic flows and access to the premises in the area. There will be checks on vehicles prior to leaving that spoil is not carried onto the carriageway and where necessary wheels cleaned off. A Banksman will be used at all times for vehicles coming onto site and on leaving. Deliveries will conform to the Employer's requirements in terms of for example constraints for traffic sensitive routes.

TENDER SPECIFIC
Package Specific

APPENDIX 2/1: LIST OF BUILDINGS TO BE DEMOLISHED

TENDER-SPECIFIC:

The following buildings are to be demolished or partially demolished: Package-specific

APPENDIX 2/2: FILLING OF TRENCHES AND PIPES

1. Redundant drains, sewers and ducts shall be sealed and filled with cement/PFA grout or taken up.
2. Redundant chambers, voids and gullies shall be demolished and removed down to formation level of 0.5m deep (whichever is the greatest), cleaned, pipes sealed and the void filled with free flowing concrete class ST1 (or similar) up to top of subgrade or agreed level for reinstatement.

APPENDIX 2/3: RETENTION OF MATERIAL ARISING FROM SITE CLEARANCE

1. Existing materials arising from site clearance shall if they are to be retained, be managed by the Contractor as required by the table below. As required such materials shall managed as follows:
 - Materials to be retained by the Employer will be placed on pallet and set aside for reuse or alternatively transported to the local BCC Highway maintenance depot or a site within 15 km of the centre of Bristol as per a package/instructed by the Employer's Representative (materials shall be managed as required. For example, kerbing, paving and the like are to be palletted, and setts and the like are to be bagged prior to delivery).
 - The contractor shall maintain secure storage of materials to be retained or reused.
 - Replaced by the Contractor at its expense if existing materials to be re-used are damaged by the Contractor.
 - Materials Taken up or down and set aside for re-use shall be as agreed with the Employer's representative.
 - Carefully taken up, cleaned and stored safely ready for use.
 - The Contractor shall provide and maintain an inventory of all retained materials.
 - If not to be retained, or reused on site, materials shall disposed or recycled in accordance with Appendix 2/6.

Table 2.3 Package specific

Reference	Description	Location	Requirement	Estimated Quantities

APPENDIX 2/4: EXPLOSIVES AND BLASTING

1. Explosives shall not be used, unless clearly specified in the individual package-specific documents.

APPENDIX 2/5: HAZARDOUS MATERIALS

Asbestos, including results of surveys

Package-specific:

Existing storage of hazardous materials

Package-specific:

Contaminated land, including results of surveys

Package-specific:

Existing structures containing hazardous materials

Package-specific:

Health risks arising from Employer's activities

Package-specific:

Other

TENDER SPECIFIC

Package-specific:

APPENDIX 2/6: DISPOSAL OF MATERIALS ARISING FROM SITE CLEARANCE

1. The Contractor shall refer to the Special Requirements of the Employer (Appendix 1/76) and recycle all materials wherever possible. The Contractor ensures that its Site waste Management Plan (if required by a package) provides for this and provides evidence to the Employer's Representative of the destination of disposed materials.
2. For further information refer to Appendix 1/71: Disposal of Materials

Package-specific:

APPENDIX 2/7: SITE CLEARANCE OF POSTS

1. Clearance of posts is deemed to include the whole of the post and foundation. The root and foundation shall not be left in the ground except on the express instruction of the Employer's Representative.

APPENDIX 3/1: FENCING, GATES AND STILES

1. Timber used on site shall where possible be FSB (Forest Stewardship Council) certified. Proof of quantities must be provided detailing the amounts of certified and non-certified timber used.
2. The Contract will allow the provision of the following types of fencing detailed in the associated British Standards and clarified in Drawing SD04-014 and as the drawings listed below:
 - (1) Chain-link Fencing to BS 1722 Part 1 : Zinc coated wire, plastic coated
 - (2) Close Boarded fencing to BS 1722 Part 5
 - (3) Steel Pallisade Fencing to BS 1722 Part 12
 - (4) Post and Rail Fencing to BS 1722 Part 7
 - (5) Post and Strained Wire Fencing to BS 1722 Part 3
 - (6) Attachment of Type 1 rabbit, mesh to HCD, H46
3. Gates and stiles are shown in Drawings SD08-001 to 08-012 and in the HCD drawings.
4. The rates in the schedule of rates will include all costs associated in the provision of the fences in accordance with British Standards.

APPENDIX 4/1: ROAD RESTRAINT SYSTEMS

Vehicle Restraint System

Where shown on the drawings, the Contractor re-erects safety fence elements, casting new post foundations as required.

Package-specific requirements:

Pedestrian Guardrail

1. Pedestrian Guardrail shall be in accordance with SD04-10, 11 and 12 and shall be, as required by the drawings:
 - 1) Pedestrian Guardrail with no visibility gap:
 - 2) Pedestrian Guardrail with visibility gap:
 - 3) Pedestrian Guardrail with staggered infill:
 - 4) Visiflex as supplied by Bridge Parapets Ltd. or similar approved.

The additional paint system shall be:

TENDER SPECIFIC

Package-specific requirements

Cycle racks

2. Cycle racks shall be in accordance with SD04-012.

Street furniture

Package specific

APPENDIX 5/1: DRAINAGE REQUIREMENTS

1. For Standard drawings and requirements for Highway Drainage refer to Appendix 1/04 drawing SD05 series of drawings.
2. Hydraulic flow capacities shall be as indicated by the Hydraulics Research “Tables for the Hydraulic Design of Pipes, Sewers and Channels” 8th edition, for a friction coefficient of 0.6mm. A minimum flow velocity of 0.75m/s is required. See clause 501.3.
3. In-situ concrete and plastic gullies shall NOT be used, only pre-cast concrete gully pots and vitreous clay gully pots shall be used in the works, as per the specification clause 508.3 and Drawings. All reference to in-situ concrete gullies in Series 500 of the Specification will be disregarded and is not operative.
4. PVC-U pipes and Corrugated Steel Pipes are not permitted.

Pipes for drainage and for Service ducts Permitted materials are:-

5. Storm water carrier pipe and half perforated filter pipe to be PCC, vitrified clay or HDPE plastic (WT Burden ‘Rigidrain’ or similar approved).
6. Proprietary connection units shall be used to make connections between pipes. Connections shall be made at 90 or at an angle running with the direction of flow.
7. Slow bends only shall be used at changes of direction in a pipeline.
8. SUDS (sustainable drainage systems) in surfaced areas will generally be based upon the Formpave storm water source control system. The SC membrane will have taped sides.
9. Chambers for drainage shall be constructed in accordance with the drawings (SD05-001 to 006). For details of chambers for traffic signals, refer to Appendix 12/5.
10. Thermoplastic (HDPE) pipes can be used for carrier drains or gully connections if agreed with the Employer’s Representative before commencement of the Works.
11. Vitrified clay pipes and fittings and pipe joints for drains and sewers shall comply with BS EN 295.
12. Perforated Pipes shall comply with BS EN 295.
13. Concrete pipes and ancillary concrete products shall comply with BS 5911.
14. See standard drawing details for pipe bedding details. See clause 501.1.
15. Unless otherwise described only one type of pipe shall be used within any individual drain or service duct between consecutive chambers. See clause 501.1.
16. Below ground sulphate resisting cement is required for pre-cast concrete pipes, pre-cast concrete chamber components and all in-situ concrete. Concrete bed and surround shall comply with Class 2 sulphate resistance. See clause 501 - Table 5/1.

Bedding, Laying and Surrounding Pipes

17. Coilable perforated pipes shall not be permitted.

Backfilling of Trenches

18. Backfilling of trenches shall be as per SD05-009 Revision D

Filter Drains

19. See SD05-015 Revision A

Chambers

20. Chamber cover and frames shall be double triangular, minimum 150mm deep to BS EN 124-5:2015 and carry a BS kite marked for third party assurance of quality.
21. Recessed chamber covers and frames shall be manufactured in accordance with EN124:1994 B125 class and are kitemarked or third party assurance of quality.
22. Gully gratings and frames shall be BS EN 124-5:2015 and carry a BS kitemarked for third party assurance of quality and be captive hinged. For Class 1 road D400, the minimum water area shall be 1000mm². For Class 2 and 3 roads, the minimum waterway area shall be 950mm².
23. Chamber covers and frames shall be ductile or grey iron and as described in the table below. Chamber covers in pedestrian areas and cycle tracks shall be anti-slip such as GripTop or similar approved.

Grade	Description	Cover sizes (mm)
A15	For use in pedestrian and cycling areas only. See clause 507.1.	600x450x40 / 600x600x40
D400	For use in areas with fast moving traffic, high streets, trunk roads, carriageways and hard shoulders. See clause 505.13.	600x600x150 / 675x675x150 / 900x600x150 / 1220x675x150
E600	For use in areas with Heavy Traffic, HGV, Bus lanes fast moving traffic, high streets, trunk roads, carriageways and Bus stops. See clause 505.	600x600x150 / 675x675x150 / 1200x600x150 / 1210x685x150

24. Ventilated covers shall be used on all soakaways. The ventilation shall be a minimum of 5% of the clear opening with ventilation slots situated above grit pans. <507.1>
25. All Chambers shall be tested for water-tightness as and where required in a manner proposed by the Contractor and approved by the Employer. <507.8>
26. Gully gratings and frames shall be ductile iron and in accordance with the requirements of the table below. Gully covers in pedestrian areas and cycle tracks shall be Watershed D400 or similar approved.

Grade	Description	Cover sizes (mm)
	For use in pedestrian and cycling areas only.	Concrete Gully Pot with 450x450x100 (Captive Hinge),
D400	For use in car park and pedestrian areas, with no heavy vehicular traffic.	Concrete Gully Pot with 450x450x100 (Captive Hinge),
D400	For use in areas with fast moving traffic, high streets, trunk roads, carriageways and hard shoulders. (Captive Hinge),	450x450x100 (Captive Hinge), 600x600x100, 600x450x100, 1000x450x150

D400	Hinged gully kerb unit. (Captive Hinge),	450x450x150 (Captive Hinge),
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27. Heavy duty grate with anti-theft captive hinge shall be used for minor roads but only with the specific instruction of the Employer. Gratings shall have a frame depth of 100mm. <507.9>
28. Where double triangular gully gratings and frames have been specified it shall be minimum 100mm deep. The minimum water area shall be 1000mm² for Class 1 roads. D400 hinged captive gratings shall be used for Class 2 and 3 roads, the minimum waterway area shall be 950mm². See clause 507.14.

Gullies and Pipe Junctions

29. When the adjustment or replacement of existing frames and covers or gratings is required refer to the requirements of Appendix 5/72. See clause 508.8.
30. Testing and Cleaning
31. Drains that require testing for water-tightness shall as and when required be tested in a manner proposed by the Contractor and approved by the Employer. See clause 509.1.
32. Drains that require testing for permeability shall as and when required be tested in a manner proposed by the Contractor and approved by the Employer. See clause 509.8.
33. Land Drains
34. Existing land drains which are permanently severed by the Works shall be located and connected into a new drain, pipe or ditch all as described in the Package Order/Instruction.
35. Gullies and Pipe Joints
36. Gullies shall be trapped, un-trapped or sumpless as described in the Package Order/Instructions. See clause 508.1.
37. Minimum waterway areas shall be as specified in the Package Order/Instruction. See clause 508.5.

Combined Drainage and Kerb Systems

38. Combined drainage and kerb systems shall be suitable for their intended use and place of installation in the Works as stated in the Package Order/Instruction. See clause 516.2.
39. If an alternative is being proposed the Contractor shall provide evidence of combined drainage and kerb system suitability for the approval of the Employer. See clause 516.2.
40. Thermoplastics structured wall pipe shall comply with this Clause and the special requirements described in in the Package Order/Instruction. See clause 518.1.

Cleaning of Existing Drainage Systems

41. Cleaning shall include all types of drainage systems on the highways or within the affected unadopted land or highway including gullies, soakaways, bore holes, surface water channels, drainage blocks, combined drainage and kerb systems and linear drainage channel systems installed in road, footway, subway, surface car parks and garage areas. See clause 520.1.
42. Where jetting is required during cleaning the procedures stated within this appendix and Clause 521 shall be followed. See clause 520.4.

43. The cleaning of existing drainage systems activity shall include for:
- a) A visual inspection of the drainage system and its components;
 - b) Reporting immediately any defects found within drainage system and its components that may cause a hazard;
 - c) Recording any minor any defects found within drainage system and its components;
 - d) Removal and disposal to a licensed tip of all extraneous items in gully gratings and the removal of all detritus, debris, roots, collapsed soakaway lining and silt from the inside of chamber frames, grit pans and kerb weirs;
 - e) Vacuum suction and Jet cleaning of the complete drainage system and its components;
 - f) Rodding and / or jetting of obstructed or blocked gully connections for a minimum of fifteen (15) minutes;
 - g) Reporting immediately any gully connections that remain blocked after the fifteen (15) minutes rodding and/or jetting exercise to the Employer;
 - h) After each successful cleaning exercise, refilling gullies with clean water above the outlet level to check that the gully connection is not obstructed or blocked and ensure gully stopper is in place or if required replaced.
44. All information gathered during the cleaning of existing drainage systems activity shall be recorded by the Contractor on the Employer's proprietary asset management system or other bespoke drainage system, if specified. The information recorded by the Contractor shall include defects, blockages, pre-works and post works photographs, activity date and time, incomplete work details.
45. If cleaning of drainage systems cannot be accessed by the mechanical (e.g., a gully emptying/jetting vehicle) means described in Clause 520.6, the Contractor shall clean the drainage systems by using appropriate hand tools. See clause 520.6.
46. It should be noted that in most instances a connection/outlet pipe from a gully is between one (1) to ten (10) metres in length before connecting to a main line. In some instances, the connections may be longer.

Low Pressure High Volume Jetting of Drainage Systems

47. The Contractor shall clean existing drainage systems in accordance with Clause 521. See clause 521.1.
48. The drainage systems to be cleaned shall be as detailed in this Appendix. See clause 521.2.
49. The pipe material of each drainage system shall be identified by the Contractor. See clause 521.3.

Concrete Apron requirement on trafficked edges of the Gully gratings and Chamber covers

50. Provide ST4 Concrete Apron on trafficked edges of the Gully gratings and Chamber covers. See Drawing SD05-007
51. ST4 concrete requires a minimum of 7 days curing before wheel loading. Alternative rapid curing proprietary materials would require Employer's approval.

Raising or lowering of covers and gratings

52. When raising and adjustment of gully grating and manhole covers is to take place 24 hours before trafficking the Contractor shall not use Class 1 mortar with a thickness greater than 10 mm. Adjustments between 10 and 50mm should incorporate Resin Mortar blocks Shimpac (or similar approved) with 60 to 90 minute Rapid Set Bedding Mortars to ensure the metal work will not distort during 40KN cyclical heavy wheel loading.

APPENDIX 5/2: SERVICE DUCT REQUIREMENTS

1. For details of traffic signals and road lighting ducts (including traffic signs), see Appendix 14/4 to 14/6 and the Standard Details. They are billed in Series 1400.

APPENDIX 5/3: SURFACE WATER CHANNELS AND DRAINAGE CHANNEL BLOCKS

1. Refer to drawings SD02-001 and 004.

Surface Water channels and drainage channel Blocks

2. Unless stated otherwise in the Package Order/Instruction, the Surface Water channels and drainage channel Blocks shall be:
 - Certified to Load Class C as defined in DIN 19580/EN 1433;
 - 100mm nominal internal width;
 - Installed with manufacturer's grating appropriate to the Load Class of the place of installation and locked securely in place using the manufacturer's locking system;
 - Installed in accordance with the manufacturer's instructions and in accordance with recognised good practice. See Clause 510.1.

APPENDIX 5/4: FIN DRAINS AND NARROW FILTER DRAINS

1. For details of filter drains, refer to drawing SD05-015.

APPENDIX 5/5: COMBINED DRAINAGE AND KERB SYSTEMS

1. For details of combined drainage and kerb systems, refer to Appendix 11/1.

APPENDIX 5/6: LINEAR DRAINAGE CHANNEL SYSTEMS

1. For details of linear drainage channel systems, refer to Appendix 11/1.

APPENDIX 5/7: THERMOPLASTICS STRUCTURAL WALL PIPES AND FITTINGS

TENDER-SPECIFIC

Non Specified

APPENDIX 5/8: SETTING OF GULLY POTS

1. Refer to Drawings SD05-007 and SD05-008 in regards to the setting of gully pots.

APPENDIX 6/1: REQUIREMENTS FOR ACCEPTABILITY AND TESTING ETC OF EARTHWORKS MATERIALS

1. The Contractor complies with the Employer's Environmental Requirements regarding minimising waste, etc. Refer to Appendix 1/76.
2. No excavated acceptable material or unacceptable material required to be processed, other than surplus to the requirements of the contract, shall be removed from the site unless indicated otherwise in contract specific packages.
3. If in the process of excavation the contractor uncovers what he considers to be categories or volumes of material different from the tender documents, then approval for a re-determination from the Employer's Representative must be sought.
4. For BCC Environmental Requirements please see the link below.

https://www.bristol.gov.uk/en_US/policies-plans-strategies/energy-and-environment

Disposal of Class U1 Material

5. Unless otherwise stated in the Contract, Class U1 material is dealt with as follows:

"Class U1 Recyclable material" is defined as excavated Class U1 material which can be recycled for reuse if suitably treated at a recycling centre or used at another site, including bituminous material, cementitious materials, granular material, stone, fired clay, and some bulk clays.

"Class U1 Active material" is defined as excavated Class U1 material which is not Recyclable and which attracts the higher rate of Landfill Tax for disposal. It is generally material which results in leachate or gas in landfill and includes ash, biodegradable and putrescible material.

"Class U1 Inert material" is defined as excavated Class U1 material which is inactive and cannot be rendered Acceptable by recycling.

The Contractor separates excavated U1 material into its subgroups to the approval of the Employer's Representative. It obtains the Employer's Representative's approval to its proposals to dispose of the different sub-groups of Class U1 materials.

All material which is capable of being recycled or used elsewhere shall be disposed of at a recycling centre or similar.

The Contractor supplies proof of disposal of all materials including volumes/weights, type of material, Landfill Tax attracted, and tip or other site used.

Trial Holes (other than small trial holes to determine depth of topsoil strip)

6. The position, size, depth and purpose of the trial hole will be shown on the drawings or as instructed by the Employer's Representative.
7. The Contractor gives 24 hours' notice to the Employer's Representative of when it plans to excavate the trial hole, to allow the Employer's Representative the opportunity to inspect and record it.
8. The Contractor consults with owners of apparatus. The edges of the trial hole are carefully cut in accordance with Appendix 7/2 if in pavement, footway or paved area. The sides are upheld vertical and the excavation is kept free of water. Services are identified, supported and labelled to allow recording. The Contractor provides boards or stakes as requested by the Employer's Representative to act as datum for recording measurements. If required by a Statutory Undertaker, services are protected by sand or split ducts prior to backfilling.

9. Reinstatement shall be in accordance with BCC standard details and shall be carried out as soon as the Employer's Representative has completed recording information unless instructed otherwise. The materials used and the degree of compaction shall be such as to restore the Site as near as possible to its original condition. Settlement of reinstatements in excess of 10mm at any position within 12 month of reinstating shall be made good by the Contractor at no additional cost to the Employer. Response period as specified by the employer's representative

TENDER-SPECIFIC

The following additional earthworks acceptability etc requirements apply: package-specific

APPENDIX 6/2: REQUIREMENTS FOR DEALING WITH CLASS U2 UNACCEPTABLE MATERIAL

1. Class U2 hazardous or radioactive material requiring special measures shall be disposed of at a licensed tip. The contractor shall provide a method statement and seek approval from the Employer's Representative about its method of excavation, precautions and requirements for handling.

TENDER-SPECIFIC
Package-specific

APPENDIX 6/3: REQUIREMENTS FOR EXCAVATION, DEPOSITION AND COMPACTION (OTHER THAN DYNAMIC COMPACTION)

1. Blasting is not allowed in this contract.
2. Methods of compaction shall be chosen taking into account the proximity of buildings and the need to avoid damage and nuisance.
3. Excavation is to be by hand immediately adjacent to posts for illuminated items and services, in accordance with the requirements of the utility concerned or as instructed by the Employer's Representative.
4. Where Archaeological protection applies the requirements shall be package specific.

TENDER SPECIFIC
Package Specific

APPENDIX 6/4: REQUIREMENTS FOR EXCAVATION FOR STRUCTURAL FOUNDATIONS

TENDER-SPECIFIC

The requirements for the excavation for structural foundations are: Package-specific

APPENDIX 6/5: GEOTEXTILES USED TO SEPARATE EARTHWORKS MATERIALS

1. Geotextile shall be to the approval of the Employer's Representative or Project Manager.
2. The geotextile separator shall be thermally bonded, woven or non-woven, non-biodegradable synthetic fibre and sufficiently durable to maintain its integrity for design life of the pavement.
3. The Geotextile fabric (thermally bonded) should have a minimum tear strength in excess of 100N and minimum tensile strength (1m strip) in excess of 5kN/m. The Geotextile fabric shall be either woven polypropylene or non-woven polyester with a minimum unit weight of 100g/m².
4. All geotextiles should be protected and when stored on site not exposed to direct sunlight in excess of 4 weeks.
5. Where Geotextile (woven) or Geofabric (non-woven) is used for Drainage purposes it should have a minimum tear strength of 300N and a minimum tensile strength (1m strip) of 8kN/m. The Geotextile fabric shall be either woven polypropylene or non-woven polyester with a minimum unit weight of 120 gram per square meter (GSM).

6. Where Geotextile or Geofabric is expected to act as a separation layer and warning/marker layer in one, it shall allow infiltration as specified by the specific package and shall protect the filled area against migration of materials from underneath or above.
7. The Geotextile or Geofabric shall be provided in suitable widths for the purpose so that where the fabric is joined, transverse and longitudinal overlaps shall be 500mm.
8. All geotextiles shall be marked in accordance with BS EN ISO 10320 and stored in accordance with the manufacturer's instructions.
9. The 150mm deep Cellular confinement/containment system should be provided in panel form with a minimum Seam weld strength of 1800N and longitudinal and transverse strength of 19 MPa minimum a panel weight of 2kg/m². Cellular confinement/containment systems can only be installed off-highway.
10. Waterproof Membrane separators,
 - 250 micron (1000 gauge) for highway construction.
 - 500 micron (2000 gauge) for application in Filter Drain or SUDS.

TENDER-SPECIFIC

Package-specific requirements

APPENDIX 6/6: FILL TO STRUCTURES AND FILL ABOVE STRUCTURAL FOUNDATIONS

TENDER-SPECIFIC

Fill to structures and fill above structural foundations comprising 6N and 6P material: package-specific requirements and drawing references

APPENDIX 6/7: SUB-FORMATION AND CAPPING AND PREPARATION OF SURFACE TREATMENT OF FORMATION

1. The use of local quarry 'crusher run' will only be permitted in lieu of Class 6F1 or 6F2 in the Works upon written approval from the Employer's Representative.
2. Capping shall be as BCC Standard Detail drawings series SD01 Road Construction. And as instructed by the Employer's Representative. It shall be constructed with Class 6F1 or 6F2.
3. Recycled material is not permitted.
4. The Contractor shall report immediately to the Employer any circumstance which indicates that in the Contractor's opinion the ground conditions differ from those expected or highlighted in ground investigation reports (if these were provided).

APPENDIX 6/8: TOPSOILING

1. The locations and details of topsoiling will be carried out in accordance to the work package.
2. Excavated acceptable topsoil which cannot be reused on site shall be taken for recycling elsewhere.
3. Topsoil shall be Class 5A or 5B material in accordance to Table 6/1 and complies with the testing requirement of Appendix 1/5 and as agreed by the Employer's Representative.

4. Imported topsoil shall comply with BS 3882:2015 Recommendations and Classification for Topsoil. It shall be of medium texture with a high proportion of loamy material and be free from subsoil, rubbish, roots, perennial weeds and other materials injurious to plant growth
5. The depth of topsoil shall contain less than 20% by dry weight stones. If the area is to be mown then no stone greater than 10mm shall be exposed on the surface.
6. Litter is to be removed before and after topsoiling.
7. The depth of the topsoil strip shall vary according to depths of topsoil on site. Subsoil shall not be mixed with topsoil. The contractor shall agree with the Employer's Representative the depths of stripping before commencing strip. Thickness of finished topsoil shall, unless otherwise shown on the drawings, be assumed to be 150 mm.
8. Once the topsoil has been spread and prepared, the area shall not be subsequently traversed by plant or vehicles, or used for storage purposes.
9. The use and handling of topsoil shall be in accordance with the recommendations of BS 3882.
10. The Contractor ensures that Japanese Knotweed and other invasive species are not transported into or around the site.
11. Topsoil is to be stripped off and stockpiled for re-use (pending acceptability testing) in accordance to Clause 602.10. Surplus or unacceptable materials shall be disposed of by the Contractor. The Contractor shall provide a method statement for the stripping and stockpiling of topsoil on-site to the Employer prior to the start of works.
12. Topsoil shall be stored separately from other excavated materials. The depth to be stripped in each area shall be determined on site.
13. Topsoil shall be stored in mounds not exceeding 2.0 metres in height with maximum side slopes of 1 (vertical) in 1.5 (horizontal). 6. Topsoil mounds to be stored for periods of greater than six months shall be seeded with a mix of slow growth grass seed.
14. No stockpiles of topsoil or any other material shall be stored within the root zone of mature trees or in areas where existing trees/habitats may be damaged or where surface run off to watercourses would be detrimental to water quality.
15. Topsoil shall have all materials exceeding 50mm removed and disposed off-site in accordance to Appendix 6/2.
16. Topsoil shall be spread in layers not exceeding 150mm.
17. All areas to be topsoiled shall receive treatment in accordance with Specification Clause 618 unless instructed otherwise by the Employer's representative.
18. Topsoil depths and ground preparation/seeding are defined in Appendix 30/4 and 30/5.

APPENDIX 6/9: EARTHWORKS, ENVIRONMENTAL BUNDS, LANDSCAPE AREAS AND STRENGTHENED EMBANKMENTS

Earthworks material acceptability is outlined in Appendix 6/1.

Excavation, deposition and compaction requirements are provided in Appendix 6/3.

Validation of Imported Soils for soft landscaping

- Soils must not be contaminated with significant quantities of concrete, brick, plastics, metal, asbestos, glass, tarmac or organic matter such as wood/timber. All samples should also

be inspected for signs of Japanese Knotweed and if any rhizomes are identified, then the soil will not be suitable.

- The source and supplier of the soil must be provided, accompanied by certificates of analysis.
- Once bought onto site the soils should be independently validated ideally in situ or specifically from the stockpile prior to placement on site, this is essential in the following circumstances:
 - when the certificates from the greenfield source site were undertaken a long time before introduction to site and where the volume of soil per test is unknown
 - where the source material is either from a brownfield site or recycled material
- The soil should be analysed for asbestos, metals, speciated polycyclic aromatic hydrocarbons (PAHs); aromatic/aliphatic petroleum hydrocarbons (TPH) and pH.
- Testing frequencies depend on the volume of material and sensitivity of development. This should be agreed with Employer's Representative but as a guide:
 - Less than 20m³ – not required
 - Between 20m³ - 250m³ - 1 sample
 - If above 250m³ = 2 per 250m³
 - If above 1000m³ = liaise with Employer's Representative

Cover systems

- Where a cover depth has been agreed for remediation purposes validation that the depths have been achieved will be required.

TENDER-SPECIFIC:

Package-specific requirements

APPENDIX 6/10: GROUND ANCHORAGES, CRIBWALLING AND GABIONS

TENDER-SPECIFIC

Package-specific requirements

APPENDIX 6/14 LIMITING VALUES FOR POLLUTION OF CONTROLLED WATERS

TENDER-SPECIFIC:

The limiting values for the following constituents apply: Package-specific

See also package-specific requirements for testing in Appendix 1/5

APPENDIX 6/15: LIMITING VALUES FOR HARM TO HUMAN HEALTH AND THE ENVIRONMENT

1. Chemical acceptance criteria will determine whether a material is environmentally acceptable for use in the scheme or, if it is to be classed as U1B / U2 unacceptable.

2. All Made Ground or Engineered Fill which is to be moved and re-used on the site will be chemically tested.
3. The suitability of a given volume of soil for re-use in another area of the site will depend upon its chemical quality and therefore the potential for harm to Human Health and the Environment.
4. Class U1B soils may be improved by treatment and re-assessment of suitability for re-use in specific locations. If excavated soil is not suitable for re-use on site, it must be removed for off-site disposal.
5. The landfill requirements are dictated by the Government may adjust the classification of materials and therefore their tax rate as being standard or higher. Refer to the link below.

<https://www.gov.uk/government/publications/excise-notice-lft1-a-general-guide-to-landfill-tax/excise-notice-lft1-a-general-guide-to-landfill-tax#lower-rate-qualifying-material>

TENDER-SPECIFIC:

The limiting values for the following constituents apply: Package-specific

See also package-specific requirements for testing in Appendix 1/5

APPENDIX 6/16: FILLING OF DISUSED GULLY POTS

1. Existing drains no longer required shall, be sealed with ST2 concrete, in compliance to Clause 2602, or removed and replaced with general fill material complying with Clause 601 and Table 6/1 and compacted in compliance with Clause 612.
2. No cementitious material is to be introduced into the pipe work connected to the gully pot when the pot is being filled.

APPENDIX 6/33: AREAS OF HISTORICAL OR ARCHAEOLOGICAL INTEREST

1. The Employer's representative shall be informed of any material, natural material, cobbles/setts or other shaped masonry encountered that may be of historical or archaeological interest and shall be afforded the opportunity to inspect the material prior to it being demolished or excavated. These may include:
 - Metal kerbs
 - Natural stone kerbs, channel blocks
 - Natural stone paving, setts, cobbles
 - Natural stone haulingway paving
 - Clay pavers

TENDER-SPECIFIC

Package-specific requirements

APPENDIX 7/1: PERMITTED PAVEMENT OPTIONS

1. Road pavements shall be constructed from one of the permitted options described in this Appendix and Volume 4 and in compliance with this Series and the appropriate Clauses of Series 800, 900 and 1000.
2. Surface regularity (Clause 702) - Category of road remains A unless package-specific requirement for Category B
3. Grid for checking surface levels of pavement courses (Clause 702.4):-
 Longitudinal dimension: 10 m
 Transverse dimension: 2 m
4. For flexible pavements, the package shall specify the permitted pavement options from the alternatives given in the tables below.

Category A Roads <CL702.5 Table 7/2>		
Grid for checking surface levels of pavement courses <702.4>	Longitudinal dimension:	10 metres
	Transverse dimension:	2 metres
Surface regularity <702.5>, Table 7/2>	Category of Road:	A
Interval for measurement of longitudinal regularity <702.7>:		300 m
Interval for measurement of transverse regularity <702.8>:		20 m
Whether surface macrotexture is required <921.2>:		HRA - 1.5mm TSCS – 1.2mm

Category B Roads < CL702.5 Table 7/2>		
Grid for checking surface levels of pavement courses <702.4>	Longitudinal dimension:	10 metres
	Transverse dimension	2 metres
Surface regularity <702.5, Table 7/2>	Category of Road:	B
Interval for measurement of longitudinal regularity <702.7>:		300 m
Interval for measurement of transverse regularity <702.8>:		20 m
Whether surface macrotexture is required <921.2>:		HRA - 1.2mm TSCS – 1.0mm

5. Skid resistance of surface courses shall be as follows:-
 - Major roads, in high stress areas: PSV 65
 - Minor roads, gradient slacker than 1 in 20: PSV 55
 - All roads, gradient steeper than 1 in 20: PSV 65
 - All roads on approaches to pedestrian crossings and the like: Use High Friction Surfacing (see 8 below)

6. Requirements for the determination of compaction:
 - Asphalt Concrete Dense Base and Binder course: Compaction to be verified by PRD method if required by the Employer's Representative .
 - Asphalt Concrete Dense Surface course: Air voids content not greater than 6% (□ 2%) as determined in accordance with BS 598: Part 104.
7. Coated chippings: 20mm nominal size, maximum AAV: 12
8. Material supplied shall be either to the Recipe Method or the Design Method as specified in BS EN 13108, Part 4: Hot rolled asphalt.
9. Traffic Categories: BSI PD6691 in the appropriate table: Classification 2. The stress level for the site is 2 (Table B.4 BSI PD6691) - unless *package specific*.
10. Surface Texture required:-
 - Motorways, trunk roads, high speed (over 50mph) and high stressed roads: sand patch texture levels – average /1000m not less than 1.5mm (1.0mm after two years trafficking)
 - Roads subject to a speed restriction of 50mph or less: sand patch texture levels – average/1000m not less than 1.2mm (0.8mm after two years trafficking).
11. Slurry sealing of footways shall be K360 with 5 or 6mm hardstone aggregate.
12. Surface course shall be machine laid unless specifically permitted in writing by the Employer's Representative.
13. Industrial Grade Stone Mastic Asphalt surface course may be specified on major roads with high levels of stress. The Contractor proposes the mix for acceptance and provides a 5-year guarantee in accordance with Clause 942 Sub-clauses 15 and 16.
14. Where the Contract states special mix "high stone content" HRA 47.5/14 F surf 40/60 or special mix SMA 6 surf 40/60, the Contractor submits its proposed mix to the Employer's Representative for acceptance.
15. Minimum air temperature for laying surface course shall be 5oC unless the Contractor can demonstrate, using anemometer readings etc., that laying can continue down to 2oC without detriment.
16. The Contract may permit or require sub-base in Type 4, asphalt arisings, to comply with Clause 807 and Appendix 1/5.

17. Where required all High friction or coloured surfacing shall be cold applied, epoxy based, in buff or grey colour to areas shown on the drawings, to Clause 924. It shall be through-coloured with aggregate grading of 1-3mm and minimum PSV of 70. Accredited test certificates confirming the aggregate source and that the required values are met shall be provided before work commences.
18. All covers and frames to manholes, gullies, stop-cocks, valves and the like shall be fully masked and marked before the surfacing is laid. The masking shall be removed after the surfacing has cured and all masking materials removed to tip.
19. Raising and adjustment of gully grating and Manhole covers should comply with Appendix 7/2 mortar bedding requirement.
20. Details of surfacing materials and thickness of the surface courses are shown in the schedule below. If the Contractor suspects that the CBR of the sub-grade is less than 5%, the Contractor consults with the Employer's Representative regarding additional depth of sub-base, capping or introduction other earth reinforcement (geotextile) in accordance with Appendix 6/5.
21. If stress absorbing geotextile are used, they should be used underneath the binder course and not between the binder and surface courses.
22. Application of tack coat shall comply with Appendix 7/4.
23. Details of surfacing materials and thickness of courses are shown in the schedule below. If the Contractor suspects that the CBR of the sub-grade is less than 5%, the Contractor consults the Employer's Representative regarding additional depth of sub-base or geotextile in accordance with Appendix 6/5.

1. MAJOR ROADS, NORMAL CONDITIONS – NEW FLEXIBLE CARRIAGEWAY AS PER DWG SD01-001 (HRA, or SMA if instructed*)

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course*	910	HRA 35/14 F surf 40/60	45	20mm pre coated chippings	Limestone aggregate not permitted.
Binder Course	929	AC 20 HDM bin 40/60	60	20 nom. agg	As specified by ER
Base	929	AC 32 HDM base 40/60	200	28 nom.agg, Agg Types: Crushed rock or slag.	As specified by ER
Sub-Base	803	Granular Material Type 1	225		

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-001

* In high stress areas, the Employer's Representative may instruct the use of industrial grade SMA with 65 or 68 PSV stone. The thickness will nominally be 30mm

1A. MAJOR ROADS; RECONSTRUCTION - AS PER PACKAGE DRAWINGS (HRA)

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course	910	HRA 35/14 F surf 40/60	45	20mm pre coated chippings	Limestone aggregate not permitted.
Binder Course	929	AC 20 HDM bin 40/60	60	20 nom. Agg.	SHW cl 929.
Base	929	AC 32 HDM base 40/60	150 or 200*	28 nom.agg, Agg Types: Crushed rock or slag.	*For subgrades with CBR values of 15% or more

Total Overlay Thickness ~ Varies

1B. MAJOR ROADS; RESURFACING ONLY (HRA)

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course	910	HRA 35/14 F surf 40/60	45	20mm pre coated chippings	Limestone aggregate not permitted.

Total Overlay Thickness ~ 45 mm

1C. MAJOR ROADS; RESURFACING INCLUDING BINDER COURSE IN HEAVY TRAFFICKED LANES (BUS LANES OR SIMILAR)

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course	910	HRA 35/14 F surf 40/60	45	20mm pre coated chippings	Limestone aggregate not permitted.

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Binder Course	929	AC 14 EME2 bin 15/25	60 to 70 (depending on existing construction)	14 nom. Agg	SHW cl 930

Total Overlay Thickness ~ varies

1D. MAJOR ROADS; RESURFACING WITH STRESS-ABSORBING LAYER

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course	910	HRA 35/14 F surf 40/60	45	20mm pre coated chippings	Limestone aggregate not permitted.
Regulating Course	929	Package Specific	Min 15 to 60 (depending on existing construction)	Package Specific	Package Specific
Stress Absorbing Layer - GlasGrid or similar approved		Stress-absorbing layer laid under the Binder Course layer.	Grid Size Package Specific		Tack Film Asphalt Reinforcement (with Built-in Tack Coat) To be laid under the binder course layer.

Total Overlay Thickness ~ Varies

2. MAJOR ROADS HEAVILY TRAFFICKED WITH HGVs - FLEXIBLE CARRIAGEWAY AS PER DWG SD01-001 (HRA with EME2 Binder Course)

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course*	910	HRA 35/14 F surf 40/60	45	20mm pre coated chippings	Limestone aggregate not permitted.
Binder Course	929	AC 14 EME2 bin 15/25	70	20 nom. Agg.	SHW cl 930
Base	929	AC 32 HDM base 40/60	Varies according to design	28 nom.agg, Agg Types: Crushed rock or slag.	In layers of thickness 100mm or less.
Sub-Base	803	Granular Material Type 1	225		If subgrade CBR Values <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-001

* In high stress areas, the Employer's Representative may instruct the use of SMA industrial grade with 65 or 68 PSV stone

3. MAJOR ROADS – CONCRETE CARRIAGEWAY AS PER DWG SD 01-002

Layer	Clause	Material	Grade	Thickness (mm)	Special Requirements
Surface Course	1002	Concrete	PAV2 (C32/40) to BS 8500	250	Brush finish in compliance with Appendix 10/26. Contraction joints at 8m c/c. Cure for 14 days with protection as per Clause 1027, Volume 1 Series 1000 SHW, before being trafficked.
Reinforcement	1008	Mild Steel Mesh Reinforcement	A252	2 layers (top and bottom)	50mm cover top and bottom
Saw cut and Sealant	1016	Bituminous sealant		25mm wide and 25mm deep	Contraction joints required at 8m c/c. Joint to be formed with crack inducer at bottom and after 7 day curing ensure newly formed crack is sawn cut (25x25mm Channel) shape and sealed in accordance with Appendix 7/13.
Membrane	1007	Waterproof Membrane		Appendix 6/5	
Sub-Base	803	Granular Material Type 1		250	If subgrade CBR Values <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-001

Note:

The minimum strength requirement is 25 N/mm² before opening to traffic after a minimum of 14 days upon completion of the construction of the slab (or more depending on ambient temperatures).

Ensure that contraction joints and crack inducers as well as Isolation slabs for gullies and Service covers are in accordance with drawing SD01-003 details of Isolation Slabs for Gully and Chambers.

For Bus Stop Concrete Construction see SD04-017.

The Contractor shall erect temporary signs informing the public that traffic management measures are in place to allow for the curing of the concrete.

4. MINOR ROADS – FLEXIBLE CARRIAGEWAY AS PER DWG SD01-004 (Preferred)

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course	910	HRA 35/14 F surf 40/60	45	20mm pre coated	Limestone aggregate not permitted.

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
				chippings	
Binder Course	929	AC 20 HDM bin 40/60	60	20mm nom. aggregate	
Base	929	AC 32 HDM bin 40/60	100	32mm nom. aggregate	laid in 2 layers
Sub-Base	803	Granular Material Type 1	225		If subgrade CBR Values <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-004

‡ *The Employer's Representative may instruct the use of special mix "High stone content" material – HRA 47.5/14 F surf 40/60.*

5. MINOR ROADS – PCC BLOCK PAVERS AS PER DWG SD01-004

Layer	Clause	Material	Thickness (mm)	Notes	Special Requirements
Surface Course	1107	PCC block pavers 200 x 100 rectangular chamfered	80		PCC block paver to be laid in herringbone pattern. (45° preferred).
		Tegula block pavers Size is Package Specific	80		Tegula block pavers to be laid as per package requirements.
Sand bed	1107	Cat II sand	30		
Binder Course	929	AC 20HDM bin 40/60	75	20 nom-aggregate	Punctured at 1m c/c
Sub-Base	803	Granular Material Type 1	300		If subgrade CBR Values <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-004

6. MINOR ROADS – STONE PAVED ROADS - PENNANT CROSSING STONES AS PER DWG SD01-005

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		Pennant crossing stones	varies, generally 100 - 150	Laid transversely to direction of traffic, joints grouted. No trafficking within 7 days.
Bedding		1 : 3 Mortar	25	or bed stones directly onto wet concrete

Layer	Clause	Material	Thickness (mm)	Special Requirements
				foundation
Base	1001	Concrete ST4	150 under deepest stone	Min laying temperature 5°C.
Sub-Base	803	Granular Material Type 1	150	If subgrade CBR Values <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-004

7. MINOR ROADS – STONE PAVED ROADS - SETTS AS PER DWG SD01-005

Layer	Clause	Material	Thickness (mm)	Notes	Special Requirements
Surface Course		Pennant or granite setts	Varies, generally 100-200	typical size 200 x 100 x 100mm Package specific	Laid transversely to direction of traffic, 10mm joints. Clean off promptly using sand or sawdust. No trafficking within 7 days.
Bedding		1 : 3 Proprietary Mortar	20		Or directly onto wet concrete foundation.
Base	1001	Concrete ST4	150 under deepest sett		Min laying temperature 5°C.
Sub-Base	803	Granular Material Type 1	150		If subgrade CBR Values <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-005

Note:

Joints shall be flush or bucket handle as specified in a package or instructed by the Employer's Representative.

A package may require bedding to be Larsen Fine Bedding Concrete with Larsen Priming slurry applied to the stone and Larsen Flowable Grout in joints. Other similar approved manufacturers may be required.

8. MINOR ROADS – STONE PAVED ROADS – SETT CUBES AS PER DWG SD01-005

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		70/90 granite sett cubes Or 100 x 100 pennant setts	90 nominal	Laid in broken-arch pattern transverse to direction of traffic Joints n.e. 15mm, grouted.

Layer	Clause	Material	Thickness (mm)	Special Requirements
Bed		Class IV mortar	50	Full mortar bed.
Base	1001	Concrete ST4	150	Min laying temperature 5°C.
Sub-Base	803	Granular Material Type 1	200	If subgrade has CBR Value of <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-005

Note:

Joints shall be flush or bucket handle as specified in a package or instructed by the Employer's Representative.

A package may require bedding to be Larsen Fine Bedding Concrete with Larsen Priming slurry applied to the stone and Larsen Flowable Grout in joints. Other similar approved manufacturers may be required.

9. CAR PARKS AND DRIVES – SMA - AS PER DWG SD01-008

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course	937	SMA 40/60	30	6mm	No limestone aggregate
Binder course	906	AC 20 dense bin 100/150	70	0-14mm nominal	
Sub-Base	803	Granular Material Type 1	225		If subgrade CBR Value of <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-008

10. CAR PARKS AND DRIVES – CLOSE GRADED ASPHALT CONCRETE AS PER DWG SD01-008

Layer	Clause	Material	Thickness (mm)	Aggregate	Special Requirements
Surface Course	912	AC 10 close surf 100/150	30	0-6mm nominal	Single course, no limestone agg
Binder Course	906	AC 20 dense bin 100/150	70	0-14mm nominal	
Sub-Base	803	Granular Material Type 1	225		If subgrade CBR Value of <5%, consult Employer's Representative

Total Pavement Thickness: 325 mm

11. CAR PARKS AND DRIVES – BLOCK PAVERS AS PER DWG SD01-008

Layer	Clause	Material	Thickness (mm)	Notes	Special Requirements
Surface Course	1107	PCC block pavers	80	200 x 100 rectangular chamfered	Laid in herringbone pattern, 45° preferred. Joints filled with kiln-dried sand.
Bedding	1107	Sand	30	Cat II	
Binder Course	929	AC20 HDM bin 40/60	70	0-14mm nominal	Punctured at 1m c/c
Sub-Base	803	Granular Material Type 1	225		If subgrade CBR Value of <5%, consult Employer's Representative

Total Pavement Thickness: Varies depending on CBR Values – See drawing SD01-008

12. CAR PARKS AND DRIVES – GRAVEL SURFACE AS PER DWG SD01-008

Layer	Clause	Material	Thickness (mm)	Notes	Special Requirements
Surface Course		Stone		6 mm nom.agg.	Rolled into emulsion layer
Emulsion	920	2 layers of Bitumen emulsion		K1-70	Hot applied in 2 layers.
Sub-Base	803	Granular Material Type 1	150		Geotextile membrane laid to formation in poor ground conditions (CBR <2%)

Total Pavement Thickness: 150 mm

APPENDIX 7/2: EXCAVATION, TRIMMING AND REINSTATEMENT OF EXISTING SURFACES

1. The Contractor shall report immediately to the Employer any circumstance which indicates that in the Contractor's opinion the ground conditions differ from those expected or highlighted in the ground investigation reports.
2. The edges of all openings in carriageways and footways, but excluding block paver or slab footway shall be neatly cut using a disc cutter using dust suppression.
3. Vertical joints shall be formed to the full depth of each course and (in flexible materials) shall be painted with hot bitumen.
4. Typical cross-section diagrams for trench reinstatement can be found on Drawing Nos. SD01-011 and 012.
5. Undermining of traffic detection loops or vehicle detector systems including crossing of equipment adjacent to loop joint chambers will not be permitted and the Contractor will replace those sections of apparatus undermined at its own cost.

6. Reinstatement around, and bedding to cover and grating frames shall comprise epoxy-based polyester mortar bed and surrounds as Drawings SD01-012, SD05-007 and SD05-008 (gullies). Cement mortar or bituminous materials are not acceptable.
7. Stress-absorbing materials used as reinforcement and crack treatment shall comprise the following as required by the drawings:
 - Tensar AR-G (beneath minimum overlay 70mm)
 - Tensar GlassTex Patch 440
 - Saint Gobain Glasgrid 8501, 8502, 8511 or 8512.
8. The Contractor may propose alternatives and provides evidence that they are equivalent. Unless otherwise stated, storage, handling and installation shall comply with the manufacturer's instructions.

APPENDIX 7/3 SURFACE TREATMENT

High Friction Surfacing

1. High friction surfacing to Clause 924 as follows:
 - Cold applied epoxy resin with grey (through coloured) Chinese bauxite aggregate or similar approved, 1-3mm graded (PSV70+ & SRV65+)
 - Cold applied epoxy resin with buff (through coloured) Chinese bauxite aggregate or similar approved, 1-3mm graded (PSV70+ & SRV65+)
 - Cold applied epoxy resin with (through coloured) Harden natural colour (not dyed) red stone 1-3mm graded (PSV70+ & SRV65+)
 - MMA (Cold applied) Contractor to provide technical specification and HAPAS certification to be approved.
 - Cold Applied Methyl Methacrylate (MMA)
 - Thickness of binder: 1.7mm (Average), 1.35mm (Minimum)
 - Size of chippings: 1 to 3mm
 - Aggregate Type and PSV: Chinese Bauxite P.S.V. 73 (Buff or Grey)
 - Binder: Cold Applied Methyl Methacrylate (MMA)
 - Tack coat: Required to manufacturers instruction on concrete surfaces.
 - MMA (Cold applied) Contractor to provide technical specification and HAPAS certification to be approved.
 - Cold Applied Methyl Methacrylate (MMA)
 - Thickness of binder: 1.7mm (Average), 1.35mm (Minimum)
 - Size of chippings: 1 to 3mm
 - Aggregate Type and PSV: Harden natural colour (not dyed) red stone P.S.V. 73
 - Binder: Cold Applied Methyl Methacrylate (MMA)
 - Tack coat: Required to manufacturers instruction on concrete surfaces.

2. For high friction surfacing applied on Concrete surfaces, all concrete surfaces should be primed using a clear primer before laying of high friction surface dressing materials and road markings. The Clear Primer can be applied by spraying or by brush or roller. Surface must be clean, dry and free from any contamination including dust, dirt oil, grease, laitance and curing agents. Particular attention should be given to ensuring the surface is free from salt, ice and moisture. The prepared surface must be totally covered with a thin, even coating of Clear Primer. It shall be applied in accordance with the manufacturer's instructions. Ensure the Clear Primer is thoroughly dry before applying subsequent thermoplastic materials. It is always advisable to try a test area first before proceeding with the main application. Please note that Primer should not be applied to fresh concrete earlier than 14 days.
3. 20mm (Tarmac Ulticolour or Similar approved SMA) natural hard wearing quartzite 6mm, (PSV 57) only to be applied to shared surfaces or PROW (not adopted highway).

Surface Dressing

TENDER-SPECIFIC:

Package-specific requirements

APPENDIX 7/4: BOND COATS, TACK COATS AND OTHER BITUMINOUS SPRAYS

1. Class of emulsion: K1-40 (cold applied) or K1-70 (hot applied) - rate of Spread: 0.35 - 0.55 litres per square metre.
2. For SMA, 50% polymer modified bond coat, rate of spread 0.5kg/m².
3. To be applied to existing bituminous materials or concrete to be overlaid by new bituminous materials, to binder course before applying surface course and to base if it has been trafficked.
4. No additions permitted unless agreed by the Employer's Representative. Blinding material not be used unless agreed by the Employer's Representative.
5. Before laying of the Binder Course tack coats will be required.
6. Street furniture, covers, kerbs, channels etc., shall be masked where necessary to prevent staining with the spray.
7. All vertical surfaces shall be treated with bituminous emulsion (cold applied K140 or similar) prior to the laying of bituminous layers.

APPENDIX 7/9: COLD MILLING

1. Cold milling (planing) shall be to a constant depth or to profile in accordance with the package-specific drawings.
2. Where the thickness of existing courses are such that it is not practicable to plane off the thickness specified in the Contract, the Contractor shall immediately inform the Employer of the thickness he proposes to plane. Failure to do so may result in the Contractor being held responsible for the cost of any remedial works.
3. Where de-lamination of the layer occurs, further milling is to be carried out to the level of sound material and replaced with a regulating course appropriate to the overlying material using a material described in Appendix 7/1 or Clause 907.

APPENDIX 7/11: OVERBAND AND INLAID CRACK SEALING SYSTEMS

Inlaid Crack Sealing Systems

1. Over-band sealing is not permitted.
2. Staggered Joint construction is required when resurfacing the bituminous material should cut back with a vertical face and be painted with a polymer modified bond coat or tack coat to SHW cl 920.
3. Any inlaid crack sealing system HAPAS Grade Classification, or equivalent, requires written agreement by the Employer's Representative. See Clause 710.4.
4. Subject to instruction by the Employer's Representative the minimum polished stone value (PSV) of the source aggregate for chippings applied to the surface of inlaid crack sealing systems, determined in accordance with BS EN 1097-8, shall be sixty (60) unless otherwise specified in the Package Order/Instruction.

APPENDIX 7/13: SAW-CUT AND SEAL BITUMINOUS OVERLAYS ON EXISTING JOINTED CONCRETE PAVEMENT

- TENDER-SPECIFIC:

APPENDIX 7/14: PREPARATION OF JOINTED CONCRETE PAVEMENTS PRIOR TO OVERLAYING AND SAW-CUT AND SEAL OF THE BITUMINOUS OVERLAY

- TENDER-SPECIFIC:

Checking and Repair of Joints

1. All joints, arises and temporary repairs shall be checked and repaired in accordance with the requirements specified by Employer. See Clause 714.3.

APPENDIX 7/15: SAW-CUT, CRACK AND SEAT EXISTING JOINTED REINFORCED CONCRETE PAVEMENTS

1. When instructed by the Employer by issue of a Package Order/Instruction the Contractor shall saw-cut and crack and seat existing reinforced concrete pavement layers, as specified Appendix 7/1, shall be laid. See Clause 715.1.

TENDER-SPECIFIC:

APPENDIX 7/16: CRACKING AND SEATING OF EXISTING JOINTED UNREINFORCED CONCRETE PAVEMENTS AND HYDRAULICALLY BOUND MIXTURE (HBM) BASES

1. When instructed by the Employer by issue of a Package Order/Instruction the Contractor shall saw-cut and crack and seat existing unreinforced concrete pavement layers, as specified Appendix 7/1, shall be laid. See Clause 715.1.

TENDER-SPECIFIC:

APPENDIX 7/17: CRACKING PLANT AND EQUIPMENT PROGRESS RECORD

1. The Contractor will develop a pro forma that keeps records of all cracking work. The pro forma shall record the Contract details, site location, type of plant and Contractors plant number, blade Length, blade weight and date. See Clause 715.1.

TENDER-SPECIFIC:

APPENDIX 7/21: SURFACE DRESSING – RECIPE SPECIFICATION

TENDER-SPECIFIC:

Package-specific requirements

APPENDIX 7/23: ROAD HUMPS AND SPEED CUSHIONS

1. Road humps and speed cushions shall comply with the Highways (Road Hump) Regulations 1999.
2. The Contractor provides and maintains reflectorised traffic signs on each approach complying with Diagram 557.1 of the TSRGD 2016, until authorised by the Employer's Representative to remove them.
3. All road markings to be in accordance with TSRGD 2016.
4. Humps may also be constructed in in-situ concrete and requires authorisation from Employer's representative.
5. The Contractor shall key in and scarify the existing carriageway as necessary and apply tack coat, and neatly cut vertical joints (apply tack coat to the edges) and paint with bitumen sealer. Tack coat to be according to Appendix 7/4.
6. For pavement and road humps and speed cushions detail required shall be in accordance with Drawings SD04-003 and SD04-004
7. Before the installation of raised hump/cushions, the existing surface course shall be planed off by at least 45mm.
 - Other Works Package-specific requirements -

APPENDIX 7/71: UNBOUND, CEMENT AND OTHER HYDRAULICALLY BOUND MIXTURES

- Package Specific

APPENDIX 10/26: CONCRETE PLACEMENT AND FINISHED SURFACE

Curing,

1. The minimum requirement is to wait at least 24 hours before allowing foot traffic on a newly poured pavement. Newly poured pavements shall not be trafficked for at least 14 days when temperatures are above 5 degrees centigrade. Rapid hardening concrete may be used if required by Employer's Representative.

2. For testing requirement see Appendix 1/5.

Compaction

3. Concrete shall be thoroughly compacted by vibration during the operation of placing, and thoroughly worked around the reinforcement, tendons or duct formers, around embedded fixtures and into corners of the formwork to form a solid mass free from voids in compliance with BS 8500.

Macrotexture and surface finish

4. A brushed finish in compliance with the table below is obtained by pulling a brush over the surface of the fresh concrete, after the surface has been levelled. In order to ensure the uniformity and aesthetic appearance of the concrete the use of combined skip float and brush is recommended.
5. All Concrete pavement and road Construction surface finishes illustrated in the Employer standard detail drawing must comply with the following macrotexture depths.

Time of Test	Macrotexture depth (mm)	Tolerance mm
In Carriageway- 14 days after the construction of the slab before opening to vehicular traffic.	1.5 to 2mm	+- 0.25

APPENDIX 11/1: KERBS, FOOTWAYS AND PAVED AREAS

Kerb, channel, edging, and kerb block

1. Details are shown on drawings SD02-001 to 006.
2. Combined drainage and kerb blocks and linear drainage channel systems shall be laid in accordance with manufacturer's recommendations.
3. In the case of ramped crossings and cycle access requiring tactile paving, the paving shall be laid in accordance with Drawings SD03-005 to 007.
4. Where necessary to match with existing footway, concrete footway may be laid using the same construction as shown on Drawing SD01-009 for concrete for private drives. The surface finish of in situ concrete for footways and paved areas will be diamond rolled and islands will be U1 surface with brush finish to Clause 1708.4 and Appendix 10/26.
5. PCC paving slabs shall be laid butt-jointed without mortar.
6. Kerbs and channels shall be laid with nominal 2mm joints without mortar. Radius less than 12m shall be formed using proprietary radius units.
7. The Contractor shall minimise the cutting of PCC Concrete, PCC Trief or metal kerbs arranging the layout configuration to use full-length kerbs and appropriate radius used wherever possible as highlighted in the British Standard Kerb and Edging. Refer to standard detail drawing SD-02-001.
8. Corners shall be formed using proprietary internal and external angle or quadrant kerbs. Mitring of kerbs will not be accepted on external angles.
9. Double-length droppers shall be formed either with proprietary units or with one transition and one bull-nose kerb.

Skid resistance

10. Skid resistance of footway surface courses shall be as follows:-
 - gradients slacker than 1 in 12: PSV 55
 - gradients steeper than 1 in 12: PSV 60
11. The surface course shall not contain limestone aggregate.
12. Where the Contract states special mixes HRA 40/10 F surf 100/150 or "high stone content" HRA 40/10 F surf 100/150, the Contractor submits its proposed mix to the Employer's Representative for acceptance.
13. Bituminous surface course to footways and paved areas of width greater than 2m shall be machine laid unless specifically permitted in writing by the Employer's Representative. Narrower footways and paved areas shall be machine laid if the package-specific requirements so state.
14. The Contract may permit or require sub-base in Type 4, asphalt arisings (or similar), to comply with Clause 807 and Appendix 1/5.
15. Footways and paved areas to be used as cycleways (other than cycle lanes on trafficked carriageway which are specified under Series 700) comply with this Appendix and Series 1100 with the following additional requirements:
 - Surface Regularity of surface course complies with Clause 702 and Table 7/2 (Class B road).

16. Details of surfacing materials and thickness of courses are shown in the schedule below. If the Contractor suspects that the CBR Value of the sub-grade is less than 5%, the Contractor consults with the Employer's Representative regarding additional depth of sub-base or geotextile in accordance with Appendix 6/5.

1. FLEXIBLE CONSTRUCTION – ASPHALT CONCRETE SURFACE Drawing SD01-006*

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		AC 6 close surf 100/150	20	No limestone aggregate 6mm aggregate 100 pen
Binder Course	1105	AC 20 dense bin 100/150	55	20 nom. aggregate 100 pen.
Sub-Base	803	Granular Material Type 1	150 residential roads, 300mm elsewhere	If subgrade has a CBR Value of <5%, consult Employer's Representative.

Total Footway Thickness: 225/375mm

* At footway crossovers to private domestic or heavy duty private drives, refer to SD 01-009.

NB: Where new works take place on existing footway, sub-base may be omitted depending on the works package.

2. FLEXIBLE CONSTRUCTION – HRA ALTERNATIVE Drawing SD01-006*

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		Mix HRA 40/10 F surf 100/150 (High Stone Content-HSC)	50	No limestone aggregate 35% 10 nom.agg.
Sub-Base	803	Granular Material Type 1	150 residential roads*, 300mm elsewhere	If subgrade has a CBR Value of <5, consult Employer's Representative

Total Footway Thickness: 200/350mm

* At footway crossovers to private domestic or heavy duty private drives, refer to SD 01-009

3. BLOCK PAVERS – Drawing SD01-006*

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course	1107	PCC or clay block pavers 200mm x 100mm, 100mm x 150mm, 100mm x 100mm rectangular	65	Joints filled with kiln-dried sand to refusal over several passes. No limestone aggregate. Must be laid in herringbone pattern in vehicular areas. Preferred herringbone pattern angle is 45°.

Layer	Clause	Material	Thickness (mm)	Special Requirements
		chamfered. Package specific		
Bedding	1107	Cat II Sand	30	Recycled alternative to be approved by ER
Sub-Base	803	Granular Material Type 1	150 residential areas*, 300 elsewhere	If subgrade CBR Value of <5%, consult Employer's Representative

Total Footway Thickness: 245/395mm

At footway crossovers to private domestic or heavy duty private drives, refer to SD 01-009.

4. SETTS IN FOOTWAYS

Layer	Clause	Material	Dimensions (mm)	Special Requirements
Surface Course	1107	Natural stone setts	200 x 100 x 100 deep 200 x 100 x 155 deep Split faced – 70/90 100 x 100 x 65 deep	Must be laid in herringbone pattern in vehicular areas. Preferred herringbone pattern angle is 45°.
Bedding	1107	Class IV Mortar	50	6:1:1 lime mortar
Sub-Base	803	Granular Material Type 1	150 residential areas*, 300 elsewhere	If subgrade CBR Value of <5%, consult Employer's Representative

Total Footway Thickness: Varies

1. At footway crossovers to private domestic or heavy duty private drives, refer to SD 01-005.
2. Joints shall be flush or bucket handle as specified in a package or instructed by the Employer's Representative.
3. A package may require bedding to be Larsen Fine Bedding Concrete with Larsen Priming slurry applied to the stone and Larsen Flowable Grout in joints. Other similar approved manufacturers may be required.

5. PCC PAVING SLABS WITH SAND BEDDING (Drawing SD01-006)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course	1104	300x300x60 PCC 400x400x65 PCC 450x450x70 PCC Slabs with	60 65 70	No limestone aggregate. Laid in courses with half bond staggered joints, minimising slabs of width less than half. Avoid bridging between concrete and flexible

		chamfered edges		subgrade.
Bedding	1107	Cat II Sand	30	Recycled alternative to be approved by ER
Sub-Base	803	Granular Material Type 1	150 in residential roads* 300 elsewhere	If subgrade CBR Value of <5%, consult Employer's Representative.

Total Footway Thickness: 240/390mm

Note:

1. At Bus stops, refer to SD 04-016 for construction detail

6. PCC PAVING SLABS WITH MORTAR BEDDING (Drawing SD01-006)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course	1104	600x600x63 PCC 900x600x63 PCC Slabs with chamfered edges	63 63	No limestone aggregate. Laid in courses with half bond staggered joints, minimising slabs of width less than half. Avoid bridging between concrete and flexible subgrade.
Bedding	1107	Class IV Mortar	30	Full mortar bedding
Sub-Base	803	Granular Material Type 1	150 in residential roads* 300 elsewhere	If subgrade CBR Value of <5%, consult Employer's Representative.

7. NATURAL STONE SAWN SLABS (Drawing SD01-006)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course	1104	York Stone Pennant Stone	York Stone 75 for vehicular traffic 63 for pedestrian, cycle paths Pennant Stone 80	No limestone aggregate. Laid in courses with half bond staggered joints, minimising slabs of width less than half. Avoid bridging between concrete and flexible subgrade. (see Note below)
Bedding	1107	See Note Below	50	See Note Below
Sub-Base	803	Granular Material Type 1	150 in residential roads* 300 elsewhere	If subgrade soaked CBR Value of <5%, consult Employer's Representative.

Total Footway Thickness: 240/390mm

1. At footway crossovers to private domestic or heavy duty private drives, refer to SD 01-005.
2. Joints shall be flush or bucket handle as specified in a package or instructed by the Employer's Representative.

3. A package may require bedding to be Larsen Fine Bedding Concrete with Larsen Priming slurry applied to the stone and Larsen Flowable Grout in joints. Other similar approved manufacturers may be required.

8. RECLAIMED PENNANT SLABS (Drawing SD01-006)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		Dressed pennant slabs	Varies	Laid in courses with half bond staggered joints. Avoid bridging between concrete and flexible subgrade (see Note below)
Bedding		Class IV Mortar	50 minimum	6:1:1 lime mortar
Foundation	1030	Lean-mix concrete	150	On Type 1 granular material sub-base if stated in the Contract
Sub-Base	803	Granular Material Type 1	100	

Total Footway Thickness: varies

1. At footway crossovers to private domestic or heavy duty private drives, refer to SD 01-005.
2. Joints shall be flush or bucket handle as specified in a package or instructed by the Employer's Representative.
3. A package may require bedding to be Larsen Fine Bedding Concrete with Larsen Priming slurry applied to the stone and Larsen Flowable Grout in joints. Other similar approved manufacturers may be required.

9. FOOTPATHS IN GRASSED AREAS - FLEXIBLE CONSTRUCTION (Drawing SD01-007)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		AC 6 close surf 100/150	20	No limestone aggregate 0-6mm aggregate 100 pen
Binder Course	1105	AC 20 dense bin 100/150	55	0-14mm aggregate 100 pen
Sub-Base	803	Granular Material Type 1	150 (300 + geotextile in poor ground)	With subgrade CBR value <2% use 300mm Type 1 granular material sub-base to SHW cl 803 in conjunction with geotextile (See Appendix 6/5)

Total Footway Thickness: 210/360mm

10. FOOTPATHS IN GRASS AREAS - FLEXIBLE CONSTRUCTION - ALTERNATIVE (Drawing SD01-007)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		Special Mix HRA 40/10 F surf 100/150	50	No limestone aggregate 35% 10 nom.agg.
Sub-Base	803	Granular Material Type 1	150 (300 + geotextile in poor ground)	With subgrade CBR value <2% use 300mm Type 1 granular material sub-base to SHW cl 803 in conjunction with geotextile (See Appendix 6/5)

Total Footway Thickness: Dependant on sub-base requirements

11. FOOTPATHS IN GRASS AREAS - GRAVEL CONSTRUCTION (Drawing SD01-007)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course		3mm well-graded blinding gravel		Rolled in to seal surface.
Sub-Base	803	Granular Material Type 1	200 (300 + geotextile in poor ground)	With subgrade CBR value <2% use 300mm Type 1 granular material sub-base to SHW cl 803 in conjunction with geotextile (See Appendix 6/5)

Total Footway Thickness: Dependant on sub-base requirements

12. FOOTPATHS IN GRASS AREAS – ‘NO DIG’ CONSTRUCTION (Drawing SD01-007)

Layer	Clause	Material	Grade	Thickness (mm)	Special Requirements
Surface Course		Special Mix HRA 40/10 F surf 100/150		50	No limestone aggregate 35% 10 nom.agg.
Sub-base	805	Un-compacted Granular Material Type 3 in rigid cellular containment system		150	Terram Geocell 150mm deep cellular containment system or similar approved.
		Sand	Horticultural grade	Varies to fill hollows	Lay geotextile membrane on top of horticultural grade sand. See Appendix 6/5.

Total Footway Thickness: 200mm plus Horticultural grade sand for hollows

13. FOOTWAY CROSSOVERS TO PRIVATE DRIVES – FLEXIBLE CONSTRUCTION (Drawing SD01-009)

Layer	Clause	Material	Thickness (mm)	Special Requirements
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Surface Course		AC 6 close surf 100/150	20	No limestone aggregate 0-6mm crushed rock aggregate 100 pen
Binder Course	906	AC 20 dense bin 100/150	80	0-14 nominal aggregate 100 pen
Sub-Base	803	Granular Material Type 1	150	Geotextile material if instructed by Employer's Representative. See Appendix 6/5.

Total Footway Thickness: 250

14. FOOTWAY CROSSOVERS TO PRIVATE DRIVES – FLEXIBLE CONSTRUCTION (Drawing SD01-009)

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course	905	Special Mix HRA 40/10 F surf 100/150	40	No limestone aggregate 35% 10 nom.agg.
Binder Course	906	AC 20 dense bin 100/150	60	0-14 nominal aggregate 100 pen
Sub-Base	803	Granular Material Type 1	150	Geotextile material if instructed by Employer's Representative. See Appendix 6/5.

Total Footway Thickness: 250mm

15. FOOTWAY CROSSOVERS BLOCK PAVERS – Drawing SD01-009

Layer	Clause	Material	Thickness (mm)	Special Requirements
Surface Course	1107	PCC or clay block pavers 200 x 100 rectangular chamfered.	80	Joints filled with kiln-dried sand to refusal over several passes. No limestone aggregate. Must be laid in herringbone pattern. Preferred herringbone pattern angle is 45°.
Bedding	1107	Cat II Sand	30	
Sub-Base	803	Granular Material Type 1	200	If subgrade CBR <5, consult Employer's Representative. Geotextile material if instructed by Employer's Representative. See Appendix 6/5.

Total Footway Thickness: Varies depending on the use of capping. See SD-01-009

16. IN-SITU CONCRETE FOOTWAY CROSSOVERS TO PRIVATE DRIVES (Drawing SD01-009)

Layer	Clause	Material	Grade	Thickness (mm)	Special Requirements
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Surface Course	1022	In-situ concrete	PAV2 32/40	150	Brush finished in accordance with Appendix 10/26
Membrane	1007	Waterproof Membrane		250 micron or 1000 gauge	
Sub-Base	803	Granular Material Type 1		150	

Total Footway Thickness: 300mm

17. ALL OTHER CROSSOVERS (INDUSTRIAL USE) (Drawing SD01-009)

Layer	Clause	Material	Grade	Thickness (mm)	Special Requirements
Surface Course	1022	In-situ concrete	Pav2 32/40	200	Brush finished in accordance with Appendix 10/26
Membrane		Waterproof Membrane		250 micron or 1000 gauge	
Sub-Base	803	Granular Material Type 1		150	

Total Thickness: 350mm

APPENDIX 11/2: ACCESS STEPS

Unless shown otherwise on the drawings, steps for Public Rights of way shall comply with Drawing SD08-014. Otherwise steps shall be package specific.

- TENDER-SPECIFIC:
- Package-specific requirements - **Not Required**

APPENDIX 11/3: STANDARD TRAFFIC ISLANDS

The Contractor shall minimise the cutting of PCC Concrete or PCC Trief kerbs by arranging the layout configuration to use full-length kerbs and appropriate radius used wherever possible as highlighted in the British Standard Kerb and Edging.

APPENDIX 12/1: TRAFFIC SIGNS – GENERAL

1. All traffic signs supplied under this Contract are classified as “permanent traffic signs”. Refer to the latest edition of the Traffic Signs Manual and the Traffic Signs Regulations and General Directions, latest amendment.
2. Refer to the latest version of Bristol City Council Specification for Bristol City Council’s Highway Electrical Assets Team (HEAT) Street Lighting Equipment Specification.
3. The details of all traffic signs required by the Package Order are given in the schedule of traffic signs. See Table 12.1 and/or relevant drawings for package specific traffic sign schedules.
4. Sign plates and faces shall comply with Bristol City Council’s HEAT Street Lighting Equipment Specification.
5. The only divergence shall be that package-specific schedules may require non-retroreflective faces – Class N.
6. Self-Adhesive sign patches should match that of the host sign. This could be non-reflective or Class RA2 Retroreflective grade 2. The patch is only to be applied after cleaning of the host sign face affected.
7. Cylindrical posts (i.e. not for electrical connection) shall comply with Bristol City Council’s HEAT Street Lighting Equipment Specification.
8. Conical posts for electrical connection shall comply with Bristol City Council’s HEAT Street Lighting Equipment Specification.
9. Square section posts are to be installed to the orientation required by the drawings (usually parallel to the back of footway).
10. Posts shall be finished in accordance with Bristol City Council’s HEAT Street Lighting Equipment Specification. The Contractor provides evidence that the correct finish has been applied
11. Finger post shall have reinforcing ribs or tee sections according to the manufacturer’s instructions.
12. Shortening of posts by cutting requires the cut end to be treated with a proprietary zinc based rust protection system (Galvafruid or similar approved) to the manufacturers instructions.
13. Offset brackets shall be a proprietary galvanised type approved by the Engineer.
14. Foundations for traffic signs shall not be augered.
15. Installation shall be in accordance with Clause 10, and attachment of sign faces Clause 10.4, of SL Spec 2012.
16. Post extensions are not to be used.
17. Only proprietary sign clips (including back to back signs) shall be used according to the manufacturer’s instructions. Banding of signs is not permitted unless authorised by the Employer’s Representative in writing.
18. Wall signs shall be fixed using stainless steel wall fixings (dome headed security screws – star pattern). The fixing shall be secure with a minimum of 35mm penetration into the brick or block work. Length of screws to be varied according to wall surface roughness.
19. Power supplies for illuminated signs shall be arranged by the Employer. In support of this, the Contractor may be required to carry out excavation, ducting and reinstatement works as per a specific package. The Contractor manages the interface with the public or private power

supplier to the extent of providing access, welfare, assistance and traffic management (see Clause 183AR and Appendices 1/13 and 1/16).

Table 12.1 Sign Schedule

Sign No	Description	Sign Design Ref		Dims W x H (mm)	Face Material	Mounting Height (metres)	Illumination	No of posts	Dia (mm)	Base Housing	Length AGL (m)	Root Depth (mm)	Total Length (mm)	Sign Config	Foundation dims H x W x L (mm)	Notes

Notes:

1. Approved bandit tapes are acceptable method of mounting new signs on conical lamp columns.
2. New signs to have a minimum of 500mm clearance from the edge of kerb. Please note that no part of the sign arrangement should be closer than 500mm to kerb face.

APPENDIX 12/3: TRAFFIC SIGNS - ROAD MARKINGS AND STUDS

1. The locations of existing road markings are shown on the drawings. Exact marking locations shall be in accordance with the Traffic Signs Manual (Chapter 5) and agreed with the Employer prior to installation on Site.
2. The work shall comply with
 - BSEN 1436 Road Marking Materials: Performance for Road Users
 - BSEN 1824 Road Marking Materials : Road Trials
 - British Standard Kite mark Scheme for Road Marking Materials to BSEN 1871
 - BSEN 1423
 - BSEN 1790
3. Road markings shall be firmly bonded to the underlying surface and have a skid resistance value of not less than 55 (Class S3 Table 7).
4. Where road markings are to be applied to concrete or stone, the Employer's Representative may instruct that chlorinated rubber material is used.
5. The width tolerance and thickness for screed, spray, pre-formed and extrusion white or yellow lines shall be in accordance with the Traffic Signs Regulations and General Directions (TSRGD) 2016 (as amended). Unless otherwise specified all white markings shall be reflectorised with solid glass beads in accordance with BS EN 1423 and BS EN 1424 by incorporation (except for pre-formed markings) into the road marking mixture and to the wet surface of the marking.
6. All white road markings, except when varied for use as a cycle track, shall be reflectorised to Clause 1212.
7. The default colour for new yellow lines for parking restrictions in Bristol City Council's geographical area is Primrose (310), 50mm wide. Where lines are being renewed or tied into existing, then the Employer's Representative may instruct lines in normal Yellow or Deep Cream (353) of width to match existing.
8. Zebra crossing white stripes shall conform to the requirements of The TSRGD 2016 (as amended) and The Zebra, Pelican and Puffin Pedestrian Crossings Regulations and General Directions 1997.
9. Road markings at signal controlled crossings shall comply with the requirements of The TSRGD 2016 (as amended) and The Zebra, Pelican and Puffin Pedestrian Crossings Regulations and General Directions 1997.
10. Controlled crossing road studs shall be 100mm x 100mm thermoplastic in accordance with TSRGD 2016.
11. All new markings must be located to tie in correctly with existing carriageway markings. Prior to planing works the Contractor shall record the positions/offsets of existing markings.
12. Hydro blasting is not permitted for removal of road marking on flexible surfaces.
13. The Contractor shall carry out the works in a manner approved by the Employer's Representative and/or the Police for the operation of temporary traffic management measures and shall produce an agreed phased programme before commencing work. (See appendices 1/13 and 1/16). The Contractor coordinates the application or removal of road markings such as stop lines with the programming of controlled crossings.
14. The Contractor shall carefully eradicate existing road markings by an approved method, agreed with the Employer's Representative that ensures that the prepared surface is

suitable to receive new markings and damage to the adjacent road surface is minimised. In proposing a method to the Employer's Representative, the Contractor considers the avoidance of noise and fumes and possible annoyance to residents and passers-by. The equipment used is maintained in good condition to minimise duration, damage and nuisance.

15. On completion of each site visit the road shall be left clean and free from any surplus material spilled during the progress of the work. All markings shall be uniform and free from streaks or blisters, and shall be free from raggedness at the edges. Trimming of edges, where necessary, shall be undertaken as the work proceeds.
16. A tack coat, compatible to the material, shall be applied on surfaces where required.
17. For road markings applied on Concrete surface all Concrete surfaces should be primed using Clear Road Marking Thermoplastic Primer before laying of thermoplastic materials. The Clear Primer can be applied by spraying or by brush or roller. Surface must be clean, dry and free from any contamination including dust, dirt oil, grease, laitance and curing agents. Particular attention should be given to ensuring the surface is free from salt, ice and moisture. The prepared surface must be totally covered with a thin, even coating of Clear Primer. Apply in accordance with manufacturer's instructions. Ensure the Clear Primer is thoroughly dry before applying subsequent thermoplastic materials. It is always advisable to try a test area first before proceeding with the main application.

Temporary Road Markings

18. The precise location of any temporary road markings and road studs shall comply with the Traffic Signs Regulations and General Directions 2016 and with Chapter 8 of the Traffic Signs Manual and as agreed with the Employer's representative.
19. Where the Employer's Representative instructs the use of black thermoplastic to cover existing road markings, care shall be taken to ensure that the minimum area of carriageway is covered which allows the eradication of the marking.
20. Temporary road markings shall be laid using prefabricated road markings as agreed with Employer's Representative.
21. Thermoplastic material may only be used on areas which will be subsequently resurfaced as a part of the Works unless otherwise approved by Employer's representative.

APPENDIX 12/5: TRAFFIC SIGNS: TRAFFIC SIGNALS

General - scope of work

1. Where required in the Contract, the Contractor provides and installs ducts, chambers, pole shoes and electrical connection pillars. The Contractor installs the traffic signal controller base provided by the Employer. See Package-specific schedule. Traffic poles signal heads, cabling, controllers, detector loops and all electrical works will be installed by the Employer's specialist contractor. The Contractor provides access, traffic management, welfare and assistance for the traffic signals contractor, for the installation of all traffic signal equipment as necessary.
2. Power supplies shall be arranged by the Employer. In support of this, the Contractor may be required to carry out excavation, ducting and reinstatement works as per a specific package. The Contractor manages the interface with the public or private power supplier to the extent of providing access, welfare, assistance and traffic management (see Clause 183AR and Appendices 1/13 and 1/16).
3. The ducting, chambers, controller base, signal pole sockets and foundations as shown on the drawings shall be supplied and fixed by the main contractor (refer to appendix 14/4 and the drawings).
4. The electrical supply to the signal controllers is to be provided by Western Power Distribution Ltd. The Contractor to provide civil engineering services, including the supply and fixing of feeder pillars, to support the provision of power for the controllers. Where required in a package the Contractor shall undertake excavation and reinstatement works for the purpose of supporting the work for a power supply to a feeder pillar.
5. The Contractor shall provide and install traffic signs to diagram 7014 of the Traffic Signs, Regulations and General Directions 2016, 'NEW TRAFFIC SIGNALS AHEAD' and 'SIGNAL PRIORITIES CHANGED' prior to commissioning as instructed by the Employer.
6. For Ducts - see Appendix 14/4
7. Additional Supplementary information is available through BCC Traffic Signals section. This is expected to be site specific and directed by the requirements of Bristol City Council –

Traffic Signals Team that can be contacted through:

Signals and Traffic Control
Bristol City Council
traffic.signals@bristol.gov.uk

Chambers

8. Unless otherwise instructed in the Contract, all main circuit, detection run and controller inspection chambers to be twin walled 'Stakka-box' access chambers, or similar approved. Carriageway loop detector boxes to be cast iron. Chambers and boxes shall conform to the Employer's Standard Details. Chamber covers and frames shall be 125kN where there is no chance of vehicular run-over (such as within islands and close to poles/posts/columns), elsewhere 400kN. Drain holes shall be provided in all chambers. Where inset covers are specified on traffic signal access chambers the covers are to be class B125 and have tapered sides with central keyholes to allow solo lifting. Two covers with a removable crosspiece are to be installed on 600mmx600mm chambers.

Pole Sockets

9. Signal poles to be housed in NAL RS115DF 'ducksfoot' sockets according to manufacturer's recommendations. The depth of the sockets to be 750mm unless otherwise instructed by the Employer's Representative to fit individual sites. An RS Kerb Wedge is to be used on poles adjacent to ramped pedestrian crossings. All socket caps to be stored in the integral chamber when pole is erected. A signal pole shall be used to ensure that the socket will maintain the pole vertical.
10. For requirements when the Contractor is required to supply and fix existing signal poles with a proprietary system refer to Appendix 1/17.

Controller

11. Signal Controller bases will be supplied to the Contractor and will be fixed to conform to the Standard Details/Specifications. The number of ducts between the chamber and base shall be identified as part of the detailed design by Bristol City Council Traffic Signals Team.

BNET Fibre Optic Cables

12. The Contractor's attention is drawn to the presence of the Employer's fibre optic cables within existing traffic signal ducting installations. These cables are to be identified and preserved within the existing duct network. See Appendix 1/16.

APPENDIX 12/18: DETECTOR LOOPS

1. The Employer's specialist contractor shall undertake all slot cutting for traffic signal detector loops. Slot cutting needs to be done after the road markings are completed and preferably before any High Friction Surfacing is laid. Where required in the Contract, the contractor will be required to provide Traffic Management support.

TENDER-SPECIFIC:

Package-specific requirements.

APPENDIX 13/1: ROAD LIGHTING COLUMNS AND BRACKETS

1. Within the Bristol City Council area, unless stated otherwise, all street lighting and electrical work is carried out by Bristol City Council's term or framework contractor. The current version of the Specification is Bristol City Council's Highway Electrical Assets Team (HEAT) Street Lighting Equipment Specification which can be found in Volume 1.4 of this contract. The Contractor ensures that its Programme clearly shows the requirements for street lighting and electrical work and gives adequate notice of availability.
2. Power supplies shall be arranged by the Employer. In support of this, the Contractor may be required to carry out excavation, ducting and reinstatement works as per a specific package. The Contractor manages the interface with the public or private power supplier to the extent of providing access, welfare, assistance and traffic management (see Clause 183AR and Appendices 1/13 and 1/16).
3. The Contractor manages the interface with the BCC HEAT's street lighting contractor to the extent of providing access, welfare, assistance and traffic management.

Exceptionally within the Bristol City Council area

4. If required by the Contract, the Contractor supplies and installs the street lighting and electrical works. An approved subcontractor as per Bristol City Council's HEAT Street Lighting Equipment Specification or as required by a specific package shall be employed for this purpose.
 - Every installation of highway lighting and electrically operated traffic management equipment shall be installed in every instance to the Lighting Engineer's approval and in full accordance with the Street Lighting Specification.
 - The Specification is the latest version of Bristol City Council's HEAT Street Lighting Equipment Specification.
 - The Street Lighting Term Contractor is responsible for the installation and commissioning of the lighting system.
 - New lighting and traffic systems must link with existing adopted Lighting.
 - The lighting installation shall be inspected and approved by the Lighting Engineer, and the electricity supply connected and switched on with the Lighting Engineer's representative in attendance.
 - The Contractor is responsible for obtaining all such relevant information, regarding all underground services and shall satisfy himself as to their positioning before undertaking any excavation works on the development or associated area with same.
 - The term "Electricity Board" or "Board" refers to the relevant electricity supply authority, i.e Western Power Distribution Plc.
 - Street lighting Column Foundations to comply with SD07-006D

APPENDIX 13/7: INFORMATION TO BE PROVIDED WHEN SPECIFYING CANTILEVER MASTS

1. Cantilever mast arms for traffic signals and the like shall be manufactured by Fabrikat in accordance with the current version of Fabrikat Drawing Number 13491-H, or superseding drawing approved by the Signal Engineer.
2. Where the works package requires the installation of a mast arm the contractor shall install a 600mm diameter HDME pipe vertically in the ground to a depth of 1.8m with a PCC paving slab at the bottom of the HDME pipe. The void between the edge of the excavation and the HDME pipe shall be filled with Grade ST5 concrete. The inside of the HDME pipe to be backfilled with sand and well compacted in 150mm layers. Care shall be taken to orientate the ducting to the socket in order to match up to the access point in the base of the mast arm.

TENDER-SPECIFIC:

When required the mast arm and its foundation is designed by the Contractor for the following: Package-specific requirements.

APPENDIX 13/8 & 9: DATA SHEETS

Package-specific

APPENDIX 14/1: SITE RECORDS

1. As built drawings shall be produced by the Contractor on copies of the Contract Drawings provided by the Employer's Representative, for the lighting and sign installation. These records shall be in accordance with Clause 1402 and the following:-
 - they shall incorporate the maintenance or operating manuals for installed equipment;
 - cable records shall be determined from kerblines or edge of carriageway as far as is practical;
 - the site records shall include details of all lit sign units and bollards installed by the Contractor;
2. The Contractor shall also provide the Employer's Representative with the following information concerning redundant road lighting or illuminated road traffic sign equipment, if he has supplied or fitted it, or arranged for its disconnection:
 - equipment reference number
 - date of permanent disconnection
 - lamp type, wattage and number of per unit of equipment
 - type of lamp control gear
 - lamp switching/control device and period of operation
3. During the progress of the Works, the Contractor keeps records of the positions of ducts and cables installed, and of existing electrical equipment found and kept live. He hands the records over to the Employer's Representative on demand in order to allow the safe installation of street lighting, electrical connections and traffic signals. Where possible, duct ends and buried connections are marked on site.

APPENDIX 14/2: LOCATION OF FEEDER PILLARS

1. Locations and sizes of feeder pillars will be shown on the package specific drawings.
2. Refer to Appendix 13/1 and Appendix 14/4 for details of galvanising and root painting required. Types will normally be BDP70 as manufactured by Charles Endirect Ltd., or similar approved. Feeder pillars comply with Bristol City Council's Highway Electrical Assets Team (HEAT) Street Lighting Equipment Specification.

Package Specific

APPENDIX 14/4: ELECTRICAL EQUIPMENT FOR ROAD LIGHTING

1. Refer to Bristol City Council's HEAT Street Lighting Equipment Specification.

Underground and Ducted Cables

2. All cables (whether in duct or not) shall be protected by warning tape. A heavy gauge 150 mm wide continuous plastic warning tape shall be laid flat and with the wording "CAUTION ELECTRIC CABLE BELOW" uppermost, at a depth of 300 mm, or to the requirements of the distribution company.

3. Ducts for the Employer's street lighting and traffic signal cables are invariably ORANGE. Those for the distribution company are invariably BLACK. Ducts for the Employer's BNET cables are invariably PURPLE.
4. All ducting is to comply with Bristol City Council Specification for Street Lighting 2012 sections 9.31 and 9.32. Traffic Signals ducting shall be marked "TRAFFIC SIGNALS".
5. Duct sizes will be shown on the package-specific drawings. All ducts are to have drawing coordinates. The Contractor demonstrates to the Employer's Representative that all the ducts are complete and clean before the Employer's street lighting or traffic signals contractor starts work on site. Draw cords are to be carefully tied so they cannot be accidentally pulled out.
6. Ducts in use shall have their ends sealed by a removable non-porous material before backfilling. Unused ducts shall be sealed immediately after laying by a removable stopper.
7. Beneath carriageway, the UPVC ducts are to comply with Class B or C of BS 3506 or with BS 4660. Cable ducts under carriageways and vehicular crossing shall be protected with 150mm raft of ST5 concrete and any subsequent filling to formation level shall be in granular sub-base material Type 1 and thoroughly compacted. Alternatively, if accepted by the Employer's Representative, the trench can be filled to within a minimum of 100mm from the road surface with ST1 (compacted) or foamed concrete and topped with the required surface and binder course (or temporary reinstatement if necessary).
8. All street lighting bends, connectors, adaptors, tees, requires the approval of Employer's Representative.

APPENDIX 14/5: ELECTRICAL EQUIPMENT FOR TRAFFIC SIGNS

1. Refer to Bristol City Council's HEAT Street Lighting Equipment Specification.

Underground and Ducted Cables

2. All cables (whether in duct or not) shall be protected by warning tape. A heavy gauge 150 mm wide continuous plastic warning tape shall be laid flat and with the wording "CAUTION ELECTRIC CABLE BELOW" uppermost, at a depth of 300 mm, or to the requirements of the distribution company.
3. Ducts for the Employer's cables are invariably ORANGE. Those for the distribution company are invariably BLACK. Ducts for the Employer's BNET cables are invariably PURPLE.
4. All ducting is to comply with Bristol City Council's Equipment Specification for street lighting HEAT/ES001. Traffic Signals ducting shall be marked "TRAFFIC SIGNALS".
5. Duct sizes will be shown on the package-specific drawings.
6. All ducts are to have draw cords. The Contractor demonstrates to the Employer's Representative that all the ducts are complete and clean before the Employer's street lighting or traffic signals contractor starts work on site. Draw cords are to be carefully tied so they cannot be accidentally pulled out.
7. Ducts in use shall have their ends sealed by a removable non-porous material before backfilling. Unused ducts shall be sealed immediately after laying by a removable stopper.

8. Beneath carriageway, the UPVC ducts are to comply with Class B or C of BS 3506 or with BS 4660.
9. Cable ducts under carriageways and vehicular crossing shall be protected with 150mm raft of ST5 concrete and any subsequent filling to formation level shall be in granular sub-base material Type 1 and thoroughly compacted. Alternatively, if accepted by the Employer's Representative, the trench can be filled to within a minimum of 100mm from the road surface with ST1 (compacted) or foamed concrete and topped with the required surface and binder course (or temporary reinstatement if necessary).

APPENDIX 16/1: PILING AND EMBEDDED RETAINING WALLS

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 17/1: SCHEDULE OF THE SPECIFICATION OF DESIGNED CONCRETE

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 17/2: IMPREGNATION SCHEDULE

- List Package-specific requirements

APPENDIX 17/3: SURFACE FINISHES

- List Package-specific requirements

APPENDIX 17/4: CONCRETE - GENERAL

- List Package-specific requirements

APPENDIX 17/5: BURIED CONCRETE

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 17/8: CONCRETE SURFACE FINISHES

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 18/1: REQUIREMENTS FOR STRUCTURAL STEELWORK

Miscellaneous metalwork

1. Trash screens and anti-personnel screens shall be provided and fixed in accordance with the standard detail drawings

Structural steelwork

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 19/1: PROTECTION OF STEELWORK AGAINST CORROSION

- TENDER-SPECIFIC:

- List Package-specific requirements

APPENDIX 20/1: WATERPROOFING FOR CONCRETE STRUCTURES

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 21/1: BRIDGE BEARINGS

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 23/1: BRIDGE EXPANSION GAPS AND SEALING OF JOINTS

- TENDER-SPECIFIC:
- List Package-specific requirements

APPENDIX 24/1: BRICKWORK, BLOCKWORK AND STONEMWORK

General

1. The location and extents of brickwork, blockwork and stonework and finish to mortar joints will be defined within the Package Order/Instruction.
2. Overhand work shall not be permitted except where agreed by the Employer's Representative in case of minor repairs to the parapets.

Mortar

3. Mortar designations for brickwork, blockwork and stonework shall be unless stated in the Package Order/Instruction :

Location / Element	Mortar Designation
Below a level of 150mm above finished ground level	(i) or (ii)
Above a level of 150mm above finished ground level <ul style="list-style-type: none"> • Abutments, spandrels, wing / retaining walls, piers & parapets • Arch Rings 	(ii) or (iii)
Repointing	(ii) or (iii)

Where required lime mortars may need to be built up in 25mm layers thick to assist with its curing, with each layer firmly tamped in place.

Masonry Units (Bricks)

4. All Class B brick shall have a minimum compressive strength of 75N/mm² and comply with BS EN 772-1 in respect to durability. Maximum water absorption shall be 7%.

5. Facings bricks shall have a minimum compressive strength ranging between 12 – 50N/mm² and comply with BS EN 772-1 in respect to durability. Facing bricks shall be F2/S2 grade.
6. Common bricks shall have a minimum compressive strength of 20N/mm².

Blocks

7. Unless specified otherwise all dense concrete blockwork units shall have a minimum compressive of 7N/mm².

Reconstructed Stone

8. Requirements such as colour, special mixes, texture and casting-in stainless steel ties for reconstructed stone shall be stated in the Package Order/Instruction.

Natural Stone

9. Requirements such as type, colour and quality of natural building stone shall be stated in the Package Order/Instruction.

Anchorage, Dowels, Fixings and Ties

10. Heavy duty ties shall be completely embedded in the mortar joint with a 75mm minimum depth. Ties shall be galvanised and 50mm cover provided.

Brickwork and Blockwork

11. Brickwork and blockwork shall be laid on a full bed of mortar and bonded to match the adjacent brickwork or blockwork or as described in the Package Order/Instruction .
12. All brickwork incorporated in to the works shall match the colour, texture, surface finish, character and size of the existing brickwork as closely as possible.
13. The mortar finish to be provided to all brickwork and blockwork shall match the existing brickwork block or stone unless otherwise stated in the Package Order/Instruction . When the mortar has sufficiently hardened a stiff brush is to be used to remove excess mortar and staining of any kind.
14. Where new block and brickwork have been specified the Contractor shall provide samples to the Employer's Representative until a satisfactory match is made before the works start.

Stonework

15. All stonework incorporated into the Works shall match the colour, texture, surface finish, character and size of the existing stonework as closely as possible. Stone shall be good, hard, durable quality, uniform in texture and free from spots, flaws and any other imperfections. Imported stone to be used as part of a structure with existing stone adjacent to it shall be of a similar compressive strength of the existing stone.
16. The size of the stones shall be selected to blend into the structure with no discernible difference between the original undamaged structure and the new.

17. Where new stonework has been specified the Contractor shall provide samples to the Employer's Representative until a satisfactory match is made before the works start.
18. Existing stones which are in good condition but which need to be taken down to gain access to areas of eroded or damaged stones, blocks or bricks shall be referenced in their original positions.
19. A textured finish shall be achieved on the pointing to the stonework by working the mortar surface with a stiff brush when the mortar has started to harden.
20. All joints shall be kept to a minimum but sufficiently thick to prevent stone to-stone contact and shall be completely filled with mortar.
21. Unless otherwise instructed by the Employer's Representative, the joint shall be recessed sufficiently to provide a clear outline of each stone. The depth of the recess shall be between 8mm and 15mm depending on the average size of the stone; the smaller the stone the shallower the recess. The profile of the finished pointing within the recess shall have a flat surface to give a clearly defined line between the stone and the pointing (bucket handle unless otherwise required). After the mortar has reached its initial set it shall be brushed to remove the laitance and expose the aggregate.
22. On completion the face of the stone shall be clean and free from mortar and staining of any kind.

Other

23. Unless stated otherwise in the Contract, the Contractor constructs a trial panel at least 1m x 1m, which may on acceptance by the Employer's Representative be incorporated into the permanent work, before commencing the remainder of the work.
24. Where masonry (including facing) is described in the Contract as to "match existing", the Contractor submits proposals to the Employer's Representative regarding the source, construction, bonding and pointing of the new masonry.

TENDER-SPECIFIC:

Package-specific requirements

APPENDIX 26/1: ANCILLARY CONCRETE

1. Unless shown otherwise, ancillary concrete for posts, blinding etc shall be class ST1.
2. Refer to Bristol City Council standard details.
3. ST4 Concrete Apron would require a min. of 7 day curing before wheel loading. Alternative High Strength Rapid curing/setting proprietary materials would require Employer's approval.
4. The Contractor may choose to use a stronger mix (Rapid curing/setting), at its own cost, in order to meet its Programme requirements if approved by Employer's Representative.
5. Concrete for ancillary purposes shall be a standardised prescribed concrete complying with BS EN 206-1 and BS 8500.

TENDER-SPECIFIC:

Package-specific requirements

APPENDIX 27/1: PROVISIONAL SUMS AND PRIME COST ITEMS

1. For further details regarding provisional sums and prime cost items include within this contract see the relevant Appendices:

APPENDIX 27/2: WORKS FOR STATUTORY UNDERTAKERS, PROVISIONAL SUMS AND PRIME COST ITEMS

1. The Contractor provides access, traffic management, welfare and assistance for the utility company and its contractor(s).

TENDER-SPECIFIC:

Package-specific requirements

APPENDIX 30/1: LANDSCAPE AND ECOLOGY

Notice and Liaison

1. The Contractor shall programme works in accordance with Appendix 1/13 and give notice to the Employer of the intention to commence any of the landscaping works required in a work package.
2. With the agreement of the Project Manager, the Contractor shall liaise directly with other landowners to give notice and arrange precise access dates for works outside the road boundary. See Clause 3001.2.

Peat

3. Peat should not be used.

Other

4. Bird Nesting Season is assumed to be from the beginning of March to August, unless warm conditions occurring in February bring forward the start of the season. No trees, bushes or hedges are to be disturbed without prior inspection for the presence of nesting birds. Upon discovery of birds nesting no work shall proceed until authorised by the Employer.
5. Mulches may be obtained if required from Employer nominated suppliers.

APPENDIX 30/2: WEED CONTROL

Pesticide Application

1. A record of all pesticide use shall be maintained by the Contractor on a form in a format approved by the Employer. It shall contain such information as to the pesticide, name of operative, location of Site and weather conditions. A copy of the record form shall be continually updated and all updates shall be issued to the Employer within one (1) day of each update. (also see Appendix 6/7)
2. On hard standings, gravelled or paved areas and around street furniture, contact, translocated and residual herbicides approved for total weed control shall be applied in accordance with the manufacturer's instructions, at the locations and frequency stated below for a *specific package*:

Location	Frequency

3. Weed killing shall achieve total die-back of weeds and in the case of total weed control shall not allow any significant re-growth (less than 5%) within 6 months of application.
4. Use of pesticides including spraying must be carried out by a legally qualified person.
5. Please note that Spraying near watercourses is subject to Environment Agency approval.

APPENDIX 30/4: GROUND PREPARATION

Seeding and Turfing

1. If the Contractor is required to carry out seeding and turfing works this shall including stone removal. 10mm stone.(3004)
2. Topsoil shall be in accordance with BS 4428 and not have stones or other debris protruding above the surface by more than 30 mm, and comply with the further requirements of Clauses 3013AR and 3014AR.

Vegetation Clearance

3. When instructed by the Employer all grass and other herbaceous vegetation shall be cut in accordance with Clause 3002.9 to a height of between 50 mm and 75 mm and the arisings removed off Site. See Clause 3004.1.
4. When instructed by the Employer the Contractor shall apply a non-residual translocated herbicide in accordance with sub-Clause 3002.4 to all areas to be planted between 21 and 25 days prior to planting. See Clause 3004.2.

Subsoil Treatment

5. In planting areas, when instructed by the Employer planting areas shall be ripped, using a ripping tine or subsoil plough. The minimum depth of treatment shall be 450 mm. See Clause 3004.5.

APPENDIX 30/5: GRASS SEEDING, WILDFLOWER SEEDING AND TURFING

Final Cultivations

1. Immediately prior to sowing or hydraulic seeding or laying turf the upper 50 mm of soil shall be reduced to a fine tilth by use of a chain harrow or other suitable plant. See Clause 3005.2.
2. Fertiliser or other soil ameliorants shall be evenly incorporated into the upper 50 mm of soil during final cultivation at a rate recommended by the fertilizer manufacturer. See Clause 3005.3.

Seed

3. Unless otherwise stated in the Contract: The grass seed shall be Germinal mixtures as below or similar approved and comply with BS4428:-
 - Germinal A19 All purpose landscaping sow 50g/m²
 - Germinal A18 For road verge and embankments sow 35g/m²
 - Germinal A6 Supreme Shade 40g/m²
 - For all other areas such as wildflower/ conservation/ steep embankments/ wet ground areas the mixture to be determined by the Conservation Officer, Landscape Architect or Landscape Manager to determine mixture suitability for the site.
 - Grass seeding must be accompanied by BSH1, general pre-seed fertiliser, unless otherwise instructed.

Hydraulic Seeding

4. Hydraulic seeding shall be applied at the locations and frequency instructed by the Employer.
5. The hydraulic seeding mixture, any special process requirements and the rate of application shall comply with the requirements of this Series and appendices referred to therein. See Clause 3005.10.

Turf

6. When it is stated in the Package Order/Instruction turf arising on Site shall be used. See Clause 3005.13.
7. When it is stated in the Package Order/Instruction imported turf shall be used.
8. Imported turf shall contain the grass and/ or herb mixture stated in the Package Order/Instruction. See Clause 3005.14.
9. Immediately after laying, turfed areas shall be watered at a rate of 15 l/m². See Clause 3005.26.

APPENDIX 30/13: TREE PITS

1. Tree pits shall be installed by the Contractor in accordance with Employer standard detail SD04-019 and SD04-020.
2. In streets and other paved areas, a root director (by Greenleaf or similar accepted) shall be installed.
3. Tree pits shall be excavated with a slightly raised centre. Break up bottom of pit to 150 deep.
4. Tree pits shall be filled with, topsoil or Urban Tree Soil Sand (Heicom or similar accepted material) as shown on the drawings. The exact shape of the tree soil area is not important and it may be adjusted to fit site constraints. The shape of the tree pit should not be circular.
5. Root Director to be used as specified.
6. Where specified, ground guying shall be provided using Platipus Anchors Model RF2 88DB1 (or similar approved) for 25-30cm girth trees and RF3 138-DB1 for 60cm trees.

APPENDIX 31/1: TRAFFIC SENSITIVE ROUTES

1. Certain routes in Bristol are designated as being Traffic Sensitive for the purpose of the NRSWA 1991. Working hours on these highways will be subject to limitations. The roads affected and the restrictions are specific to each work package and as specified by the Employer.
2. No Street works or road works are to take place on Traffic Sensitive roads during the periods designated by the Employer and the Contractor shall programme works on these sites accordingly unless otherwise instructed by the Employer's Representative.

TENDER-SPECIFIC:
Package-specific requirements

If *additional conditions of contract* are required The *additional conditions of contract* are as follows:

Z1 .1 Confidentiality and Publicity

- .1 The parties treats all Confidential Information received as confidential, and safeguards it accordingly and does not disclose it to any other person without the prior written consent of the disclosing party and does not use or exploit the disclosing parties Confidential Information in any way except for the purposes anticipated under this Framework Agreement.
- .2 The following information is not subject to the restriction in Z1.1
 - .1 required by Law, this does not apply to any disclosures required under the Information Laws;
 - .2 that is reasonably required by persons engaged by a party in the performance of such party's obligations under this Contract;
 - .3 that a party can is already generally available and in the public domain otherwise than as a result of a breach of this clause Z.1;
 - .4 in any document to which the parties to this Agreement have agreed contains no commercially sensitive information
 - .5 required to enable a determination to be made in respect of a Work Order or Time Charge Order;
 - .6 already lawfully in the possession of the receiving party, prior to its disclosure by the disclosing party;
 - .7 to any department, office or agency of the Government;
 - .8 in respect of which a party has given its prior written consent to disclosure
 - .9 on a confidential basis, to its professional advisors,
 - .10 to the Serious Fraud Office where a party has reasonable grounds to believe that the other party is involved in activity that may constitute a criminal offence under the Bribery Act 2010
- .3 On or before the Expiry Date the *Supplier* ensures that all documents and/or computer records in its possession, custody or control which contain information relating to any of the *Client's* Representatives or the Premises including any documents in the possession, custody or control of any sub-Supplier, are delivered up to the *Client* or securely destroyed.
- .4 The Parties acknowledge that, except for any Information which is exempt from disclosure in accordance with the provisions of Freedom of Information Act 2000(FOIA) and the Environmental Information Regulations 2004 (EIR), the content of the Agreement is not Confidential Information and the Supplier hereby gives its consent for the Council to publish the Agreement in its entirety to the general public (but with any Information that is exempt from disclosure in accordance with the FOIA/EIR redacted) including any changes to the Agreement agreed from time to time. The Council may consult with the Council to inform its decision regarding any redactions but shall have the final decision in its absolute discretion whether any of the contact of the Agreement is exempt from disclosure in accordance with the provisions of the FOIA /EIR.
- .5 The Supplier shall not, and shall take reasonable steps to ensure that the Staff shall not, make any press announcements or publicise the Agreement or any part of the Agreement in any way, except with prior written consent of the Council not to be unreasonably withheld.

Z2 .1 Freedom of Information

- .1 The *Supplier* acknowledges that the *Client* is subject to the requirements of the FOIA and the EIR and shall assist and co-operate with the *Client* to enable the *Client* to comply with these information disclosure requirements.
- .2 The Supplier procures that both it and any sub-Suppliers:
 - .1 transfer any Request for Information under the FOIA or EIR to the *Client* as soon as practicable after receipt and in any event within two days of receiving a Request for Information;
 - .2 provides the *Client* with a copy of all Information in its possession or power in the form that the *Client* requires within five (5) days (or such other period as the *Client* may specify) of the *Client* requesting that Information;
 - .3 provide all necessary assistance as reasonably requested by the *Client* to enable it to respond to a Request for Information within the time for compliance set out in section 10 of FOIA or regulation 5 of the EIR.
- .3 The Council shall be responsible for determining at its absolute discretion whether the Information:
 - .1 is exempt from disclosure in accordance with the provisions of FOIA or the EIR;
 - .2 is to be disclosed in response to a Request for Information
- .4 the Supplier does respond directly to a Request for Information unless expressly authorised to do so by the *Client*
- .5 The Supplier acknowledges that the *Client* may, acting in accordance with the Secretary of State for Constitutional Affairs' Code of Practice on the discharge of public authorities' functions under Part 1 of FOIA (issued under section 45 of FOIA, November 2004), be obliged under FOIA or the EIR to disclose Information;
 - .1 without consulting the *Supplier*, or
 - .2 following consultation with the *Supplier* and having taken its views into account

provided always that where clause Z2.1.5.2 applies the *Client* shall, in accordance with any recommendations of the Code, take reasonable steps, where appropriate, to give the *Supplier* advanced notice, or failing that, to draw the disclosure to the *Supplier's* attention after any such disclosure.
- .6 The *Supplier* ensures that all Information produced in the course of the Agreement or relating to the Agreement is retained for disclosure and shall permit the *Client* to inspect such records as requested from time to time.
- .7 The *Supplier* acknowledges that any lists or schedules provided by it outlining Confidential Information are of indicative value only and that the Council may nevertheless be obliged to disclose Confidential Information in accordance with this clause.

Z3 .1 Data protection

- .1 The **Data Protection Acts** are the Data Protection Act 2018 (as amended), the General Data Protection Regulations (GDPR) or any replacement or amending regulations. and any other laws or regulations relating to privacy or personal data.

- .2 **Personal Data** is information collected by the *Supplier* on behalf of the *Client* in relation to this contract, which relates to living individuals who can be identified
 - .1 from that information or
 - .2 from that information combined with other details in (or likely to come into) the possession of the *Client*.
- .3 For the purposes of this contract and the Data Protection Acts
 - .1 the *Client* is the Data Controller and
 - .2 the *Supplier* is the Data Processor.
- .4 The *Supplier* processes the Personal Data in accordance with (and so as not to put the *Client* in breach of) the Data Protection Acts and only to the extent necessary for the purpose of performing its obligations under this contract.
- .5 The *Supplier* has in place and maintains until the defects date
 - .1 appropriate technical and organisational measures (having regard to the nature of the Personal Data) to protect the Personal Data against accidental, unauthorised or unlawful processing, destruction, loss, damage, alteration or disclosure and
 - .2 adequate security programmes and procedures to ensure that unauthorised persons do not have access to the Personal Data or to any equipment used to process the Personal Data.
- .6 The *Supplier* immediately notifies the *Client's Representative* if it receives
 - .1 a request from any person whose Personal Data it holds to access his Personal Data or
 - .2 a complaint or request relating to the *Client's* obligations under the Data Protection Acts.
- .7 The *Supplier* assists and co-operates with the *Client's Representative* in relation to any complaint or request received, including
 - .1 providing full details of the complaint or request,
 - .2 complying with the request within the time limits set out in the Data Protection Acts and in accordance with the instructions of the *Client's Representative* and
 - .3 promptly providing the *Client's Representative* with any Personal Data and other information requested by him.
- .8 The *Supplier* allows the *Client* to conduct periodic audits of the *Supplier's* compliance with the Data Protection Acts. The *Contractor* complies with the instructions of the *Client's Representative* to enable such audits to be carried out.
- .9 The *Supplier* complies with the requirements of the *Client* in relation to the storage, dispatch and disposal of the Personal Data in any form or medium.
- .10 The *Supplier* immediately notifies the *Client's Representative* on becoming aware of any breach of this clause or of the Data Protection Acts by the *Supplier* or any *Subcontractor*.
- .11 The *Supplier* does not process the Personal Data outside the European Economic Area without the agreement of the *Client's Representative*. Where the *Client's Representative* agrees, the *Supplier* complies with the instructions

of the *Client's Representative* and provides an adequate level of protection to any Personal Data in accordance with the eighth data protection principle set out in Schedule 1 to the Data Protection Act 2018.

Z4 .1 Discrimination

- .1 The *Supplier* does not discriminate directly or indirectly or by way of victimisation or harassment against any person contrary to the Race Relations Act 1976, the Sex Discrimination Act 1975, the Disability Discrimination Acts 1995 and 2005 or the Equality Act 2010 (the "**Discrimination Acts**").
- .2 Where possible in Providing the work, the *Supplier* co-operates with and assists the *Client* to satisfy its duty under the Discrimination Acts to eliminate unlawful discrimination and to promote equality of opportunity between persons of different racial groups and between disabled people and other people.
- .3 Where an employee or Subcontractor employed by the *Supplier* is required to carry out any activity alongside the *Client's* employees in any premises, the *Supplier* ensures that each such employee or Subcontractor complies with the *Client's* employment policies and codes of practice relating to discrimination and equal opportunities.
- .4 The *Supplier* notifies the *Client's Representative* in writing as soon as he becomes aware of any investigation or proceedings brought against the *Contractor* under the Discrimination Acts in connection with this contract and
 - .1 provides any information requested by the investigating body, court or tribunal in the timescale allotted,
 - .2 attends (and permits a representative from the *Client* to attend) any associated meetings,
 - .3 promptly allows access to any relevant documents and information,, and
 - .4 co-operates fully and promptly with the investigatory body, court or tribunal.
- .5 The *Supplier* indemnifies the *Client* against all costs, charges, expenses (including legal and administrative expenses) and payments made by the *Client* arising out of or in connection with any investigation or proceedings under the Discrimination Acts resulting from any act or omission of the *Supplier*.
- .6 The *Supplier* includes in the conditions of contract for each Subcontractor obligations substantially similar to those set out above.

Z5 .1 Assignment

- .1 The *Supplier* does not assign his interest in or any rights arising under this contract without the consent of the *Client*.
- .2 The *Client* may assign, charge or transfer his interest in this contract or any rights arising under it at any time without the consent of the *Contractor*. The *Client* notifies the *Supplier* of any such assignment, charge or transfer.

Z6 .1 Compliance with legislation

- .1 The *Supplier* provides the work:

- .1 in a proper and workmanlike manner, and
- .2 in compliance with
 - .1 all statutes, statutory instruments, regulations, rules and orders made under any statute or directive having the force of law which affect the *works* or performance of any obligations under this contract, and
 - .2 any regulation, byelaw, permission or approval of any local authority or statutory undertaker having jurisdiction in relation to the *works* or with whose systems the *works* are, or are to be, connected.
- .2 The project that comprises or includes the *works* is notifiable for the purposes of the Construction (Design and Management) Regulations 2015 (the “**CDM Regulations**”). The *Supplier* is the principal contractor under the CDM Regulations in respect of the *works* and performs all the functions and obligations required to be performed by the principal contractor under the CDM Regulations.

Z.7 .1 Copyright

- .1 In this clause Z.7 the following terms shall have meaning shown:
 - .1 “**Information**” means all information prepared by or on behalf of the *Supplier* for the *works* and all updates, additions and revisions to them and any designs, or inventions incorporated in them.
 - .2 “**Permitted Uses**” means the design, construction, completion, reconstruction, modification, extension, refurbishment, maintenance, funding, disposal, letting, fitting-out, advertisement, demolition, reinstatement, building information modelling and repair of the *works*.
- .2 The *Contractor* grants to the *Client*, with immediate effect, an irrevocable, non-exclusive, royalty-free licence to copy and make full use of the Information for any purpose relating to the *works*, including without limitation any of the Permitted Uses.
- .3 The *Client’s* licence carries the right to grant sub-licences and is transferable to third parties without the consent of the *Contractor* and survives termination (for any reason) of the *Contractor’s* employment under this contract.
- .4 The *Contractor* is not liable for use of the Information by the *Client* for any purpose other than that for which it was prepared or provided.

Z8 .1 Prices

- .1 The *Client* increases the rates set out in Schedule 4 on the second anniversary of the Commencement Date. Such new rates do not exceed the rates set out in this Agreement multiplied by the percentage increase in the Road Construction Tender Price Index set out in the Civil Engineering and Highway Construction Price Book as applicable on the Commencement Date and the second anniversary of that date. The applicable index figure shall be the last one published before the Commencement Date or the second anniversary and shall, for the purposes of this clause be conclusive whether it is stated to be provisional, forecast or in any other way qualified.

Z9 .1 Sustainability

- .1 All vehicles used by the *Contractor* in providing the Works and Services shall, where appropriate, comply with the Euro 6 emissions standard at all times.

- .2 The *Contractor* provides the *Client* with such information as the *Contractor* shall require, regarding the carbon output of all items used in the provision of the *Works*, including but not limited to vehicles, all other equipment of any nature and materials of any type.

Z10 .1 Order of Priority

- .1 If there is any ambiguity or inconsistency in or between the documents comprising this contract, the priority of the documents is in accordance with the following sequence:
 - .1 this Agreement
 - .2 the Invitation Information (as defined in the Framework Agreement)
 - .3 the Contract Data set out in Schedule 2 Annex 1 or 2 to the Framework Agreement,
 - .4 the *additional conditions of contract*;
 - .5 the other *conditions of contract*;
 - .6 the Works Information; and
 - .7 any other document forming part of the contract.

Equality Impact Assessment [version 2.12]



Title: A37/A4018 Victoria Street & Colston Avenue project	
<input type="checkbox"/> Policy <input type="checkbox"/> Strategy <input type="checkbox"/> Function <input type="checkbox"/> Service <input checked="" type="checkbox"/> Other - Project	<input checked="" type="checkbox"/> New <input type="checkbox"/> Already exists / review <input checked="" type="checkbox"/> Changing
Directorate: Growth & Regeneration	Lead Officer name: Thor Sever
Service Area: City Transport	Lead Officer role: Technical Lead – Project Manager

Step 1: What do we want to do?

The purpose of an Equality Impact Assessment is to assist decision makers in understanding the impact of proposals as part of their duties under the Equality Act 2010. Detailed guidance to support completion can be found here [Equality Impact Assessments \(EqIA\) \(sharepoint.com\)](#).

This assessment should be started at the beginning of the process by someone with a good knowledge of the proposal and service area, and sufficient influence over the proposal. It is good practice to take a team approach to completing the equality impact assessment. Please contact the [Equality and Inclusion Team](#) early for advice and feedback.

1.1 What are the aims and objectives/purpose of this proposal?

Briefly explain the purpose of the proposal and why it is needed. Describe who it is aimed at and the intended aims / outcomes. Where known also summarise the key actions you plan to undertake. Please use plain English, avoiding jargon and acronyms. Equality Impact Assessments are viewed by a wide range of people including decision-makers and the wider public.

Funding is available via the City Regional Sustainable Transport Settlement (CRSTS), administered by WECA, to make sustainable transport improvements to the A37/A4018 (bus route 2) Stockwood to Cribbs Causeway corridor of which Victoria St and Colston Avenue are part of. A Full Business Case has been produced outlining the costs and benefits of a package of interventions to improve the Victoria St corridor and extend bus priority on Colston Avenue. This EQIA will accompany the FBC, Cabinet Paper and various appendices which explain the project in great detail, however, please find a brief summary of the project beneath:

Following the implementation of the Bristol Bridge Bus Gates in 2020 through traffic can no longer use Victoria Street in a north/south direction which has resulted in a significant reduction in traffic volume along the corridor. This has provided the opportunity for road space allocation where space previously dedicated to general traffic can now be utilised for public transport, active travel and improved public realm. The project proposes to install a segregated cycleway connecting the new segregated cycleway at Bristol Bridge to the existing segregated cycleway at Temple Gate, remodel the Counterslip junction to improve the efficiency of the junction and provide improved pedestrian and cycle crossing, provide new public realm for potential use by local business and to create a destination rather than just a corridor to pass through, the expansion of the existing bus stop infrastructure and the implementation of raised tables and continuous footways to prioritise pedestrians and cyclists at side road junctions.

The changes to Victoria Street form the large part of the project, however, an extension to the inbound Colston Avenue bus lane is also being proposed to connect up a missing part of the bus priority network between the existing end of the bus lane at the War Memorial on The Centre and the bus only section of Colston Avenue that takes buses to Broad Quay. This will remove delay experienced by multiple bus services as they seek to approach Broad Quay from Rupert Street.

The proposals are intended to benefit local residents and businesses as well as all citizens in Bristol and beyond who choose to traverse the corridors in question. As the document explores some groups will experience benefits/disbenefits in a greater or lesser way depending on the situation.

Scheme Objectives and Expected Outcomes

Objective 1 Improvement in bus journeys – Improve journey time, punctuality and reliability of bus services along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.

Outcome: The scheme will improve journey time, punctuality and reliability of bus services along the A37-A4018 corridor. Proposed consolidation and improvement of bus stops along Victoria Street will improve operational efficiency. Removal of the right turn from Counterslip to Victoria Street will improve operational efficiency of the junction, shortening waiting time for buses on Victoria Street. Extension of bus lane on the A38 Colston Avenue is expected to completely remove delay.

Objective 2 Modal Shift – Increase the proportion of trips made by bus, cycling and walking along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.

Outcome: The scheme will increase the proportion of trips made by bus, cycling and walking along the corridor. The proposed continuous footways at junctions and segregated cycleway along Victoria Street from Bristol Bridge to Temple Way/Gate will connect existing cycling paths located along High Street/Baldwin Street/Castle Park, Counterslip and Temple Meads station, forming a network of active travel routes to unlocking significant growth in journeys by walking and cycling to or from Temple Meads, employment clusters and other attractors in the area.

Objective 3 Environment – Reduce levels of air pollution and CO2 emissions along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.

Outcome: The scheme will improve the efficiency of bus operations and encourage mode shift from private vehicles to public transport and active travel. These changes are expected to reduce levels of air pollution and CO2 emissions along the corridor.

Objective 4 Urban Realm – Enhance streetscape, public spaces and urban environment along the Victoria Street and Colston Avenue sections of the A37-A4018 corridor.

Outcome: The scheme will enhance streetscape, public spaces and urban environment along the A37-A4018 corridor. The bus lane on Victoria Street outbound to Temple Meads will be removed to create space for public realm interventions and improvements for sustainable modes, as there is no longer traffic pressure on this road since the removal of through traffic.

Objective 5 Safety – Improve road safety for active travel mode users along Victoria Street and Colston Avenue.

Outcome: By providing improved cycling and walking infrastructure, the scheme is expected to improve road safety and reduce accidents along on Victoria Street and Colston Avenue for pedestrians and cyclers.

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1.2 Who will the proposal have the potential to affect?

<input checked="" type="checkbox"/> Bristol City Council workforce	<input checked="" type="checkbox"/> Service users	<input checked="" type="checkbox"/> The wider community
<input type="checkbox"/> Commissioned services	<input checked="" type="checkbox"/> City partners / Stakeholder organisations	
Additional comments: The A37/A4018 Victoria Street & Colston Avenue proposal is within the Central Ward of Bristol.		

1.3 Will the proposal have an equality impact?

Could the proposal affect access levels of representation or participation in a service, or does it have the potential to change e.g. quality of life: health, education, or standard of living etc.?

If 'No' explain why you are sure there will be no equality impact, then skip steps 2-4 and request review by Equality and Inclusion Team.

If 'Yes' complete the rest of this assessment, or if you plan to complete the assessment at a later stage please state this clearly here and request review by the Equality and Inclusion Team.

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	[please select]
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Step 2: What information do we have?

2.1 What data or evidence is there which tells us who is, or could be affected?

Please use this section to demonstrate an understanding of who could be affected by the proposal. Include general population data where appropriate, and information about people who will be affected with particular reference to protected and other relevant characteristics: [How we measure equality and diversity \(bristol.gov.uk\)](http://bristol.gov.uk)

Use one row for each evidence source and say which characteristic(s) it relates to. You can include a mix of qualitative and quantitative data e.g. from national or local research, available data or previous consultations and engagement activities.

Outline whether there is any over or under representation of equality groups within relevant services - don't forget to benchmark to the local population where appropriate. Links to available data and reports are here [Data, statistics and intelligence \(sharepoint.com\)](http://sharepoint.com). See also: [Bristol Open Data \(Quality of Life, Census etc.\)](http://bristol.gov.uk); [Joint Strategic Needs Assessment \(JSNA\)](http://bristol.gov.uk); [Ward Statistical Profiles](http://bristol.gov.uk).

For workforce / management of change proposals you will need to look at the diversity of the affected teams using available evidence such as [HR Analytics: Power BI Reports \(sharepoint.com\)](http://sharepoint.com) which shows the diversity profile of council teams and service areas. Identify any over or under-representation compared with Bristol economically active citizens for different characteristics. Additional sources of useful workforce evidence include the [Employee Staff Survey Report](http://bristol.gov.uk) and [Stress Risk Assessment](http://bristol.gov.uk)

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
<p>Children:</p> <p>Source Census 2021 (bristol.gov.uk)</p> <p>Source Dashboards — Open Data Bristol</p> <p>Central Ward has a significantly lower number of children under the age of 15 (6.0%) when compared with the Bristol average which is 16.6%</p> <p>Central Ward has a significantly lower % of households with dependant children (10.4%) than the Bristol average of 26.7%</p>	
<p>Younger people:</p> <p>Source Census 2021 (bristol.gov.uk)</p> <p>Central Ward has a significantly higher number of people between the ages of 16-24 (49.7%) when compared with the Bristol average which is 16.3%.</p> <p>46.9% of central ward is made up of full-time students aged 18 or over, this is compared to the Bristol city average of 9.2%.</p> <p>Source: https://www.gov.uk/government/statistics/national-travel-survey-2021</p>	<p>This group are less likely to own a car and are more likely to rely on public transport and active travel options.</p> <p>Children aged 0 to 16 made the highest proportion of trips using active transport modes such as walking and cycling in 2021 with 38%. Those aged 17 to 49 made 32% to 34% of their trips using active modes. (National Travel Survey 2021)</p> <p>Those aged 17 to 20 made the smallest proportion of their trips using private modes with 47%, however, this age group made the highest proportion of their trips using public transport modes such as bus, London Underground, rail and taxi or minicab with 21%. (National Travel Survey 2021)</p>
<p>Older people:</p> <p>Source Census 2021 (bristol.gov.uk)</p>	<p>This group, however, may be reliant on public transport when travelling into the central area for goods and services. The concessionary bus pass is available</p>

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
<p>Central Ward has a significantly lower number of people between the ages of 60-80 (4.9%) when compared to the Bristol average which is 15.4%</p>	<p>to those of pensionable age within the Bristol City Council area. Those aged 50 to 69 made the smallest proportion of trips using active modes with 29%. The proportion increased slightly to 32% for those aged 70 and over. (National Travel Survey 2021)</p>
<p>Sex (Female):</p> <p>Source Census 2021 (bristol.gov.uk)</p> <p>51.7 % (9,508) of Central Ward is recognised as Female.</p> <p>Crime Rates/Ward Profiles: Central ward profile report (bristol.gov.uk)</p>	<p>Fear of crime and crime rates are relevant to this characteristic. The Central ward reports the highest crime rates in Bristol. This can be attributable to being within a city centre environment.</p>
<p>Sex (Male):</p> <p>Source: Census 2021 (bristol.gov.uk)</p> <p>48.3% (8,882) of Central Ward is recognised as Male</p>	
<p>Disability:</p> <p>Source: Census 2021 (bristol.gov.uk)</p> <p>78.6% of the population in Central Ward have no long term physical or mental health condition, which reflects a similar figure to the Bristol average (75.8%)</p>	<p>Data for 'Older people' also relevant to this characteristic, please see 'Older people' section above.</p>
<p>Race:</p> <p>Source: Census 2021 (bristol.gov.uk)</p> <p>51% of the population in Central Ward are within the White British ethnic group, this is slightly lower in comparison to Bristol which is 71.6%</p> <p>Central Ward has a higher percentage of people who are from Black, Asian and minority ethnic backgrounds (34.3%) compared to the Bristol Average (18.9%)</p> <p>Source: Microsoft Power BI (ward profiles)</p>	<p>51% of the population in Central Ward are within the White British ethnic group, this is slightly lower in comparison to Bristol which is 71.6% Black, Asian and minority ethnic citizens in Bristol</p> <p>experience disparities in public transport inaccessibility and air quality.</p> <p>57.3% of Central ward households do not have van or car ownership within the household.</p>

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
Pregnancy and maternity: Source: Quality of Life Survey Results 2023: Microsoft Power BI Where there are Wards/areas with a higher proportion of children, or with poor air quality, or public transport provision issues, there is likely to be disproportionate impact on Pregnancy and maternity.	
Religion and belief: Census 2021: Central ward profile report (bristol.gov.uk) The Central ward contains a significantly higher proportion of Hindu, Buddhist and Jewish residents compared to the Bristol average but a significantly lower proportion of Christian residents compared to the Bristol average. Those reporting as Muslim, Sikh, No religion or Other religion in the Central Ward were not considered significantly different in proportion to the Bristol average.	
Gender reassignment: Source: Quality of Life Survey Results 2023 - Microsoft Power BI In the Quality-of-Life survey 72.8% of Trans people living in Bristol as a whole said better public transport would encourage them to visit venues and events more at night.	Fear of crime and crime rates are relevant to this characteristic.
Sexual orientation: Source: Quality of Life Survey Results 2023 - Microsoft Power BI In the Quality-of-Life survey 55.5% of LGB+ people living in Bristol as a whole said sexual harassment is an issue in Bristol.	Fear of crime and crime rates are relevant to this characteristic
Poverty and deprivation Central ward profile report (bristol.gov.uk) 2 of the Lower Super Output Areas used to measure deprivation that lie within the central ward (Redcliffe South & Stokes Croft West) are within the most deprived areas within England.	Car ownership, public transport provision, fear of crime, and air quality are all relevant data to this protected characteristic, please see the above sections in this table for any significant data.

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
<p>Crime and Safety:</p> <p>Central ward profile report (bristol.gov.uk)</p> <p>Fear of crime is significantly higher in Central ward when compared to the Bristol average. As indicated in the sections above fear of crime can have a greater effect on some groups than others.</p>	<p>As the Central Ward lies within the central business district of the city it receives a greater throughput of people visiting for work or leisure which can explain why the crime rate would be higher here than in other wards of the city</p>
<p>Marriage and civil partnership:</p> <p>There is no evidence to suggest that this protected characteristic group might experience transport differently today.</p>	
<p>Education, Language and Literacy</p> <p>Census 2021: Microsoft Power BI</p> <p>42.6 % of Central Ward residents with a degree or higher which is close to the Bristol average. 20.8% of Central ward residents responded that their main language is not English which was the second highest ward within Bristol for this metric.</p>	<p>There are a higher percentage of Central Ward residents where English is not their first language.</p>
<p>Additional comments:</p>	

2.2 Do you currently monitor relevant activity by the following protected characteristics?

<input checked="" type="checkbox"/> Age	<input checked="" type="checkbox"/> Disability	<input checked="" type="checkbox"/> Gender Reassignment
<input checked="" type="checkbox"/> Marriage and Civil Partnership	<input checked="" type="checkbox"/> Pregnancy/Maternity	<input checked="" type="checkbox"/> Race
<input checked="" type="checkbox"/> Religion or Belief	<input checked="" type="checkbox"/> Sex	<input checked="" type="checkbox"/> Sexual Orientation

2.3 Are there any gaps in the evidence base?

Where there are gaps in the evidence, or you don't have enough information about some equality groups, include an equality action to find out in section 4.2 below. This doesn't mean that you can't complete the assessment without the information, but you need to follow up the action and if necessary, review the assessment later. If you are unable to fill in the gaps, then state this clearly with a justification.

For workforce related proposals all relevant characteristics may not be included in HR diversity reporting (e.g. pregnancy/maternity). For smaller teams diversity data may be redacted. A high proportion of not known/not disclosed may require an action to address under-reporting.

There are no gaps in the evidence base at this stage of the process, however, we know there are gaps in local diversity data, especially where this has not historically been included in statutory reporting. Census data is currently collected every 10 years. The ONS has also published mid-2020 population estimates. Gaps in data will exist as it becomes out of date or is limited through self-reporting. The assessment will be continuously reviewed throughout the course of the A37/A4018 Victoria Street & Colston Avenue project to ensure that the evidence base is comprehensive and up to date.

2.4 How have you involved communities and groups that could be affected?

You will nearly always need to involve and consult with internal and external stakeholders during your assessment. The extent of the engagement will depend on the nature of the proposal or change. This should usually include individuals and groups representing different relevant protected characteristics. Please include details of any completed engagement and consultation and how representative this had been of Bristol's diverse communities.

Include the main findings of any engagement and consultation in Section 2.1 above.

If you are managing a workforce change process or restructure please refer to [Managing a change process or restructure \(sharepoint.com\)](#) for advice on consulting with employees etc. Relevant stakeholders for engagement about workforce changes may include e.g. staff-led groups and trades unions as well as affected staff.

- **A37/A4018 Route 2 Corridor Early Engagement** (Summer 2020)
- **A37/A4018 Route 2 Corridor Public Consultation** (November 2021 - January 2022)
- **A37/A4018 Victoria Street & Colston Avenue Information Exercise** (June 2023)
- **A37/A4018 Statutory Consultation** (October – November 2023)

The above consultations have been carried out. The early engagement and public consultation involved all communities along the route 2 corridor within the Bristol City council area including the Central ward – please refer to the previous EQIA that this EQIA follows on from. There are reports available (and attached to the Cabinet Paper of which this EQIA is an accompaniment) for both the engagement exercise and public consultation. Specific to this project onsite meetings have been held with members of the Pocklington Trust which is a leading advocate of equality for blind and partially sighted people, this will help ensure the process is as accessible for Disabled people as possible.

2.5 How will engagement with stakeholders continue?

Explain how you will continue to engage with stakeholders throughout the course of planning and delivery. Please describe where more engagement and consultation is required and set out how you intend to undertake it. Include any targeted work to seek the views of under-represented groups. If you do not intend to undertake it, please set out your justification. You can ask the Equality and Inclusion Team for help in targeting particular groups.

- Press release: announcement of successful funding bid (post WECA RDT meeting of February 2024)
- Press release: announcement of works beginning. Post contractor appointment and programme agreement (late 2024)
- Blog/press release: Ongoing during the construction programme
- Press release : announcement of completion of works
- Walk through of scheme with Equalities Public Transport Safety Equalities Group during and once scheme is complete

Step 3: Who might the proposal impact?

Analysis of impacts must be rigorous. Please demonstrate your analysis of any impacts of the proposal in this section, referring to evidence you have gathered above and the characteristics protected by the Equality Act 2010. Also include details of existing issues for particular groups that you are aware of and are seeking to address or mitigate through this proposal. See detailed guidance documents for advice on identifying potential impacts etc. [Equality Impact Assessments \(EqIA\) \(sharepoint.com\)](#)

3.1 Does the proposal have any potentially adverse impacts on people based on their protected or other relevant characteristics?

Consider sub-categories and how people with combined characteristics (e.g. young women) might have particular needs or experience particular kinds of disadvantage.

Where mitigations indicate a follow-on action, include this in the 'Action Plan' Section 4.2 below.

GENERAL COMMENTS (highlight any potential issues that might impact all or many groups)	
Whilst we have not identified any significant negative impacts from the proposal at this stage we are aware of existing issues for local citizens based on their characteristics which we will seek to address and mitigate where possible through project design and delivery.	
PROTECTED CHARACTERISTICS	
Age: Young People	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	The cost of owning and running a car is high, younger people are less likely to be able to afford these costs, therefore they are more reliant on public transport.
Mitigations:	Making improvements to the affordability and accessibility of bus routes, will be of benefit to younger people as they utilise buses to access employment, education, training, and activities. Children aged 0 to 16 made the highest proportion of trips using active transport modes such as walking and cycling in 2021 with 38%. Those aged 17 to 49 made 32% to 34% of their trips using active modes. (National Travel Survey 2021)
Age: Older People	Does your analysis indicate a disproportionate impact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Potential impacts:	There has been research to suggest that an improved provision of active transport could disproportionately benefit older people. Increasing the provision of public transport is likely to increase levels of active travel. Older people (70+) have more limited access to cars and a lower car use than adults aged 30-69. Older people are more likely to be disabled and/or have a long-term health condition which could affect their ability to use transport (inclusive of mobility impairments, hearing loss, sight loss, and memory loss or cognitive impairments). Some older people will require public transport staff to assist them when boarding/disembarking.

	<p>Some older people may struggle with finding accurate and up to date pre-travel information, including timetables, accessible infrastructure, and information about ticketing.</p> <p>Older people in Bristol are less likely to be comfortable using digital services than average and may not use digital tools associated with public transport, such as the iPoints, touch screen ticket machines, smartphones (for travel planning).</p> <p>Ageing is linked with a reduction in car usage. This is because of worsening physical conditions, increased stresses of driving, car costs, and a reduced need to drive.</p>
<p>Mitigations:</p>	<p>The provision of safe walking and cycling opportunities that integrate with the bus network can be beneficial for older people in improving their overall health.</p> <p>Improving bus networks will maintain and improve the accessibility and availability of essential services for this demographic.</p> <p>High quality public transport networks will enhance the opportunities for older people to remain connected and maintain their independence.</p> <p>Bus infrastructure enhancements will improve accessibility for people who are disabled and/or have a long-term health problem.</p> <p>Ticketing infrastructure and information will be made accessible and available in multiple formats to ensure that it can be used by everyone.</p>
<p>Disability</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Those with mobility impairments have more limited car access and lower car use than those without mobility impairments. Many Disabled people are reliant on the use of public transport despite experiencing a range of additional barriers and challenges when doing so – such as a lack of accessible infrastructure at stops, stations and other locations.</p> <p>There are huge variances in a person’s travel patterns depending on their disability and its severity.</p> <p>Around 60% of Disabled people have no access to a car and use the bus around 20% more than their non-disabled counterparts For wheelchair users obstructions such as bins or advertising boards can make the pedestrian environment particularly challenging.</p> <p>The segregated cycle way being installed as part of the project will be adjacent to a large bus stop – this is known as a floating bus stop in design parlance. Floating bus stops can provide a challenge to visually impaired groups.</p> <p>29 pay and display parking bays will be removed as part of this project which may affect this group disproportionately.</p>

<p>Mitigations:</p>	<p>It is essential that bus stops are fully accessible for people within this protected characteristic. Improvements will include raised kerbs and adequate paving space for all users. All information relating to routes and tickets will be accessible and inclusive to make journeys easier and increase perception of safety. Providing paving safe havens at bus stops will help encourage active travel. The proposed improvements will include upgrades to the trip chain/routes in which people take to get to the bus stop, to ensure they are fully accessible.</p> <p>The project has been on site with Bristol based visually impaired groups to discuss the design of floating bus stops following which mitigations such as railings, tactile paving and crossing markings over the cycleway have been added to the designs within the project.</p> <p>The project is installing 5 dedicated Disabled parking only spaces along the corridor.</p>
<p>Sex</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Experiences of public transport are different depending on Sex. It has been found that women are less likely to take longer journeys, they are less likely to travel at night or on weekends due to feeling less safe, which ultimately comes from a lack of transport and transport infrastructure, during these periods. Inadequate public transport creates barriers for women accessing employment and educational opportunities.</p> <p>Younger men between the ages of 16-19 are also more likely to be victims of crime on the public transport network compared to men of all other age groups</p>
<p>Mitigations:</p>	<p>Improving the punctuality, speed, and reliability of buses will be beneficial in providing a better network for multiple journeys in a day.</p> <p>The project will assist in reducing the barriers for women when accessing employment and educational opportunities. By improving infrastructure such as CCTV, RTI, and Lighting at bus stops, we hope citizens including women and girls will feel and be more safe. Providing an integrated public transport connection will help make journeys more reliable and enable women to undertake better connected journeys. Improving safety on the bus and around the stops is also an important consideration for younger men.</p>
<p>Sexual orientation</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Low level of perceived safety on public transport or while waiting for public transport.</p>
<p>Mitigations:</p>	<p>The improvement to bus stop infrastructure to include elements such as CCTV, RTI, and Lighting can help improve the level of perceived safety among all groups when travelling on public transport.</p>
<p>Pregnancy / Maternity</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Public transport plays an important role in the social inclusion of many parents with young children. Parents with young children have been identified as vulnerable to social isolation. Exposure to poor air quality and pollutants can also affect the foetal development and cause low birth weights, premature births, stillbirths and miscarriages</p>

	(Air Pollution Can Affect Fetal Development, Scientists Say Scientific American) . See also accessibility issues identified above.
Mitigations:	<p>The project will benefit this demographic as it will help improve connectivity and reduce social exclusion.</p> <p>Ensuring bus stops are fully accessible is important for parents with small children, especially where parents may have pushchairs. The project will ensure that stops have enough paving space for pushchairs. The raised kerb improvements will improve accessibility when boarding/departing the bus with a pushchair. The improvements to the infrastructure and surrounding spaces will help to encourage active travel, as part of a wider integrated sustainable transport network. The improvements to the corridor conform with the vision to improve air quality across the city, consequently reducing the impacts of poor air quality on this demographic.</p>
Gender reassignment	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	Perception of safety is currently a concern for trans people
Mitigations:	The A37/A4018 corridor improvements will improve infrastructure at bus stops that will enhance perceptions of safety. These improvements will include CCTV, Lighting and RTI displays.
Race	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	<p>People from Black, Asian, Minority ethnic backgrounds are less likely to have access to a private vehicle, be more reliant on public transport to access employment and live in densely populated areas increasing their exposure to air pollution.</p> <p>Black, Asian and minority ethnic households in Bristol also have disproportionately higher rates of poverty. When it comes to active travel, Black and Asian adults are least likely to cycle. Black, Asian and minority ethnic citizens are more likely to experience hate crime and discrimination when using public transport, thus potentially causing a barrier to the public transport network.</p>
Mitigations:	<p>There is a higher reliance on public transport among Black, Asian and minority ethnic communities to access employment and opportunities. Maintaining and improving bus routes will facilitate better accessibility to employment.</p> <p>The provision of an affordable and available bus network can help reduce exclusion of people from activities, services, and opportunities.</p> <p>The bus network and operational hours can affect the type of employment available to those who are reliant on it for travel.</p> <p>Enhancing safety and security at bus stops and on buses is crucial in the removal of barriers of bus use. Improvements to safety infrastructure will help tackle this barrier.</p>
Religion or Belief	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Potential impacts:	Safety and the perception of safety is particularly important for a number of groups when using the pedestrian environment and public transport. This is inclusive of people from particular religions or faith communities.
Mitigations:	Safety and security both on the bus and at bus stops are key considerations for this group. The improvements to the project will seek to better safety at shelters/stops along the route.
Marriage & civil partnership	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	There is no evidence to suggest that this protected characteristic group might experience transport in a different way.
Mitigations:	None
OTHER RELEVANT CHARACTERISTICS	
Socio-Economic (deprivation)	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	We have not identified any significant negative impacts on the basis of deprivation / for low income households at this stage
Mitigations:	None
Carers	Does your analysis indicate a disproportionate impact? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	As above re impact for people who may be more depending on private motor vehicles. – carers may be more likely to be trip chaining (grouping together multiple tasks e.g. caring visits for older adults; school and nursery collection and drop-offs; appointment visits; commutes etc. together) and therefore be more dependent own having their own transport. The proposals involve the removal of 29 pay and display parking spaces which could disproportionately affect carers if they are more likely to need a car parking space to carry out their duty.
Mitigations:	The Central ward has a significantly lower than average percentage of older people as residents which should correlate to less need for carers for that group. There will still be parking available in the area for carers at other locations in the area and the conditions to use active travel or public transport will provide an improved alternative to public transport for this group.
Other groups [Please add additional rows below to detail the impact for any other relevant groups as appropriate e.g. asylum seekers and refugees; care experienced; homelessness; armed forces personnel and veterans]	
Potential impacts:	N/A
Mitigations:	N/A

3.2 Does the proposal create any benefits for people based on their protected or other relevant characteristics?

Outline any potential benefits of the proposal and how they can be maximised. Identify how the proposal will support our [Public Sector Equality Duty](#) to:

- ✓ Eliminate unlawful discrimination for a protected group

- ✓ Advance equality of opportunity between people who share a protected characteristic and those who don't
- ✓ Foster good relations between people who share a protected characteristic and those who don't

- Increasing the proportion of journeys made by public transport, walking and cycling will bring about improvements in air quality
- It is hoped that the improvements included in this scheme will encourage bus patronage and reduce the amount of people that use cars, consequently improving the air quality along the route. Better air quality will also benefit the health and wellbeing of residents local to the route.
- Through cycling and walking infrastructure improvements, it is hoped that the scheme will encourage active travel and improve health and wellbeing of all protected characteristic groups. The implementation of continuous footways in particular will prioritise pedestrians crossing side road junctions over vehicles which will help some groups with protected characteristics.
- Improving bus services, making them quicker, more efficient and broadening the network coverage will have beneficial impacts to all groups but particularly groups that are more reliant on buses as their primary mode of transport. This particularly applies to younger people, women, parents/carers with young families and disabled people. A good network will enable all groups to access jobs, education and other services and opportunities.
- Improving the physical accessibility at stops will particularly benefit disabled people and parents/carers with young families.
- The stops will provide access to an affordable mode of public transport, this will be beneficial to people on lower incomes, and protected characteristic groups with limited access to private vehicles.
- CCTV, lighting and the real time information will help to improve the safety and security of passengers waiting at the stop. This will benefit all protected characteristic groups.
- In addition to the benefits outlined above, the improvements will include enhancements to the public realm, improving the look and feel of the area and creating a sense of destination.

Step 4: Impact

4.1 How has the equality impact assessment informed or changed the proposal?

What are the main conclusions of this assessment? Use this section to provide an overview of your findings. This summary can be included in decision pathway reports etc.

If you have identified any significant negative impacts which cannot be mitigated, provide a justification showing how the proposal is proportionate, necessary, and appropriate despite this.

Summary of significant negative impacts and how they can be mitigated or justified:

- Removal of 29 pay and display parking bays. Introduction of 5 dedicated Disabled parking bays.
- Introduction of floating bus stop that can present a challenge to visually impaired groups. Working with visually impaired groups based in Bristol the design of the bus stop has been mitigated by the addition of railings, tactile paving and crossings over the adjacent segregated cycleway

Summary of positive impacts / opportunities to promote the Public Sector Equality Duty:

- Introduction of 5 dedicated disabled parking bays
- Step change in active travel provision via segregated cycleway, continuous footways that prioritise pedestrians and cyclists and improved crossings at the Counterslip junction
- The improvements to the bus stop waiting areas will improve safety for vulnerable groups with the addition of lighting and cctv cameras
- The improvement of the public realm will provide the opportunity to sit and rest within the projects scope which will positively affect those groups who may be physically challenged at times
- The improvement of active travel infrastructure and conditions for improved public transport will help Bristol achieve its targets to reduce air pollution by providing better alternatives to travelling in private vehicles.
- The improvement of active travel infrastructure will help more people to use active travel as a transport option. Increased uptake in active travel helps drive more positive outcomes for the health of citizens in Bristol.

4.2 Action Plan

Use this section to set out any actions you have identified to improve data, mitigate issues, or maximise opportunities etc. If an action is to meet the needs of a particular protected group please specify this.

Improvement / action required	Responsible Officer	Timescale
On scheme completion meet with disabled groups to walk through the scheme and explain how the continuous footways and floating bus stop work	Thor Sever	Scheme completion (2026)
Update EQIA as necessary post funding decision and at scheme completion	Thor Sever	2024 & 2026

4.3 How will the impact of your proposal and actions be measured?

How will you know if you have been successful? Once the activity has been implemented this equality impact assessment should be periodically reviewed to make sure your changes have been effective your approach is still appropriate.

A monitoring and evaluation plan? will be produced before the scheme is implemented so that it is ready to assess the benefits of the work. The plan will be considerate of issues set out in the EqIA and the plan will help to inform updates to the EqIA. There will be monitoring of general bus passenger usage, as well as more specific information from the Quality of Life Survey and the Transport Focus Annual Bus Passenger Survey.


Engagement with First bus and the West of England Combined Authority to monitor the outcomes of the scheme.

Further engagement with the Public Transport Safety and Equalities Group, and the Disabled People and Older People Pavement and Roads advisory group will be sought to further monitor the outcomes of the scheme.

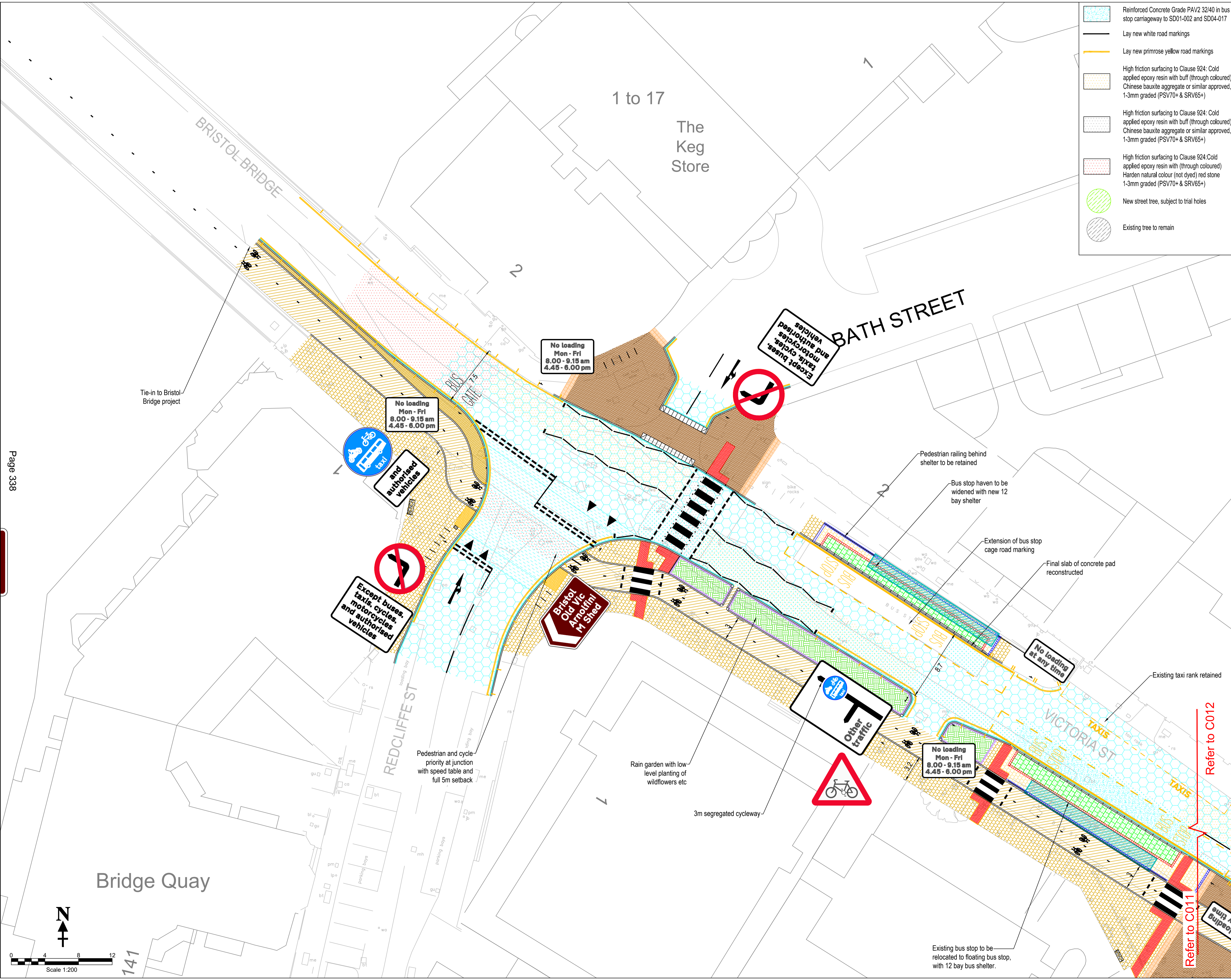
The project intends to install a suite of traffic sensors that record and count vehicle classes on Victoria Street to record a baseline pre scheme and to measure the benefits post scheme. The sensors can also count pedestrians and cyclists which will provide a significant tool to calculate the uptake in active travel along the corridor.

Step 5: Review

The Equality and Inclusion Team need at least five working days to comment and feedback on your EqIA. EqIAs should only be marked as reviewed when they provide sufficient information for decision-makers on the equalities impact of the proposal. Please seek feedback and review from the [Equality and Inclusion Team](#) before requesting sign off from your Director¹.

Equality and Inclusion Team Review: <i>Reviewed by Equality and Inclusion Team</i>	Director Sign-Off: 
Date: 2/1/2024	Date: 8.1.2024

¹ Review by the Equality and Inclusion Team confirms there is sufficient analysis for decision makers to consider the likely equality impacts at this stage. This is not an endorsement or approval of the proposal.



- Reinforced Concrete Grade PAV2 32/40 in bus stop carriageway to SD01-002 and SD04-017
- Lay new white road markings
- Lay new primrose yellow road markings
- High friction surfacing to Clause 924: Cold applied epoxy resin with buff (through coloured) Chinese bauxite aggregate or similar approved, 1-3mm graded (PSV70+ & SRV65+)
- High friction surfacing to Clause 924: Cold applied epoxy resin with buff (through coloured) Chinese bauxite aggregate or similar approved, 1-3mm graded (PSV70+ & SRV65+)
- High friction surfacing to Clause 924: Cold applied epoxy resin with (through coloured) Harden natural colour (not dyed) red stone 1-3mm graded (PSV70+ & SRV65+)
- New street tree, subject to trial holes
- Existing tree to remain

- GENERAL ARRANGEMENT KEY
- 20 AC 6 Dense Surface Course, 55 Binder Course AC20 as Standard Detail SD01-006-I
 - 200x100x65 PCC block pavers as Standard Detail SD01-006-I (natural grey pavers)
 - 400x400x65 PCC slabs as Standard Detail SD01-006-I
 - Relay previously set aside PCC paving as Standard Detail SD01-006-I
 - Relay previously set aside pennant slab paving as Standard Detail SD01-006-I
 - 200x100x80 PCC block pavers with 75mm binder course as Standard Detail SD01-004-G (block paved minor roads)
 - Pennant flag paving as per appendix 11/1 table 7
 - 80mm thick pennant flag paving on ST4 concrete sub base as per appendix x and drawing E19070-200-C036
 - 200 x 100 x 80 Pennant stone block pavers with bedding / sub base as per appendix 11/1 table 7
 - Pennant stone cobble sett as Standard Detail SD01-005H
 - Tanked rain garden with low level planting - see drawings E19070-200-C066 for detail
 - Flexible carriageway construction as Standard Detail SD 01-001-F, Major Road
 - 45mm carriageway surface course to be resurfaced
 - Raised table (flat top hump) as Standard Detail SD 04-003-E
 - 200x133x65 PCC Tactile block paving (buff at uncontrolled, red at controlled crossings) as Standard Detail SD03-003-H / 004-E / 005-F
 - 400x400x65 Tactile slab paving - buff hazard paving
 - Bus stop kerbs and safe haven to SD04-016-E

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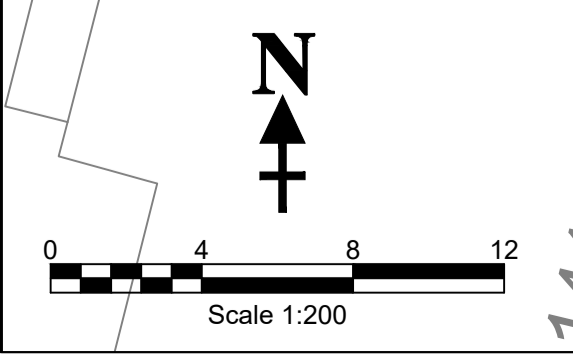
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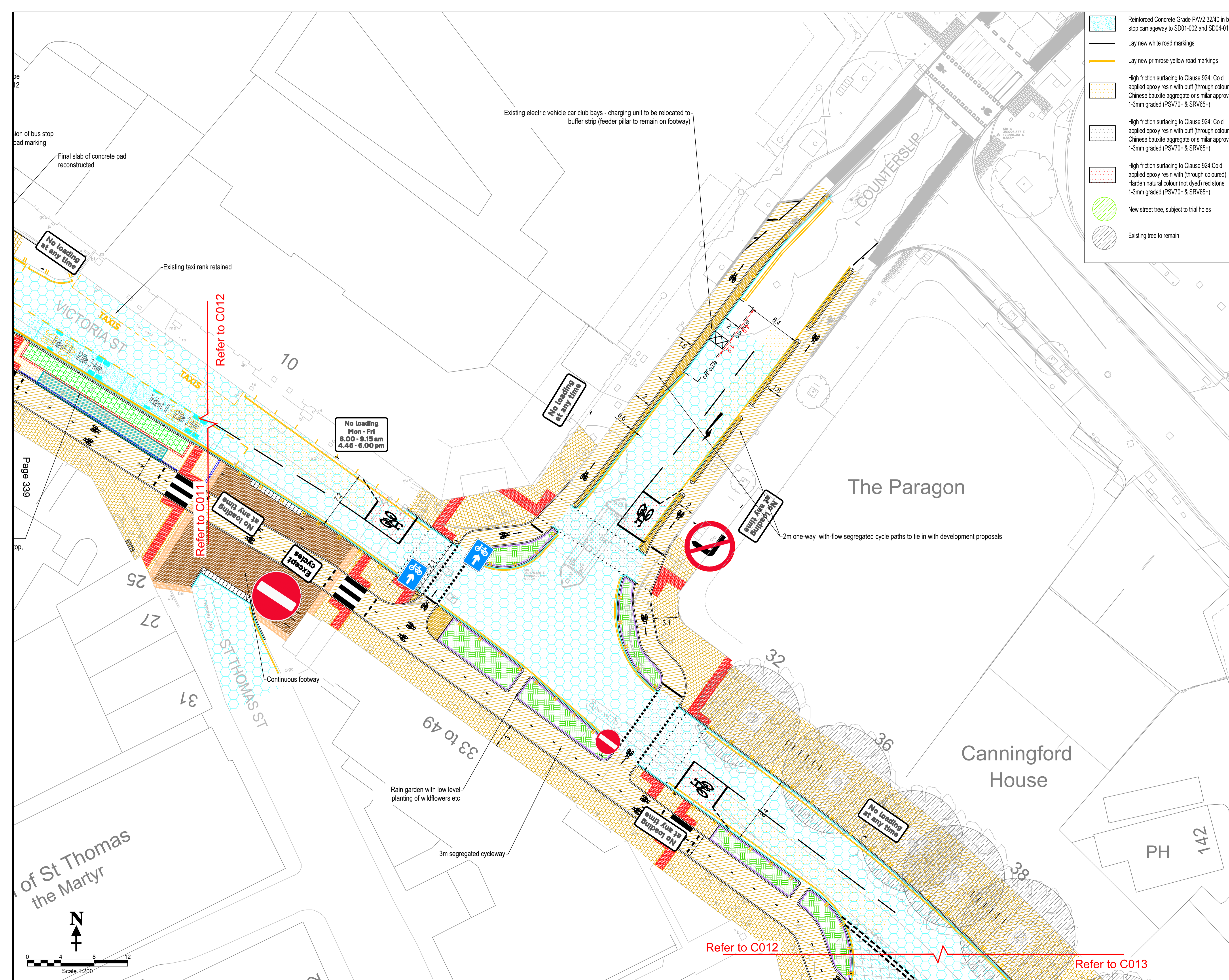
Project: **A37 / A4018 Strategic Corridor**

Title: **Victoria Street Remodelling General Arrangement 1 of 5**

Client: **Strategic City Transport**

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Status CONSTRUCTION	Issued by
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Project Number E19070	Drawing -200-C011-
	Revision A





- Reinforced Concrete Grade PAV2 32/40 in bus stop carriageway to SD01-002 and SD04-017
- Lay new white road markings
- Lay new primrose yellow road markings
- High friction surfacing to Clause 924: Cold applied epoxy resin with buff (through coloured) Chinese bauxite aggregate or similar approved, 1-3mm graded (PSV70+ & SRV65+)
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- 20 AC 6 Dense Surface Course, 55 Binder Course AC20 as Standard Detail SD01-006-I
 - 200x100x65 PCC block pavers as Standard Detail SD01-006-I (natural grey pavers)
 - 400x400x65 PCC slabs as Standard Detail SD01-006-I
 - Relay previously set aside PCC paving as Standard Detail SD01-006-I
 - Relay previously set aside pennant slab paving as Standard Detail SD01-006-I
 - 200x100x80 PCC block pavers with 75mm binder course as Standard Detail SD01-004-G (block paved minor roads)
 - Pennant flag paving as per appendix 11/1 table 7
 - 80mm thick pennant flag paving on ST4 concrete sub base as per appendix x and drawing E19070-200-C036
 - 200 x 100 x 80 Pennant stone block pavers with bedding / sub base as per appendix 11/1 table 7
 - Pennant stone cobble sett as Standard Detail SD01-005H
 - Tanked rain garden with low level planting - see drawings E19070-200-C066 for detail
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 - 45mm carriageway surface course to be resurfaced
 - Raised table (flat top hump) as Standard Detail SD 04-003-E
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 - 400x400x65 Tactile slab paving - buff hazard paving
 - Bus stop kerbs and safe haven to SD04-016-E

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Project: **A37 / A4018 Strategic Corridor**

Title: **Victoria Street Remodelling General Arrangement 2 of 5**

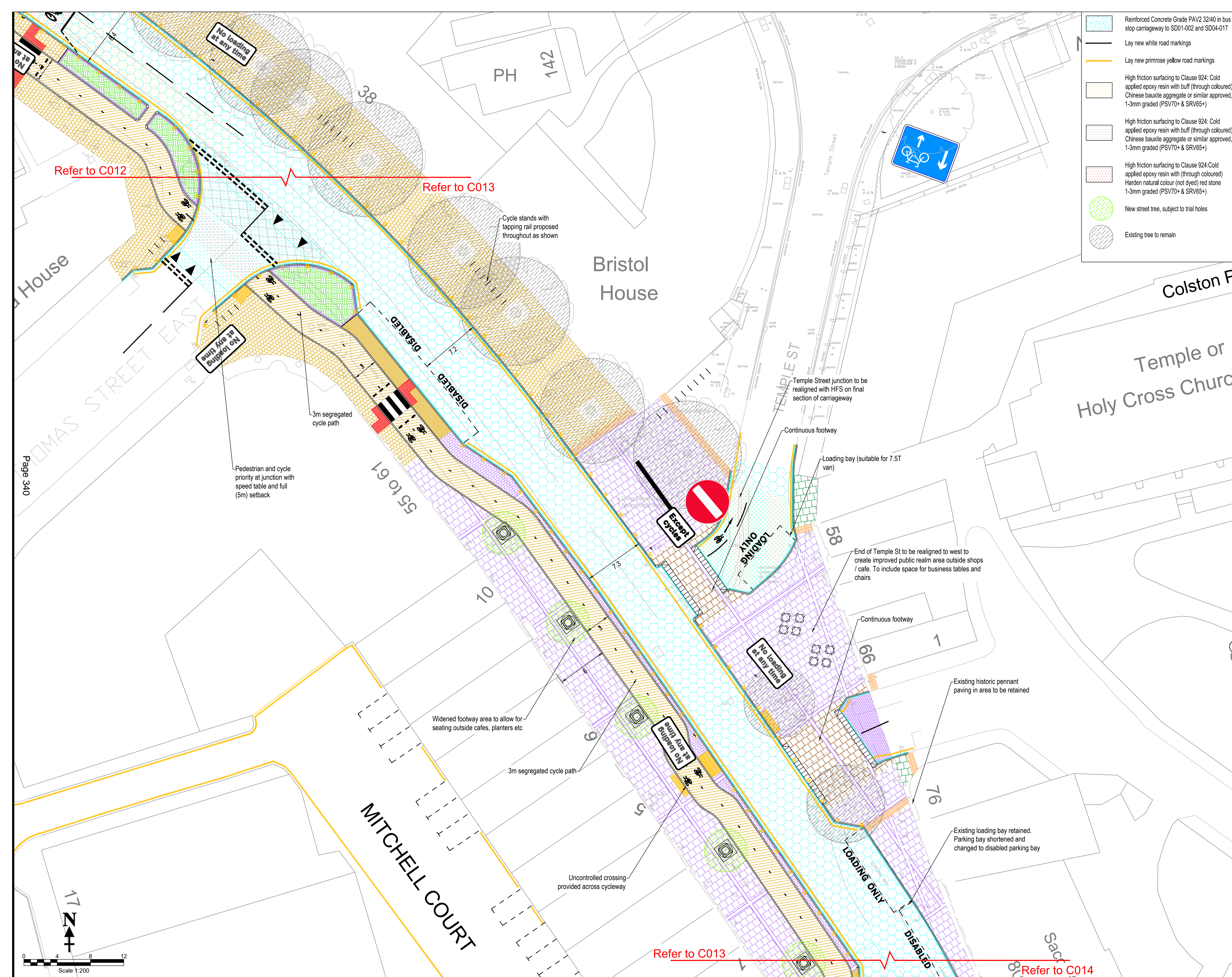
Client: **Local and Sustainable Transport Management of Place - Growth & Regeneration**

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Project Number	Drawing	Revision
E19070	-200-C012-	A



- Reinforced Concrete Grade PAV2 32/40 in bus stop carriageway to SD01-002 and SD04-017
- Lay new white road markings
- Lay new primrose yellow road markings
- High friction surfacing to Clause 924: Cold applied epoxy resin with buff (through coloured) Chinese bauxite aggregate or similar approved, 1-3mm graded (PSV70+ & SRV65+)
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- Existing tree to remain

- GENERAL ARRANGEMENT KEY**
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 - 200x100x65 PCC block pavers as Standard Detail SD01-006-I (natural grey pavers)
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 - 80mm thick pennant flag paving on ST4 concrete sub base as per appendix x and drawing E19070-200-C036
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 - 400x400x65 Tactile slab paving - buff hazard paving
 - Bus stop kerbs and safe haven to SD04-016-E

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Project: **A37 / A4018 Strategic Corridor**

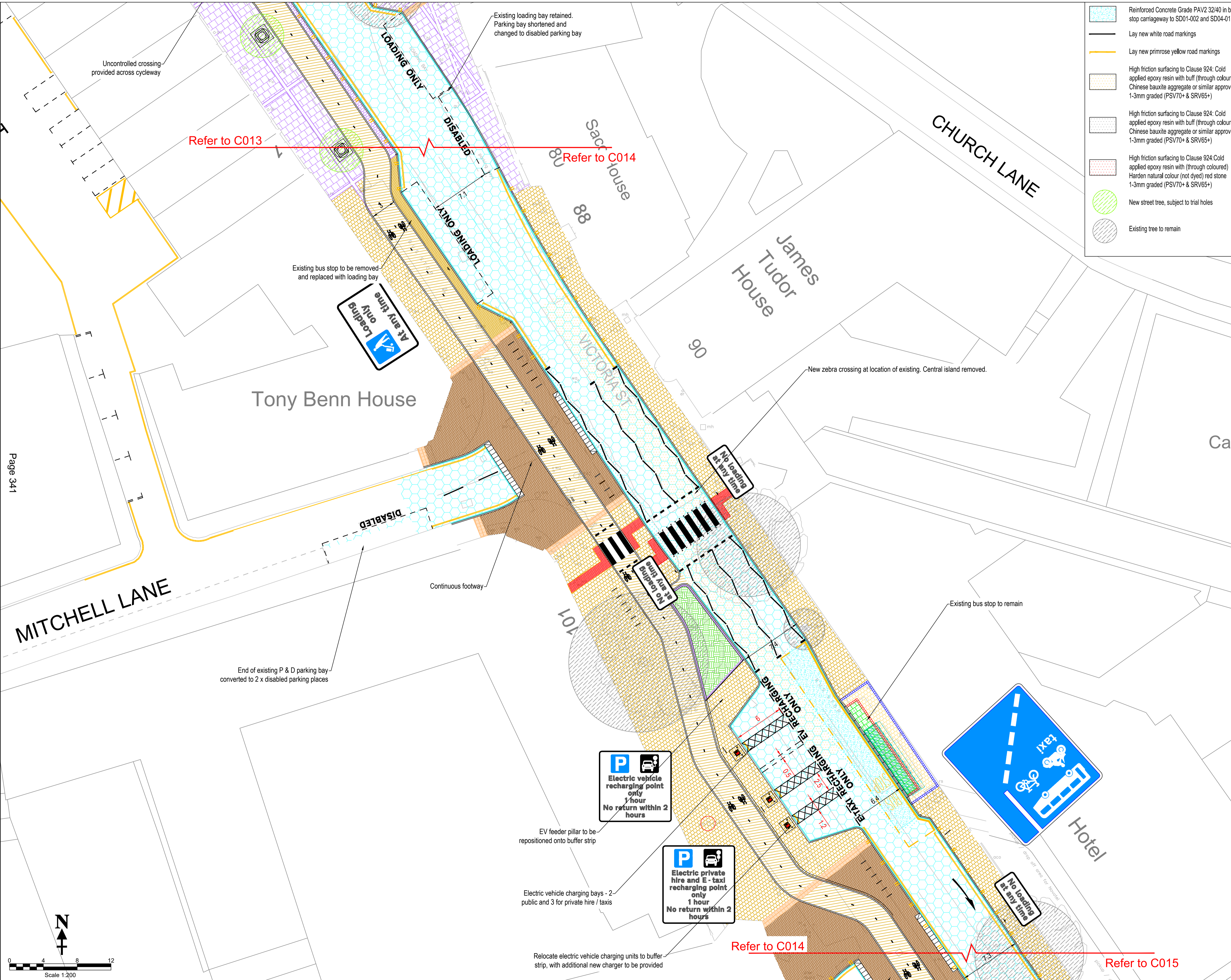
Title: **Victoria Street Remodelling General Arrangement 3 of 5**

Client: **Local and Sustainable Transport Management of Place - Growth & Regeneration**

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Project Number: E19070	Drawing: -200-C013-	Revision: A
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Refer to C013

Refer to C014

Refer to C014

Refer to C015

- Reinforced Concrete Grade PAV2 32/40 in bus stop carriageway to SD01-002 and SD04-017
- Lay new white road markings
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 - Bus stop kerbs and safe haven to SD04-016-E

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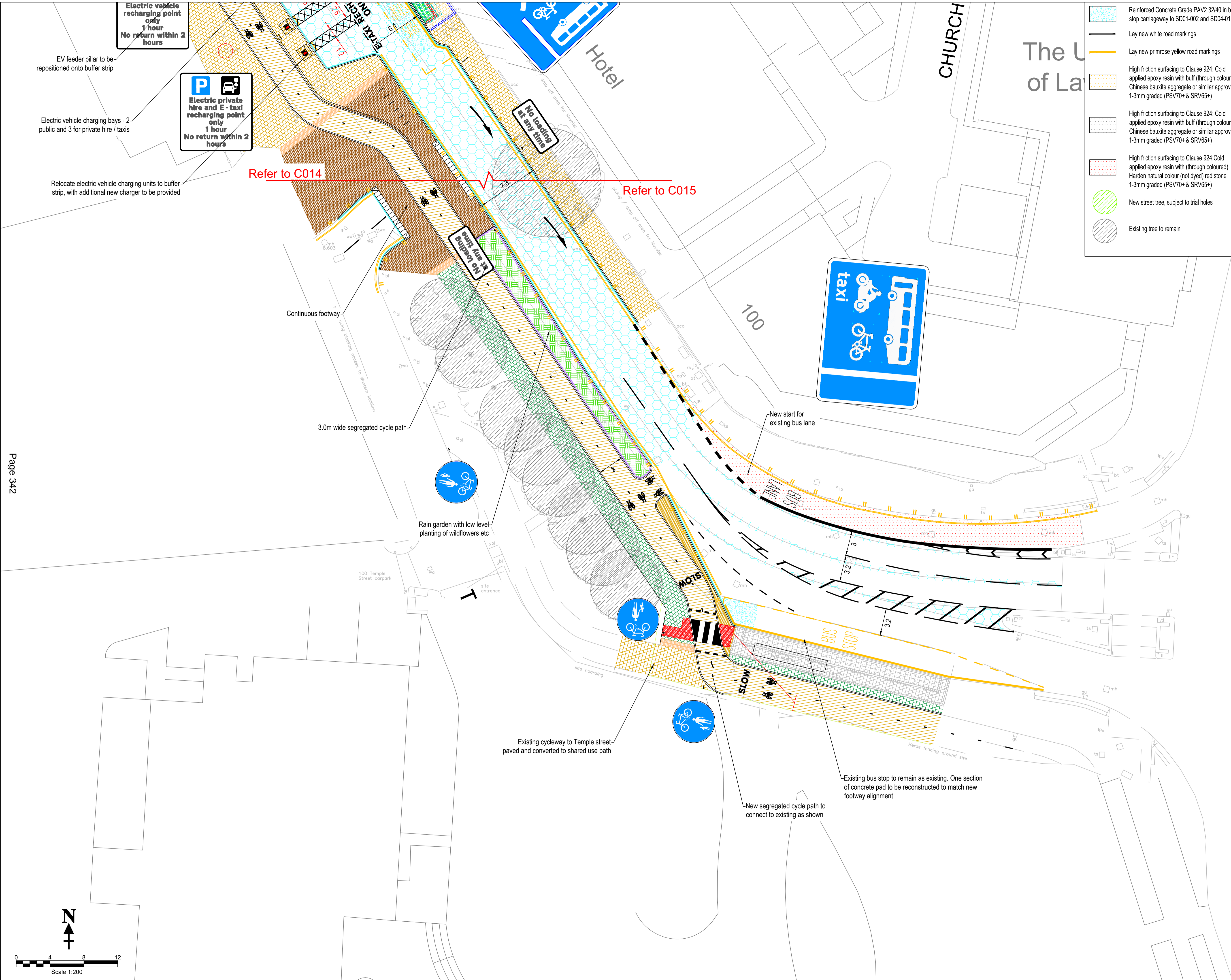
Project
A37 / A4018 Strategic Corridor

Title
Victoria Street Remodelling
General Arrangement
4 of 5

Client
Local and Sustainable Transport
Management of Place - Growth & Regeneration

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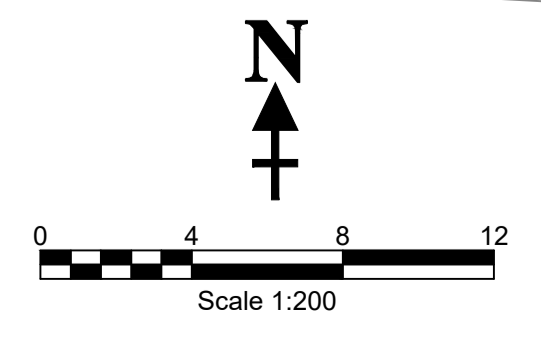
Scale 1:200 @ A1	Project Number E19070	Drawing -200-C014-	Revision A
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- Reinforced Concrete Grade PAV2 32/40 in bus stop carriageway to SD01-002 and SD04-017
- Lay new white road markings
- Lay new primrose yellow road markings
- High friction surfacing to Clause 924: Cold applied epoxy resin with buff (through coloured) Chinese bauxite aggregate or similar approved, 1-3mm graded (PSV70+ & SRV65+)
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 - 45mm carriageway surface course to be resurfaced
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 - Bus stop kerbs and safe haven to SD04-016-E

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Project
A37 / A4018 Strategic Corridor

Title
Victoria Street Remodelling
General Arrangement
5 of 5

Client
Local and Sustainable Transport
Management of Place - Growth & Regeneration

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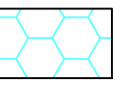
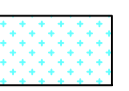


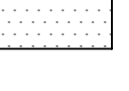

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Project Number E19070	Drawing -200-C015-	Revision A
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GENERAL ARRANGEMENT KEY

-  45mm carriageway surface course to be planned and resurfaced to SD 01-001F, Major Road
-  Carriageway to be deep planed and re-laid to full depth of bituminous material to SD01-001-F, Major Road
-  Lay new white road markings
-  Existing white road markings
-  Existing High Friction surfacing
-  High friction surfacing to Clause 924: Cold applied epoxy resin with (through coloured) Harden natural colour (not dyed) red stone 1-3mm graded (PSV70+ & SRV65+)



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Rev.	Date	Description	By

Project
A37 / A4018 Strategic Corridor

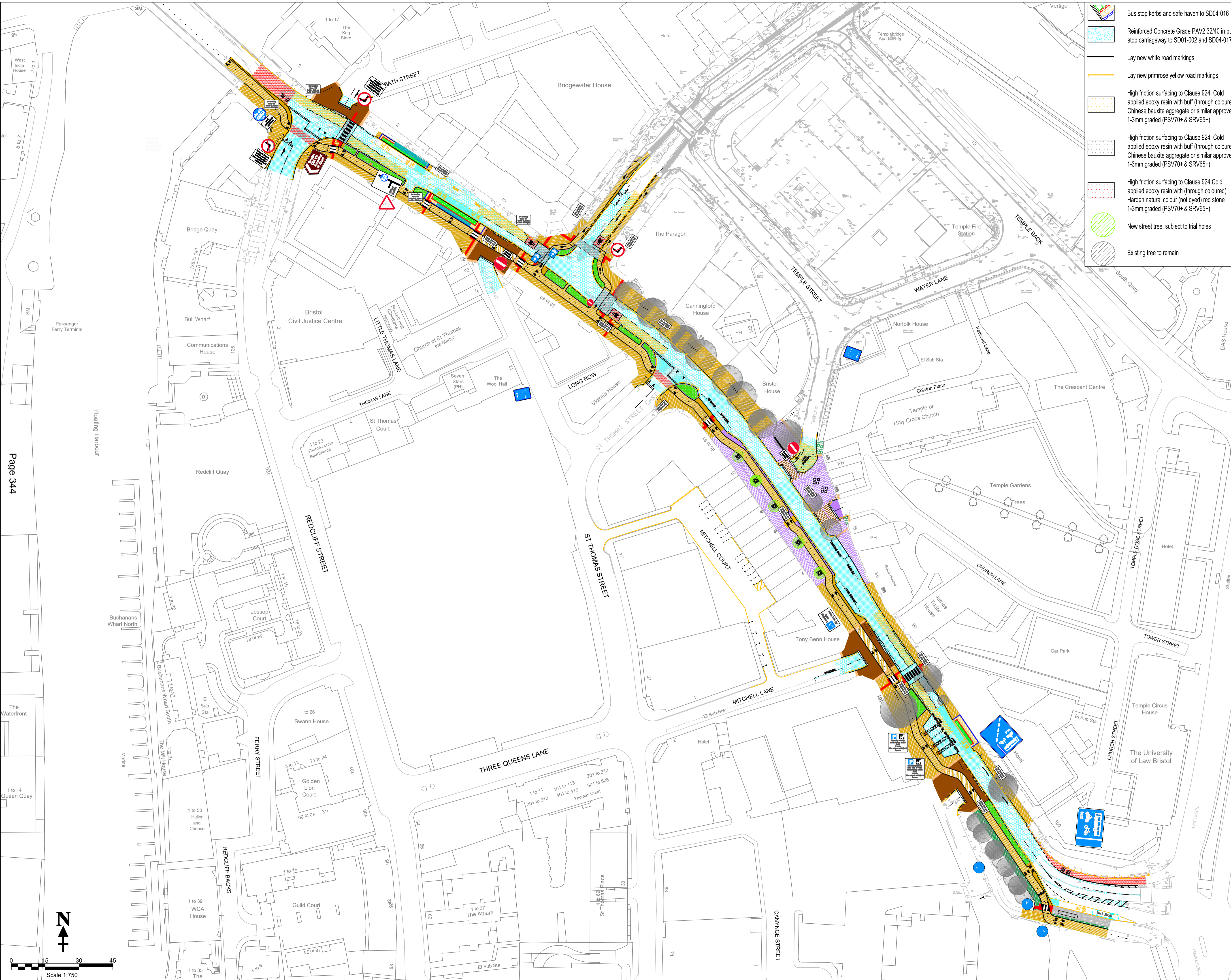
Title
Colston Avenue Bus Lane Extension General Arrangement

Client
Local and Sustainable Transport Management of Place - Growth & Regeneration

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Date Drawn 24-08-2023	Date Issued
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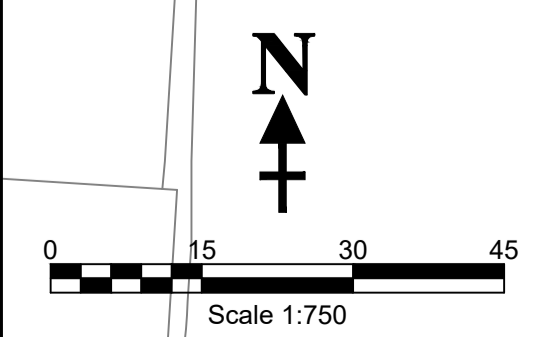
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Project Number E19070	Drawing -200-P110-	Revision
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- Bus stop kerbs and safe haven to SD04-016-E
- Reinforced Concrete Grade PAV2 32/40 in bus stop carriageway to SD01-002 and SD04-017
- Lay new white road markings
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 - 200x100x65 PCC block pavers as Standard Detail SD01-006-I (natural grey pavers)
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 - 400x400x65 tactile slab paving - buff hazard paving



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Project
A37 / A4018 Strategic Corridor

Title
**Victoria Street Remodelling
General Arrangement
Full Site**

Client
Strategic City Transport

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06/11/2023

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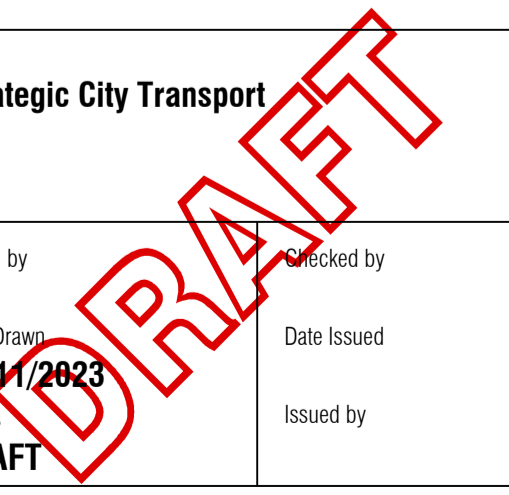
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Project Number
E19070

Drawing
200-WD04

Revision



**A37/A4018 Transport Corridor – Early Engagement Report
- September 2020**



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1. Summary

Between 24 July 2020 and 21 September 2020 Bristol City Council in partnership with West of England Combined Authority (WECA) conducted early engagement on introducing significant improvements to the A37/A4018 transport corridor following the number 2 bus route.

Over 245 stakeholders and 1200 local businesses were engaged and 1261 comments were received from the general public through the survey, mapping tool, emails and phone calls.

This is a report on the methodology and the outcomes of the early engagement. See 'Appendix 1 – Summary of Early Engagement Report' for more detail.

2. Background

Over the next 10 to 15 years Bristol City Council and WECA are proposing to introduce significant improvements to key transport routes across the city. They have committed to developing and improving bus services as a priority for the city in partnership with First West of England.

This is an ambitious project to improve how people travel across the city along key transport routes, making it easier to connect people to jobs and leisure opportunities, anticipating growing population and supporting the city's health and economic growth.

The aim is to make it easier and more convenient to use the bus, walk and cycle wherever possible, rather than use private cars. This project aims to make walking and cycling more attractive and to give priority to buses through infrastructure improvements. This would reduce air pollution to improve the health of everyone.

This project therefore looks at the longer term aspirations to grow bus travel and First West of England have committed to a future Bus Deal with the WECA and Bristol City Council. This will ensure that the city and bus operators can work together to improve journey times, increase passenger numbers and expand the network,

Over the last few years cycling and walking levels have remained high compared to other major cities and Bristol has seen growth in bus use. The Coronavirus pandemic has presented extra challenges – bus travel has by necessity, substantially reduced during the lockdown. At the same time cycling has seen a significant increase.

Without significant investment in walking, cycling and bus infrastructure it will be difficult to encourage people to drive less and only use cars when essential, particularly as we recover from the coronavirus pandemic. Investment is needed to tackle high levels of traffic congestion and reduce levels of air pollution.

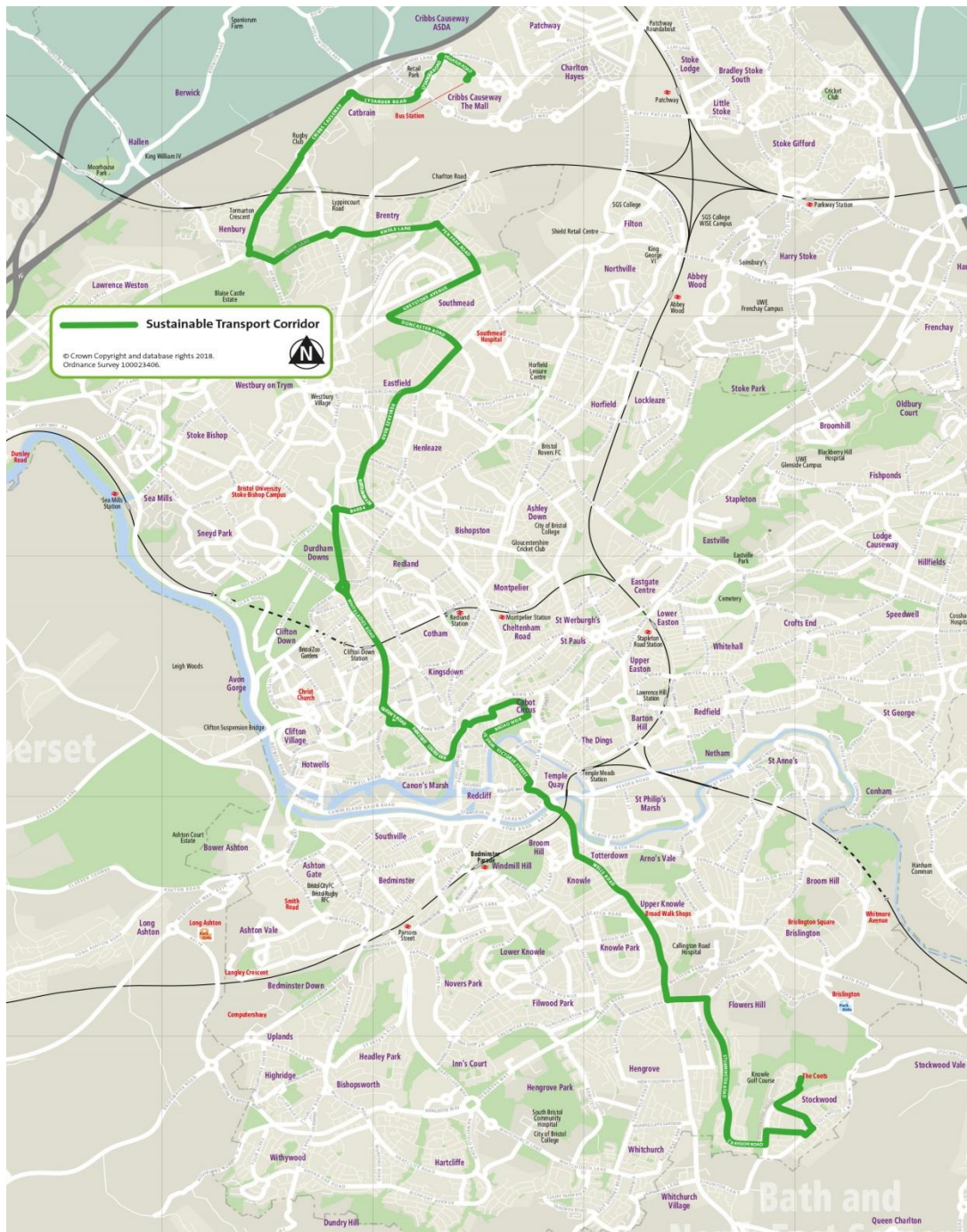
2.1 What is proposed?

The scheme will look to help buses get through junctions quicker and provide more space for cyclists to give them protection. Priority will be given to main roads to help keep buses moving and side roads will benefit from less turning movements and rat running to improve the neighbourhood environment.

The first route to be considered for improvement goes from Stockwood to Cribbs Causeway (A37/A4018) it follows the number 2 bus route. The route starts in Stockwood and travels along the A37 through Knowle and Totterdown into the central area calling at Temple Meads. It then heads north along the A4018 and travels into Henleaze, Southmead and Henbury before arriving at Cribbs Causeway.

Early engagement with local people and those who travel along the route began in 24th July 2020 and finished 21st September 2020.

Below is a map showing the A37/ A4018 transport route:



2.1.1 Interdependencies

During this period of engagement the easing of the lockdown was beginning and as such Bristol City Council introduced some new and temporary measures to support cycling, walking and future bus travel as well as access to shops. Much of this was installed in central Bristol and included the Old City Pedestrianisation and the Bristol Bridge and Baldwin Street bus gate and bringing forward some of Cycling and Walking Infrastructure plan. All of these projects are linked as they form part of bus route 2.

There are also a number of other projects / strategies that needed to be considered in implementing this engagement plan. The A4018 project/ Westbury Village needed careful planning to ensure we were clear what's being considered given the previous engagement exercise and the WECA bus strategy had only recently been completed in June but was being revisited due to Covid 19.

2.1.2 Objectives of engagement and communications

The main aim of the engagement exercise was to:

- explain the scope and objectives of the wider project and to establish a link to the short term work taking place during the Coronavirus period
- seek views from key and critical stakeholders at an early stage, on priorities, what they think should change and issues and concerns to inform preliminary design of the transport corridor
- seek views from local people living and working along the corridor, those travelling along the corridor, and businesses, at an early stage to inform preliminary design of the route
- begin a constructive dialogue and create the environment where people can be involved throughout the process of design and implementation
- create a good understanding of the scheme and its benefits amongst stakeholders, local businesses, local people and commuters
- demonstrate Bristol City Council is prioritising sustainable transport options to help Bristol become a sustainable city with a low impact on our planet and a healthy environment for all

In order to achieve these objectives the team agreed upon key messages such as:

- Bristol is committed to working with local people and partners to improve sustainable transport across the city.
- We have introduced some short term measures during the Coronavirus Pandemic aimed at making it easier for people to choose to walk, cycle or catch the bus – this project looks at the longer term solutions to provide better transport and an improved environment.
- We are improving key routes across the city to make these journeys easier, improving conditions for all forms of transport and those that live and work along those routes. This includes changes to junctions, creating bus gateways, improving reducing traffic on side roads and improving the environment for everyone.
- The first corridor we are considering is the transport route that the No 2 bus takes which travels from Stockwood through to Cribbs Causeway.
- Part of this route will be seeing improvements in September around Bristol Bridge as part of measures to help people as lockdown eases – this change will not form part of this engagement.

- We will be talking to businesses, local people living and working along the corridor, and those people travelling the route by all modes of transport during July to Sept 2020 to get early thoughts on what works well, what could change and how people would like to be able to travel. These will help us to produce some initial designs for how the corridor could change.

The target audiences for this project include stakeholders such as:

- BCC ward members
- MPs
- South Gloucestershire Council
- Hospitals
- Universities
- Bristol One City Transport Board
- Internal stakeholders/project teams
- Business West / Federation of Small Businesses
- Business Improvement Districts (BIDs)
- Transport operators

The other target audiences are the transport users themselves such as:

- Bus users – people that travel part or all of the route
- Local people who live on the route or on side roads
- Commuters on the route
- People affected by traffic through the corridor
- Area committees
- Local groups
- Shops / business on the route

2.2 Engagement Tools

Due to the Coronavirus the way in which we would ordinarily engage has had to be reimaged. The restrictions on face to face engagement due to the lockdown and people shielding has meant the team has had to think about the different ways to engage with people. The team choose to enhance the online experience with the development of a virtual exhibition as a physical one could not be achieved due to the restrictions on face to face engagement.

The team would ordinarily have set up workshops and events to capture thoughts on maps where people could explain their issues and discuss their ideas. Instead a survey was created to ensure we could record information from people about their general thoughts and ideas for transport corridors. The creation of the interactive mapping tool was also essential as it provided the ability for them to pinpoint their particular issues geographically.

Therefore the team created a range of tools to be used for the project to convey information and record comment and suggestions during the engagement. These included:

- online virtual exhibition hosted by Arups which was situated on the Travelwest website. video was created to introduce the project on the virtual exhibition site

- online survey hosted on Citizenspace and accessed via the Travelwest website
- online interactive mapping tool where people could post their comments about specific areas along the route
- Travelwest webpages included the background information on the project, FAQs and links to the survey and virtual exhibition.
- paper booklet that was the offline version of the exhibition, survey and map (this was also available in different formats on request such as easy read, translations, braille etc)
- postcards were created for direct mail purposes

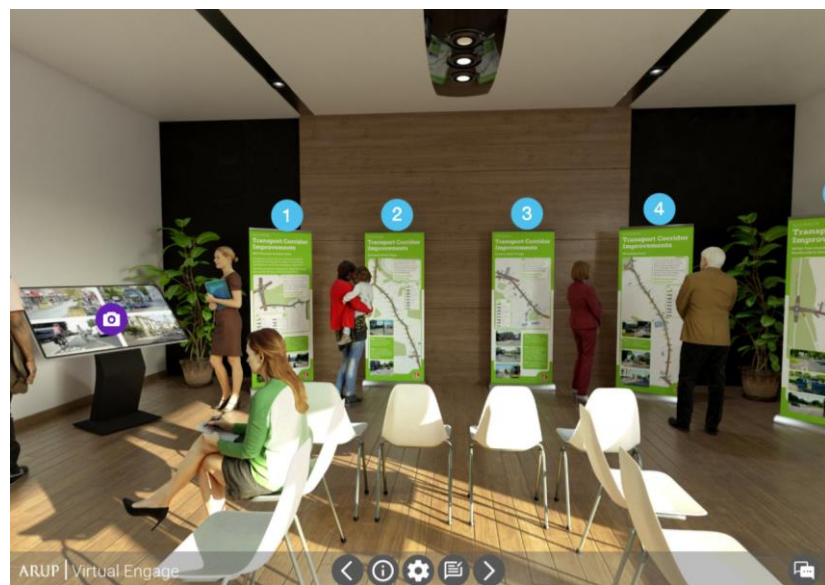
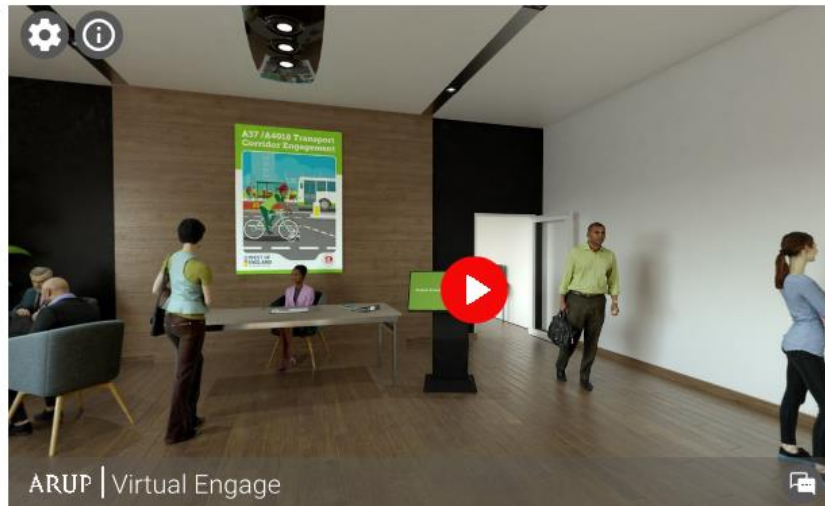
2.2.1 Virtual Exhibition

This included the video as an introduction talking you through the project and how to use the site. Once that was complete you took a tour of the site and were greeted with a map of the route and images of possible infrastructure ideas such as continuous footways, planters and bus gates etc. There were also seven display boards each detailing certain sections of the route that the project team wished to highlight which were:

- West Town Lane to Airport Road,
- Broadwalk to Bath Bridges,
- Centre to Clifton Triangle,
- Whiteladies Road,
- White Tree roundabout to North View/ Northumbria Drive,
- Southmead Road (Henleaze to Doncaster Road section) and
- Crow Lane roundabout to Henbury Road

On each board was a map of the section, photos of the roads and some key facts to draw attention to issues that already exist in these areas. Once you had looked at all of the boards you are directed to fill in the survey and asked to put your comments onto the interactive mapping tool. The team also held 6 live chat sessions during August and September which were 2 hours long. These were held on different days of the week including weekends and at different times of the day to ensure everyone had a chance to join in on the discussions.

The images below show the virtual exhibition including the introductory video and transport board images:



2.2.2 Survey

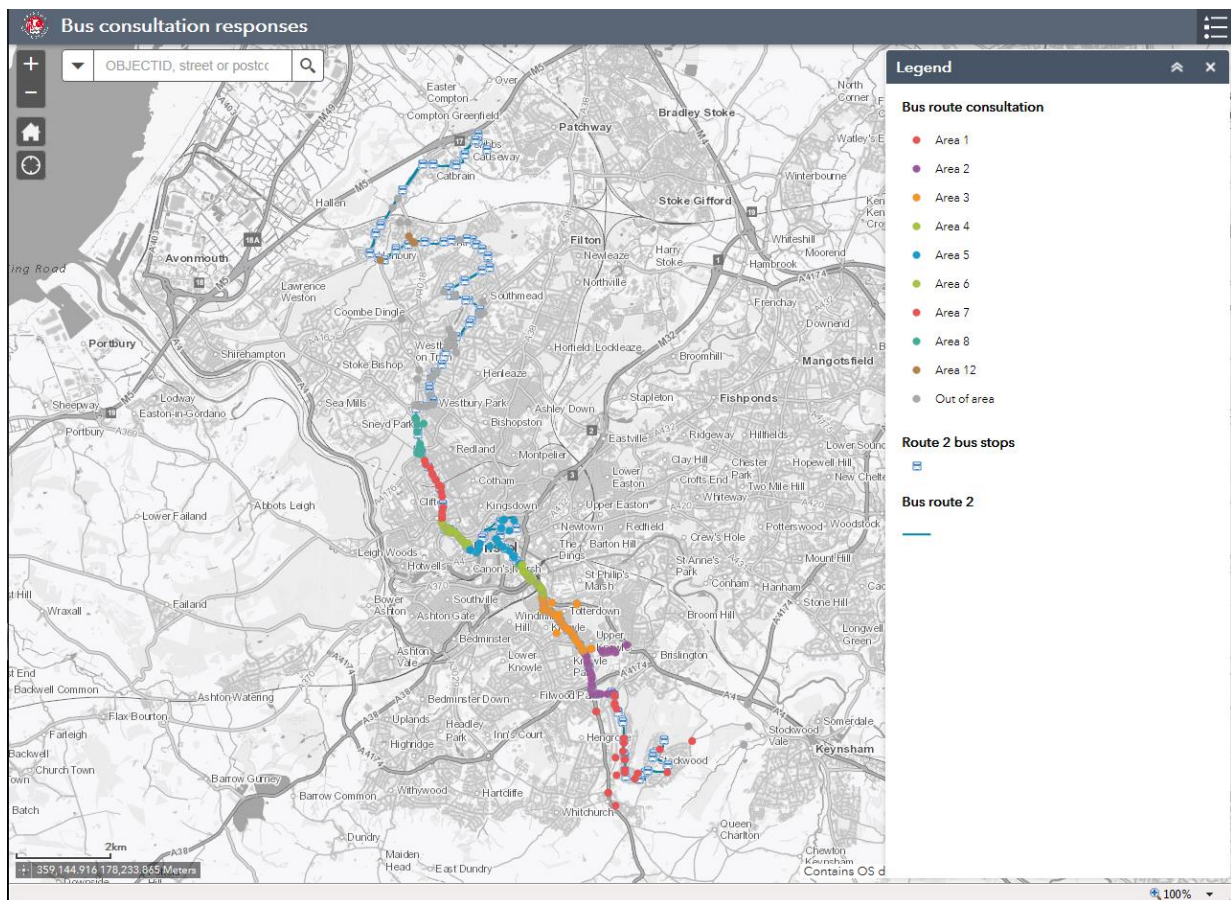
The survey was designed based on the healthy streets approach and was structured as follows:

- 2 questions describing the respondent in terms of who they are and travel habits
- 4 questions about the route asking about reallocation of road space, difficulties and improvements and post lockdown habits
- 7 questions about certain sections of the route
- About you section to capture demographic and equalities data
- Contact preferences if individuals wanted to be informed of progress on this project and future engagements / consultations

See 'Appendix 2 – Transport Corridor Booklet' to see the paper version of the survey which reflects the online version of the survey.

2.2.3 Interactive mapping tool

This map has been created to allow people to pinpoint their exact position on the transport route and to add their issue which can be categorised using prepopulated issue types such as cyclists issues, crossing points, pedestrian issues, safety, bus issues, bus stops/shelters, clean air, noise etc. If the issue types did not cover the comment people could choose 'other' and continue to add their comments. The image below shows the mapping tool to illustrate how people were able to add their comments. The different colours on the route map refer to different areas on the map and for a list of these can be found in section '3.3.5 A37 / A4018 transport route map':



2.2.4 Supporting communications

The team also created a social media toolkit which included images of the engagement and text for use in their communications and suggested web friendly copy for website, facebook posts, twitter etc. The team also created a press release and copy for newsletters that were used with the sustainable transport business network and other local organisations.

As a partner to the project, First group also helped spread the word through printed adverts on the number 2 buses and social media posts through their app. Posters were also put up on bus shelters in areas of high footfall such as Broadwalk shopping centre, Clifton Down shopping centre and in the central area.

2.3 How we engaged

The first stage of engagement was to contact all of the critical and key stakeholders in advance of the engagement going live. An email was sent to all of the stakeholders a week before the start date telling them about the project, offering opportunities to speak to the project team asking for their input and asking how they felt the council should engage. A follow up email was sent a week later announcing the beginning of the engagement process and asking for them to spread the word through the use of the social media toolkit that was created.

The press release announced the launch of the engagement process and was followed up with news articles in the We are Bristol, Ask Bristol and Our City newsletter and the Mayors blog. As noted above emails were also sent to various stakeholders including the Voice and Influence partnership to ensure all voices in the communities in Bristol are given a chance to have their say.

There were regular social media posts from both the twitter and facebook accounts and paid posts were also used to target certain demographics to boost responses. The posts also tagged certain groups to get them to spread the word such as walking, cycling and bus user groups. These social media posts were also promoted by the Travelwest, Betterbybike and other transport social media accounts.

Emails and newsletters were also sent to the sustainable transport local business database which is made up of businesses whose have an interest in transport and active travel. Information was also sent to schools in the area via the school active travel team and local community groups using the ward spreadsheets put together during the intelligence gathering.

To ensure we heard from all communities over 4000 postcards were sent to all households and businesses along the route. This was to let them know the engagement had started with a link to the webpage and with the contact details if paper copies were required or a phone appointment or meeting was requested. The team also distributed the paper booklets to libraries, community centres and public buildings that were open along the route.

See below images of the postcard and poster that were circulated as described above:



2.4 Less heard communities

Traditionally the younger population, those from ethnic minority groups and those living in the most deprived wards are often less heard from. So to ensure we gave those communities the chance to get involved we posted 1700 paper copies of the survey and map in the form of the booklet to all of the households in those areas. Using the indices of national deprivation and ward profiles it was agreed in terms of deprivation to focus on Henbury and Brentry to the north and Stockwood to the south and for younger people and BME groups along the route the team focused on the central ward. Social media posts also targeted these groups and encouraged them to respond.

In pre covid19 times we would have followed these up with targeted door knocking in these wards and interview surveys at selected areas where footfall is particularly high such as Broadwalk, Clifton Down shopping centre , Crow Lane high street, Broadmead, Park Street shops, Whiteladies, Henleaze Road shops etc. If events had been allowed the plan was to book events in each ward along the route and present a paper based version of the online map asking people to put coloured dots on the map grouping their issue in different colours. The plan was to also have the team on the buses asking people to fill in the survey but due to the nature of restrictions this could also not happen.

On all of the paper and online copies of the engagement outputs the team provided a phone number which had an answerphone function. People could call and leave a message asking a question or leaving a comment and someone would get back to them. An email address was also provided along with a written address so people had a choice of how they wished to communicate. The team also offered phone surgeries and virtual meetings to allow people to speak to the team if they had any questions and queries.

3. Results Summary

3.1 Stakeholder Feedback

The team identified 245 stakeholders and put these into two categories: critical and key stakeholders. The critical stakeholders were defined by those who were most closely connected or affected by the project. Key stakeholders were defined by those represented groups /members in different sectors of community and who had influence and reach to comment and help spread the word of the engagement.

Critical stakeholders

The team sent 107 emails a week before the engagement process started to critical stakeholders that included representatives of the emergency services, One City Transport board, elected officials such as MPs, Cabinet Members and ward members and equality groups. The email detailed the project and asked for input into the engagement process and offered a meeting or discussion to talk through the project. 107 follow up emails were sent a week later letting them know the engagement had begun and asking them to use the social media toolkits to help increase the reach of the engagement.

Key Stakeholders

The team also sent 138 emails to key stakeholders a week before the engagement process to warning them of the project. These included education representatives of universities and colleges, business groups including the Business Improvement Districts, Business West and Federation of Small Businesses, wider circulation to emergency services and equality groups such as Bristol Physical Access Chain, other local authorities and WECA, Utility providers and to wider transport groups such as Bristol Walking Alliance, Bristol Cycling Campaign, Sustrans, National express, taxi forum etc. Again 138 follow up emails were sent the first day of the engagement.

Before the engagement began the team received 20 emails from different stakeholders wanted to talk further and who welcomed the advance notice and were keen to assist with the reach. In addition five meetings were also held and were a mix of onsite and virtual to talk to different stakeholders about their specific requirements. This included conversations with MP Darron Jones office and they distributed the link via emails to constituents and used the toolkit on the facebook group and offered paper copies of the booklet.

Other stakeholders who contacted us included Totterdown Residents Environmental Social Action group (TRESA), Transport for Greater Bristol, Bristol Walking Alliance and Bristol Physical Access Chain who all offered their assistance, asked specific questions and helped circulate the email link to all of their members.

During the engagement period we also had discussions with the Transport Board Disability advisory representative, neighbouring councils and some housing associations along with several ward members. The Transport board disability advisory member asked question about how the scheme will extend to Cribbs Causeway, about bus priorities at Temple Meads and Bristol Bridge. Also suggestions were made such as Park Street needs to be buses only with taxis and improve walking

and cycling routes. Clifton Down station needs better interchange facilities and need information displays in shopping centres.

An email from the Transport for Greater Bristol (TfGB) was also received which noted their main concerns about the way traffic continues to use parallel semi-official rat runs such as Pembroke Road and Hampton Road parallel to A4018 or Redcatch Road and St Lukes Road parallel to the A37. This is the worse for being a largely unmeasured and uncontrolled situation: one also which exacerbates traffic conditions on the official main roads due to congestion at the junctions where their flows merge. They also submitted their Traffic management plan and LRT plan for Bristol and Bath as supporting information.

Below is a summary of responses that submitted a specific document on this project. For a full list of comments see Appendix 3a to 3e – Stakeholder responses:

Bristol Walking Alliance	<p>Strongly agree with reallocation of road space away from cars for more bus, walking and cycling infrastructure and will be essential as part of the council achieving the 2030 goals for Climate Emergency and clean air targets. Support Healthy Streets being used as a design tool.</p> <p>Pedestrians - included wider pavements at bus stops, pavements width should be proportionate to pedestrian numbers and implement continuous footways on side junctions. Improve crossing points for pedestrians and where possible single stage and provide seating on well used routes.</p> <p>Buses – bus lanes and bus priorities needed in the lead up to busy junctions, information displays and seats at all bus stops, transfer points to other bus routes sited close to each other.</p> <p>They also provided detailed comments on the seven sections of the route that were highlighted by the survey.</p>
Bristol Cycling Campaign	<p>In order to enable cycling the route will need to depart from the no.2 bus route and use more appropriate or direct routes. Although this is a bus deal any designs must comply with national guidance as detailed in the LTN essentially provide segregated cycle routes throughout as a starting point. This is key cycling route eg Bristol routes 3 and 4 in the LCWIP and should be referred to.</p> <p>They also provided detailed comments on the seven sections of the route that were highlighted by the survey.</p>
Bristol University	<p>The university provided a detailed spreadsheet of proposals for their area that coincides with the number 2 bus route and includes pop up cycle lanes, filtered permeability, widening of footways, implement crossing points, cycle parking and school streets.</p>
Joint letter labour party	<p>Expressed support for the engagement and made suggestions for a segregated cycle track on A37 between Whitchurch Village and A4174 and need improvements for bus stops and parking. At the West Town lane / Wells Road junction this requires a crossing that gives pedestrians controlled lighting. Also create islands on the central divide with barriers suitable for bicycles to keep people safe.</p>

Living Streets Group, Bristol	The group produced a Walkability Report for Broadwalk to Bath Bridge which details feedback by volunteers on obstacles and benefits on the route. The report was broken into two sections: A - Wells Road from Broadwalk to School Road B - Wells Road from School Road to Three Lamps then Bath Road to Bath Bridge
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3.2 Local Businesses

The team contacted local businesses along the route via email and phone calls to ensure they had received the postcard and to ask them to provide feedback on their thoughts. This also provided an opportunity to raise awareness of the sustainable transport key offers the team can provide such as 50% match funded grants, electric loan bikes, e-cargo bikes etc.

The team contacted over 750 businesses along the route via email or phone calls to let them know about the engagement process. Many of the businesses were closed down for Covid19 or they were national chains, in spite of that we had nearly 270 businesses that were interested in the engagement and offers.

The team also sent out an email to all of the businesses on the sustainable transport business database with an article in the newsletter to ask people to comment. This has over 450 business members and has a citywide reach so we engaged with around 1200 businesses in total.

We had positive feedback as some had never been engaged by the council like this before and they appreciated being asked to contribute.

3.3 Public Feedback

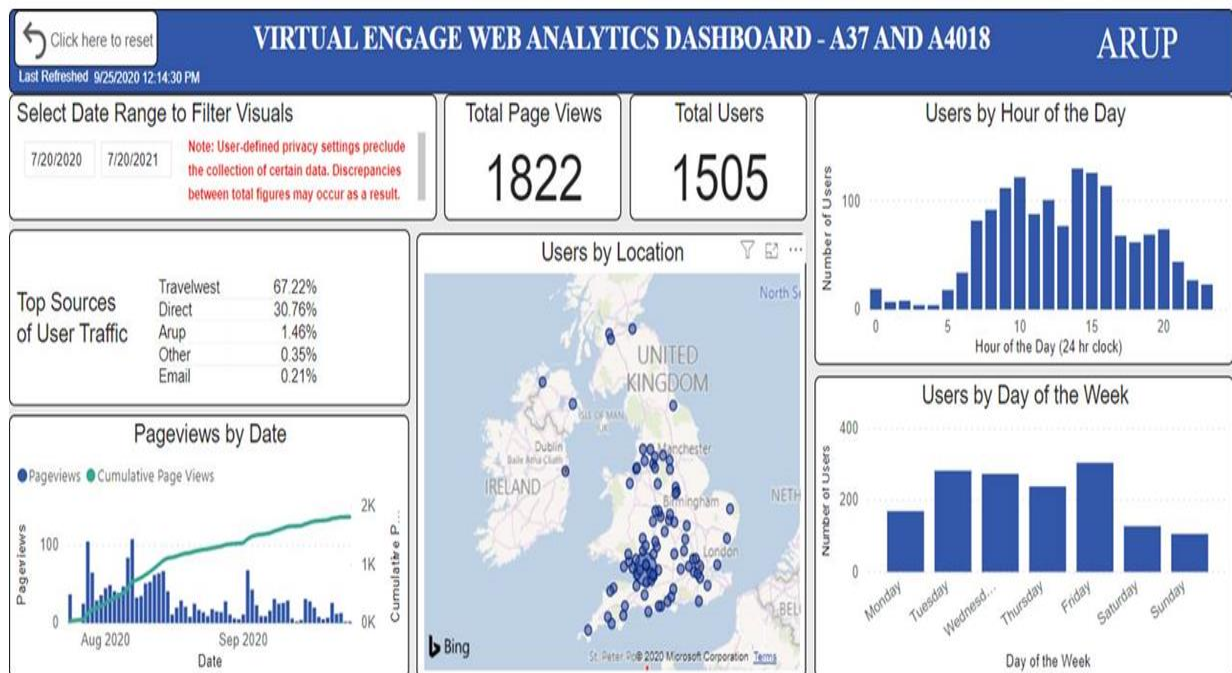
Below details the response to the virtual exhibition, interactive mapping tool, survey (including paper copies) and emails/ phone calls received. The number of comments received totalled 1256 which was made up of 556 survey responses, 648 comments on maps and 51 emails/phone calls. We also received over 1500 users who interacted with the virtual exhibition.

The team are happy with this response rate considering this engagement was carried out during Covid19 restrictions which meant we were limited on our engagement methods. Also at the same time the council launched the Bristol Bridge bus gate, pedestrianisation of the Old City and the Bristol Streetspace walking and cycling improvements which also required engagement with the public and stakeholders.

3.3.1 Virtual Exhibition analytics

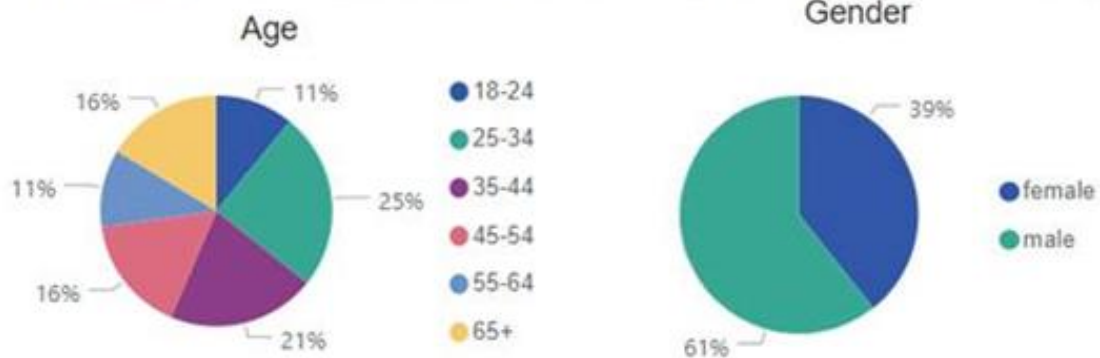
The virtual exhibition accrued over 1822 page views and has a total of 1505 users who interacted with the page and read the information available to them on the site. Below shows a dashboard of

the statistics:



The most popular time of the day to visit the site was around 9 and 10am in the morning and 2 to 3pm in the afternoon and in terms of days of the week Friday was the most popular. Most website traffic came from the Travelwest website with 67% of the visitors and most page views happened two times during August and another September which coincide with targeted social media posts.

User Demographics and Systems (All Users Across Entire Consultation Period)



Most people who visited the site lived in Bristol and we had a fairly even split in terms of age groups with all age groups represented and male visitors outnumbered female visitors.

Live chats

The team held six live chats over the period of the engagement and offered 398 live chats during this period. Most people didn't require support but some were able to ask a few questions about the engagement which included questions about the timescales, bus route and some wanted to talk about improvements.

3.3.2 Survey results

A total of 517 online responses to the survey were received over the engagement period and 45 paper booklets totalling 562 in total.

Below is a summary for each question with the headline findings and breakdown of responses:

Q1 – Which of the following best describes you? Tick as many as apply

Summary:	Of those who filled in the survey 65% were residents and nearly 58% walk along the route.
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Q1	Which of the following best describes you? (Tick as many as apply)	
	65%	Residents along the route
	1%	Business owner along the route
	18%	Work along the route
	42%	Bus user along the route
	45%	Cyclists along the route
	58%	Pedestrians along the route
	55%	Car driver along this route
	0%	Taxi/private hire driver along the route
	21%	Regular visitor to the area
	1%	Voluntary /community group or social enterprise along the route

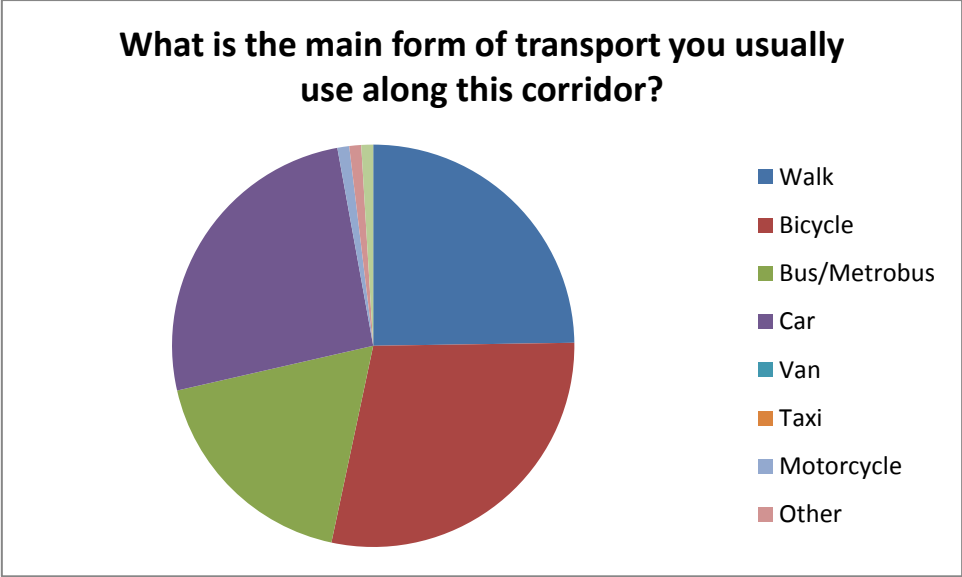
Response Rate: 99%

Q2 – What is the main form of transport you usually use along this corridor?

Summary:	Of those who filled in the survey 30% cycle along route, 27% drive and 26% walk so a very even split.
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Q2	What is the main form of transport you usually use along this corridor?	
	26%	Walk
	30%	Bicycle
	19%	Bus/Metrobus
	27%	Car
	0%	Van
	0%	Taxi
	1%	Motorcycle
	1%	Other
	1%	Not answered

Response Rate: 99%

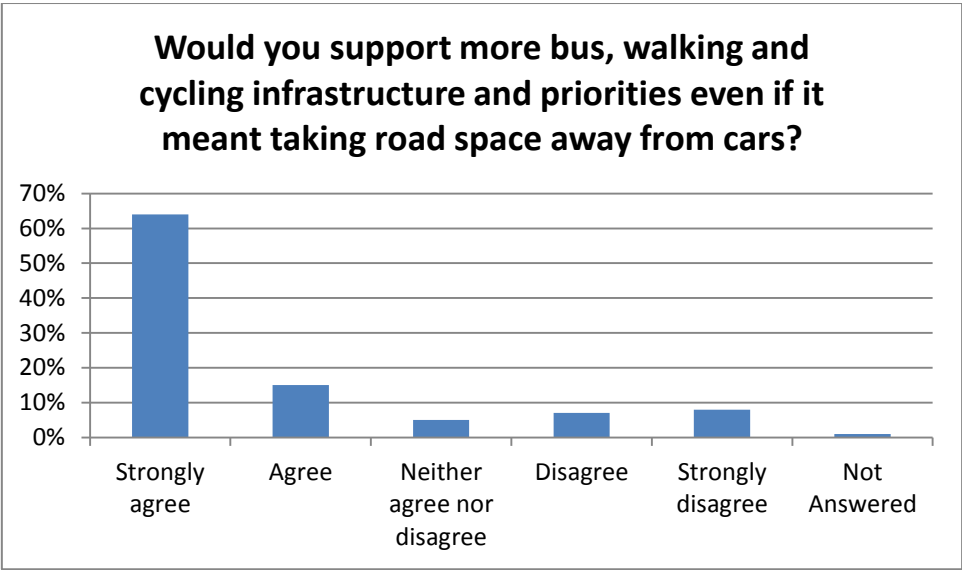


Q3 - Would you support more bus, walking and cycling infrastructure and priorities even if it meant taking road space away from cars?

Summary:	79% agree and strongly agree to take road space away from car if it meant providing more bus, walking and cycling infrastructure and priorities.
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Q3	Would you support more bus, walking and cycling infrastructure and priorities even if it meant taking road space away from cars?
64%	Strongly agree
15%	Agree
5%	Neither agree nor disagree
7%	Disagree
8%	Strongly disagree
1%	Not Answered

Response Rate: 98%



Q4 - Do you agree or disagree that the following should apply to main transport corridors:

Summary:	Over 70% of people strongly agreed that having safe crossing points and feeling safe should apply to main transport corridors, closely followed by clean air and place people can walk and cycle.
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Q4 Do you agree or disagree that the following should apply to main transport corridors						
	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Not answered
Have safe crossing points	76%	20%	4%	0.3%	0.2%	1%
Have enough shade and shelter	32%	35%	27%	4%	1%	2%
Have places to stop and rest	27%	37%	28%	6%	1%	2%
Minimize traffic noise	44%	32%	20%	3%	1%	1%
Be places people can walk and cycle	68%	19%	7%	4%	1%	1%
People feel safe	73%	22%	3%	1%	0%	1%
Have things to see and do	15%	30%	41%	8%	3%	2%
People enjoy using that route	36%	38%	20%	3%	1%	2%
Have clean air	66%	24%	7%	1%	1%	1%

Response Rate: 98%

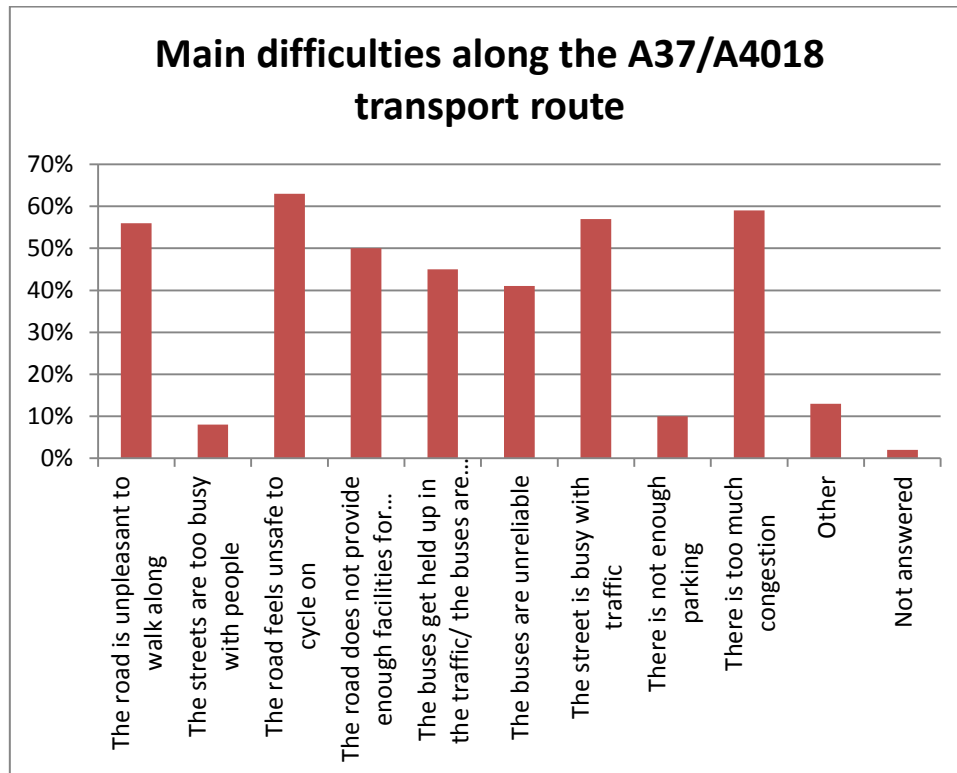
Q5 -What are the main difficulties you currently experience with the street environment along the A37/A4018 transport route? Please tick all that apply

Summary:	Most people think the road is unsafe to cycle on and unpleasant to walk along as the streets are congested with too much traffic.
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Q5 What are the main difficulties you currently experience with the street environment along the A37/A4018 transport route?	
56%	The road is unpleasant to walk along
8%	The streets are too busy with people
63%	The road feels unsafe to cycle on
50%	The road does not provide enough facilities for bicycles
45%	The buses get held up in the traffic/ the buses are too slow
41%	The buses are unreliable
57%	The street is busy with traffic
10%	There is not enough parking
59%	There is too much congestion
13%	Other
2%	Not answered

Response Rate: 97%

58 people answered 'Other' to this question and the main themes were too many HGVs on the Wells Road, too much air pollution on the Wells Road and narrow pavements and too many cars pavement parking. Many want improvements to walking and cycling infrastructure and feel there are too many speeding cars.



Q6 - How important do you think the following improvements to the transport corridor are?

Summary: 64% want safer cycle corridors and 52% want more cycle priority

Q6 How important do you think the following improvements to the transport corridor are?							
	Very important	Fairly important	Important	Slightly important	Not at all important	No opinion	Not answered
Better lighting	14%	23%	20%	21%	11%	6%	3%
Easier to cross the road	45%	21%	17%	11%	2%	2%	2%
Wider pavements	35%	19%	13%	16%	12%	3%	2%
Safer cycle corridors	64%	8%	7%	11%	5%	3%	2%
More cycle priority	51%	12%	9%	9%	13%	3%	3%
Cycle parking facilities	26%	21%	19%	15%	11%	5%	3%
Bus priorities to speed up journey times	34%	26%	16%	10%	8%	4%	2%

Bus stops with shelters	32%	26%	21%	10%	5%	4%	2%
Traffic calming	35%	17%	16%	11%	14%	4%	3%
Increased greenery such as trees and bushes	34%	23%	18%	13%	8%	2%	2%
Other	17%	1%	2%	0%	0%	12%	68%

Response Rate: 91%

43 people answered 'other' to this question and the main themes were speeding traffic, need segregated cycle tracks uphill, improve road surface, more secure cycle parking, more formal and informal crossing points for pedestrians and stop pavement parking with barriers.

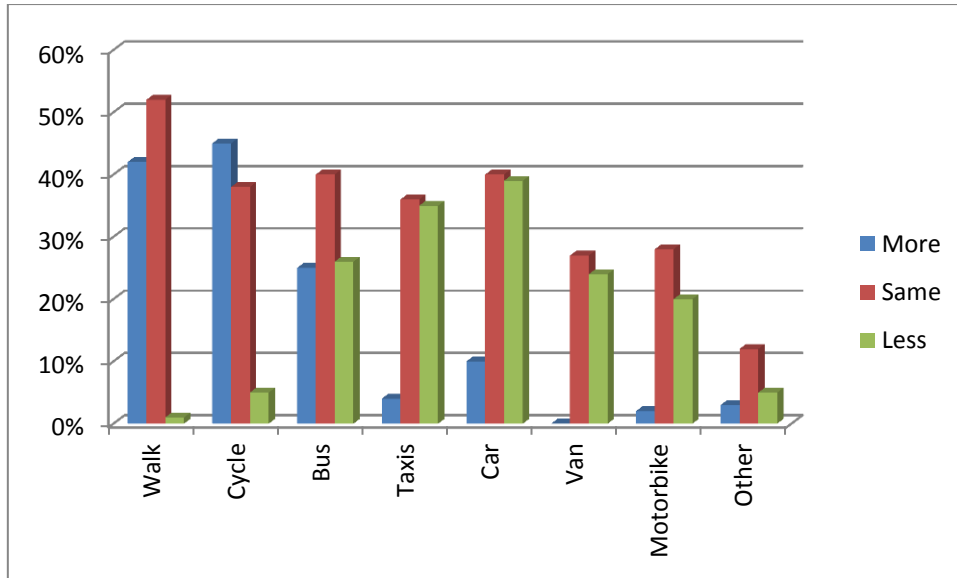
Q7 - When the lockdown restrictions begin to ease, are you planning to use the following modes of transport more or less?

Summary:	Over 40% of the people who answered the survey will walk and cycle more after lockdown and nearly 40% will drive less by car.
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Q7	When the lockdown restrictions begin to ease, are you planning to use the following modes of transport more or less?			
	More	Same	Less	Not answered
Walk	42%	52%	1%	6%
Cycle	45%	38%	5%	12%
Bus	25%	40%	26%	9%
Taxis	4%	36%	35%	25%
Car	10%	40%	39%	11%
Van	0%	27%	24%	49%
Motorbike	2%	28%	20%	50%
Other	3%	12%	5%	80%

Response Rate: 70%

33 people answered 'other' to this question and the main themes were pavements too cluttered, air pollution is poor, hills stop cycling and use quiet streets to walk around then main roads.



Q8 - What improvements would you make? West Town Lane to Airport Road

Summary:	Many comments relate to improvements to the Wells Road/Hengrove Way and Airport Road junction with regards pedestrians and cycling crossings and providing segregated cycle tracks along A37 Wells Road.
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Theme	Summary of comments
18 bus related comments	Request for bus improvements such as provide more bus lanes and bus priority at traffic lights to help reduce journey times. Make bus lane 24 hr from Whitchurch into central Bristol. Traffic priority at the junction with Airport Road.
60 cycling related comments	Continuous and segregated (1.5m+) cycle tracks on either side of the road with priority over side junctions. Advanced stop line for cycles. Segregated cycle track up wells road from Airport road, because it's so steep and cars are accelerating hard from a stop. The West Town Lane and A37 Wells Road junction could be a candidate for a Dutch roundabout with priority for people not cars. Take space out of the two lanes to make a bus lane/cycle lane. Provide fully segregated single-directional cycle tracks on both sides on Sturminster Road as there is adequate road width to accommodate.
28 pedestrian related comments	All side roads need to have full drop curbs, pavements need to be level and not full of lumps and bumps which inhibit wheelchair users being able to use it safely and it is essential that the pavements are not shared spaces and cyclist need to use the roads for the safety of all. Needs marked pedestrian crossings and green/red lights as it is currently very dangerous to cross Airport road/ Wells Road in any direction. There should definitely be pelican / puffin crossing at the junction of West Town Lane / Wells Road / Hengrove Way. Improved pedestrian crossing at traffic lights at junction of West Town Lane and Wells Road. There is no concession for pedestrian trying to at the West Town Lane junction. Given the number of schools in the area & immediate proximity.
26 road layout comments	Make the southbound left lane on Wells Rd left turn only to improve car and cycle access to Airport Rd. The outbound lanes as they approach the traffic lights cause congestion and dangerous driving. Make the left lane for turning left only so traffic waiting for green straight on signal doesn't block the cars turning left. This will reduce pollution avoiding idling. Difficulty turning left or right onto Wells Road need green arrow filter lights.

13 traffic light related comments	Improve the traffic lights to make it safer for vehicles and for pedestrians to cross at Airport Road / Wells Road/ Hengrove Way junction. The junction of Broadwalk, Wells Road and Priory Road would be safer if cars from Broadwalk and Priory road were given separate changes of the lights instead of the cars having to cross each other at the junction at the same time. Filter arrows for turning across Wells Road, you have to jump across in front of cars or can wait 2-3 turns to green before turning
3 speeding comments	Traffic calming for vehicles travelling along Callington road, as they travel very fast, particularly at night, and for the downhill section of wells road, between Callington rd and Broadwalk. Speed calming measures on Sturminster Road.

Q9 - What improvements would you make? Broadwalk to Bath Bridges

Summary:	Too many HGVs on the Wells Road, need more crossing points, continuous bus / cycle lane and improvements are required to the Three Lamps to Bath Bridges road layout for both pedestrians and cyclists.
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Theme	Summary of comments
48 bus related comments	Introduce bus lane as bus gets stuck in traffic. There is only space for one bus lane along most of the Wells Road, so why not look at 'reversible bus lanes'? This could be located in the centre of the road and used by inbound buses in the morning and outbound in the afternoon. Make the bus lane continuous. 24HR bus lanes needed. Bus priority at traffic lights (lights turn green as bus approaches), saves up to 20 seconds at each light. No parking or deliveries in bus lane with enforcement cameras during peak times.
91 cycling related comments	The cycle lane needs to continue all the way from Three Lamps to Broadwalk, not stop suddenly just as the hill gets steep. Cycle lane going up the Wells Road. An actual unbroken cycle lane that goes all the way to Temple Meads. Why has the section around Temple Meads and Bath Bridge been missed out on this? Reduce width of the road for motor traffic between Three Lamps and Temple Meads to allow space for proper separated cycling infrastructure and wider pavements for pedestrians and to slow traffic speed.
14 HGVs related comments	Ban or discourage HGVs from using the Wells Road as they pollute the area. Reduce lorry traffic significantly by building the ring road project.
55 pedestrian related comments	Putting more vegetation along the route may encourage walkers, help with air quality and carbon impacts, there is room to do this on some stretches of pavement on the A37. Either widen pavement to improve pedestrian/cycle use along the road or put in dedicated cycle and bus lane in both direction. Walking from Three Lamps to Bath Bridges is unsafe at the moment as there is not enough space for both cyclists and pedestrians on the pavements. The staged pedestrian crossing near Broadwalk is dangerous, pedestrians are left in the middle of the road waiting for the lights to change and often run across on red, have a single crossing all the way over. Have a second pedestrian crossing further down the Wells Road near Beaconsfield Road. All side roads need to have full drop curbs, pavements need to be level and not full of lumps and bumps which inhibit wheelchair users being able to use it safely. There needs to be more pedestrian crossings between the Broadwalk and the Coop in Totterdown. More pedestrian or zebra crossings along the Wells Road.
27 road layout	Unable to turn right from Wells Road onto Bellevue Road, causing unnecessary additional travel. The roads opposite to the Wells Road used as rat runs especially

related comments	Oxford Street and Cambridge Street, preventing residents from turning right from Bellevue Road onto Cambridge St. More double yellow lines around bend as these are blind spots especially when larger vehicles park on corners. Broadwalk junction needs redesigning e.g. inbound left turn filter to Broadwalk. Make Calcott Road and Wells Road junction no access. Reducing this route as a rat run for traffic avoiding the Broadwalk traffic signals. Improve road surface as too many pot holes and dangerous.
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Q10 - What improvements would you make? Centre to Clifton Triangle

Summary:	Need the road layout by the Triangle sorted for cyclists and pedestrians eg close Queens Road section and only allow buses, cyclists and pedestrians. Many request to remove parking on one side of Park Street for continuous cycle lane.
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Theme	Summary of comments
53 road layout related comments	Reduce/remove car traffic from Park Street to make it easier for the bus as well as reducing pollution and enabling cyclists and pedestrians to have a more pleasant journey up and down Park Street. Make dual carriageway in front of the museum a single carriageway. Roads all around the triangle need resurfacing, there are some big potholes which are particularly dangerous for cyclists. Add more greenery to absorb emissions; whether that is trees or plants but do not compromise road space in order to do this. Park Street works, is functional and feels like a safe place to walk/commute.
29 bus related comments	Quicker boarding of buses or more frequent buses so that they're not waiting 10 mins in rush hour to depart. Also removing Broadmead as a changeover/idling area as the bus waits for 10 mins in Broadmead and then 10 min at this bus stop adding to journey time. Bus priority lanes on the triangle, remove parking from Park Street. Park street no through route except for buses enforced by camera (taxi access only).
84 cycling related comments	Make Triangle bi-directional for cyclists (in a continuous and segregated cycle track). Replace parking and traffic lanes with restaurant/bar seating where appropriate. Widen pavements. Make Park Street open to bikes, buses and taxis only. Uphill segregated cycle track on Park Street. The cycle lane that stops by College Green needs to extend up the hill. Ideally it needs to not be contraflow; turning into it from downhill is a nightmare.
23 pedestrian related comments	Stop so much parking along Park street and give pedestrians priority at side roads. There are no crossings between College Green and the Triangle. Queens Road should be completely pedestrianised. Park Street should be closed to most traffic, open only to buses, cyclists and access for residents – plus business restocking at limited times of day.

Q11- What improvements would you make? Whiteladies Road

Summary:	Junction at the top of Whiteladies Road is dangerous for cyclists and confusing for pedestrians. Reduce on street parking to allow proper separated continuous cycle infrastructure.
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Theme	Summary of comments
22 bus related comments	Get parked cars off of the road so buses can move quickly. Build a tram line instead of buses along this route. A lot of investment along this route already why need more? More affordable and reliable buses required and 24 bus lanes on key routes.
102 cycling related comments	Safe, separated cycling infrastructure throughout, even if it means taking space from cars. Whiteladies Road doesn't have a continuous lane. The traffic islands are effective at traffic calming and allowing pedestrians to cross, but the road would benefit from a couple more between Whatley Road and Aspley Road. Top of Whiteladies Road is a no-go zone for many cyclists. Fully segregated infrastructure should be a top priority here.
19 pedestrian related comments	More priority for pedestrians when crossing side roads. Close Roman Road to cars (and consider removal to improve Downs). All side roads need to have full drop curbs, and not drop into drain covers, pavements need to be level.
30 road layout related comments	Remove parking on Whiteladies road to allow continuous bus lanes to be added. Make the gyratory system at the top of Whiteladies safer and more pleasant by removing traffic lanes / adding calming measures (narrowing, planters etc.). Reduce on street parking to allow proper separated continuous cycle infrastructure.

Q12 - What improvements would you make? White Tree roundabout to North View/ Northumbria Drive

Summary:	The White Tree roundabout needs improving particularly from North View as it is dangerous for all users.
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Theme	Summary of comments
10 bus related comments	Covered bus stop outside Westbury Park Tavern (opposite Waitrose) in Northumbria Drive - currently just a bus stop post with no protection from the elements. The Westbury Road bus stop for route 2 is in a very awkward and narrow place. Right at the turn off from the roundabout. Remove bus lanes. Inbound bus lanes never have buses in them and create longer queue of cars.
56 cyclists related comments	Better way for cyclists to cross the white tree roundabout. Enhance separation of cyclists from cars and improve the ability to cross the road for both pedestrians and cyclists. The roundabout is especially challenging as a cyclist. A dedicated cycle lane when approaching the roundabout from Northumbria Drive. At the moment they have a cycle lane at the end of Westbury Park Road, but then are stranded at the roundabout itself. Provide a fully segregated single directional cycle track down North View by narrowing the lane widths to 2.75m (enough to allow HGV and Bus to pass). Consider closing the side roads to allow for pedestrian and cyclist permeability and reduce rat running, otherwise provide a continuous footway to encourage pedestrian and cyclist priority over the side roads.
52 road layout related comments	Turn the White Tree Roundabout into a Dutch roundabout, like the one in Cambridge with segregated cycle tracks encircling the roundabout, with the zebra crossings becoming parallel crossings. Car parking removed on North View. Change layout that lets Westbury Park Road users who may be rat running to exit and add to the blockage of North View which holds up buses.
17	Zebra Crossings on Parry's Lane and North View in place of existing crossing points.

pedestrian related comments	Why does Bristol seem to specialise in having pedestrian crossings actually at roundabouts? This is a high-traffic junction, but there is traffic from all directions so I think the roundabout is actually quite efficient. The Zebra crossings are not in a great location on the roundabout from a safety perspective, but they do represent a direct route when walking. Widen pavements for shoppers and removal of parking on North view.
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Q13 - What improvements would you make? Southmead Road (Henleaze Road to Doncaster Road section)

Summary:	Most comments about the dual carriageway and the need to make it safer for buses and cyclists and the suggestion of a removal of the mini roundabout to make it safer.
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Theme	Summary of comments
22 bus related comments	New direct bus routes or more frequent buses on the most commonly used route people use private transport for. No 2 bus need to extend journey through inside the Southmead hospital. It will help people the public who visit the hospital and staff who travel to Cribbs Causeway. Suggest the bus stop on Southmead Road by traffic lights with Doncaster Road be moved or double yellow lines are put opposite. When buses turn onto Southmead Road from Doncaster Road and stop at this bus stop traffic is regularly held up causing problems at the traffic lights. Convert B4056 dual carriageway to single carriageway with bus lanes.
42 cyclists related comments	Better cycle lanes/cycle priority for turning right at B4056 roundabouts. One way segregated cycleways on each side of the road. Separate or segregated cycle tracks. Cyclists travelling from the B4056 to Wellington Hill West are not provided for. The dual carriageway discourages cycling in this location.
10 pedestrian related comments	Pedestrian Crossing (traffic lights) across B4056 as you approach roundabout. Make it easier to cross the road (dual carriage way) from the bus stop just after the junction of Lake Road and Southmead Rd to access the nearby streets in Henleaze. Also, plant more trees and shrubs to make this part of Southmead Rd more welcoming and attractive.
26 road layout related comments	The double-mini roundabout is very confusing and should be improved. The lane selection isn't clear and maybe that could be aided by clearer signage or road marking. That section of Southmead Road, up to the double roundabout is constantly busy. More so since the new hospital opened. To encourage more people to use the bus upgrade all the bus stops.

Q14 - What improvements would you make? Crow Lane roundabout to Henbury Road

Summary:	Improve Crow Lane roundabout as congested and dangerous for cyclists and pedestrians.
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Theme	Summary of comments
13 bus related comments	Increase number of buses to improve punctuality. Crow Lane has more than enough bus routes serving it to compensate for punctuality issues. All frequent bus services on that route serve both The Mall and the centre.
39 cyclists	One way segregated cycleways on each side of the road where there are no bus lanes.

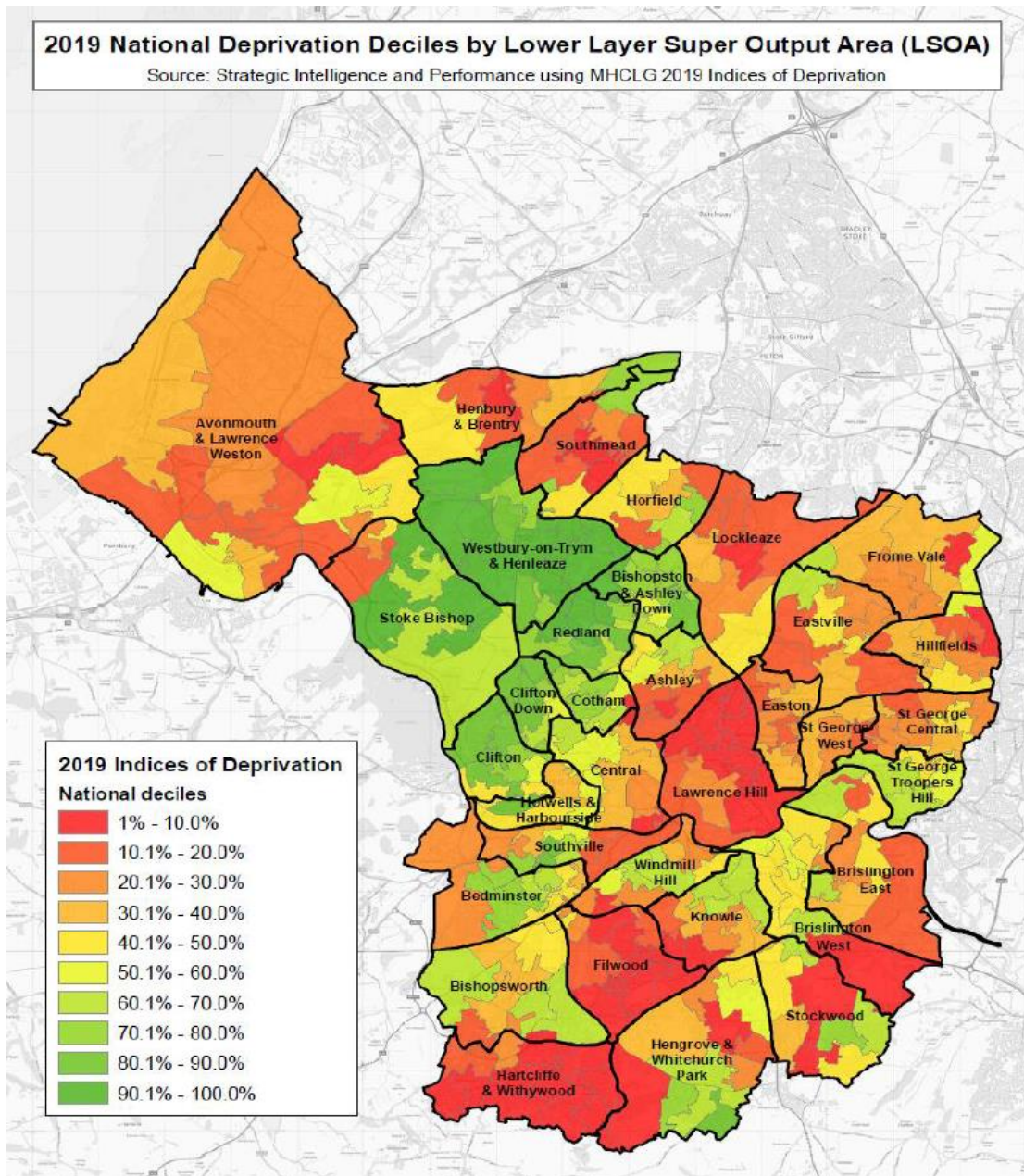
related comments	Crow Lane roundabout is incredibly dangerous. Crow Lane roundabout is not a pleasant place to be as a pedestrian or cyclist, environmental and crossing improvements could be made. Provide a fully segregated single-directional cycle track on both sides of Crow Lane.
10 pedestrian related comments	Sheltered pedestrian footbridges that are sloped and have cycle lanes going over the busy roads. Safer for walkers and the school times of street activity.
27 road layout related comments	Remove Crow Lane roundabout and install traffic light. The roundabout at the Old Crow is very intimidating to cyclists. There are no gaps in traffic and its fast moving between the two dual-carriageways. Perhaps traffic-lights on the roundabout will allow more time to cross between streams.

3.3.3 Survey Demographics and Equalities analysis

The questions below were asked to help us ensure that the survey has been responded to by a representative sample of the population:

- What is your full postcode?
- What is your age?
- Do you consider yourself to be a disabled person?
- What is your sex?
- Have you gone through any part of a gender reassignment process or do you intend to?
- What is your ethnic group?
- What is your religion/faith?
- What is your sexual orientation?
- Are you pregnant or have you given birth in the last 26 weeks?
- Are you a refugee or asylum seeker?

The team used different data sets to allow a comparison between the respondents and the Bristol population. The following map shows the level of deprivation for all of the Bristol wards and this was used to help ensure we targeted certain areas where we knew respondents may be lower:



Results of demographics and equality data

The team constantly monitored the data coming in and as a result of being under represented by young people and those in the BAME groups the survey was extended by a week to try and address this issue. These groups were always going to be difficult to target with the new restrictions due to COVID19 as the students had not returned to college and university and due to people shielding door knocking was not allowed. Instead survey dropped areas in the central ward which has a higher number of younger people and BAME groups and contacted the University and Colleges to see if they could help spread the word as some had returned. The use of social media assets were sent to the stakeholders and targeted social media posts were used to target these groups.

The response rate was also down from certain geographical areas. The team again replaced the usual door knocking and events at the local high streets and with survey drops to encourage them to get involved.

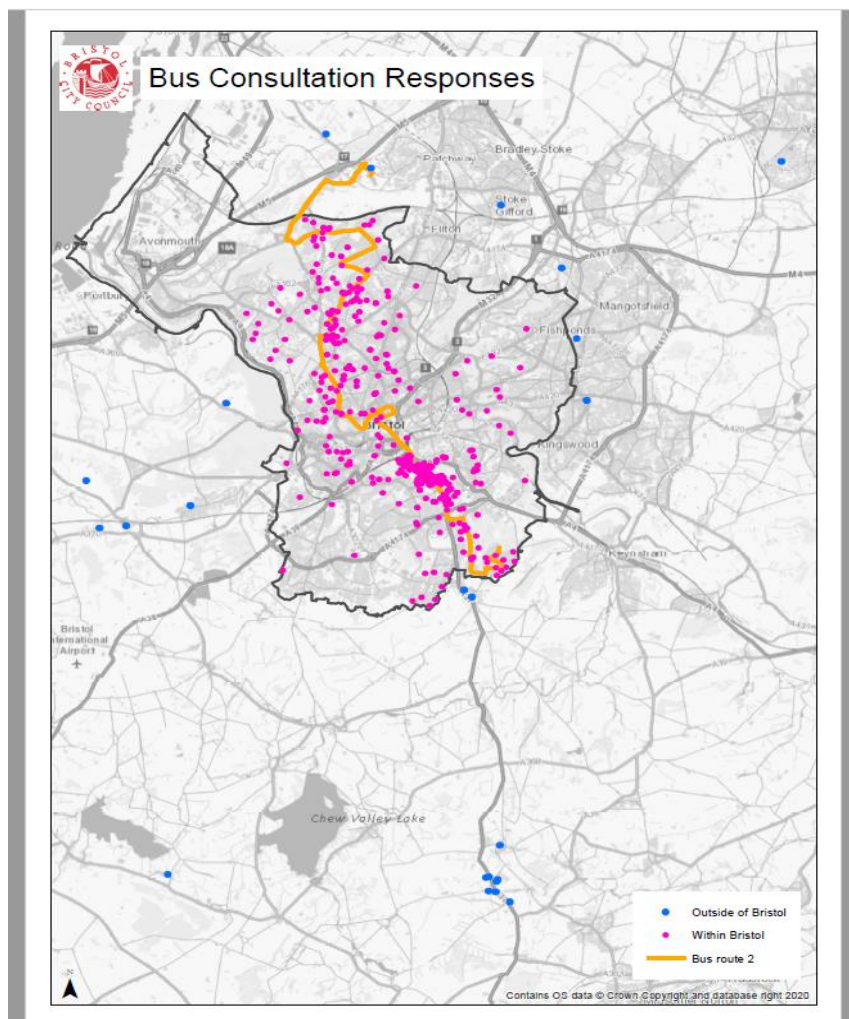
Of the 45 paper copies received which were targeted at low response rate groups:

- 20 were female and 16 were male and 9 people choosing not to answer.
- 5 of the respondents were disabled which is 11%, higher than the average for the city which is around 8%.
- 60% of the paper respondents were aged 55 years and over
- Where the respondent left a postcode the majority of people lived in Henbury and Brentry which is one of the areas targeted by the survey door drop.
- 73% of respondents identified as White British.

Below are the results for each question and all are rounded up to the nearest percentage:

Q15 – What is your postcode?

Of the 468 people who left their postcodes only 20 were from outside of Bristol. The postcodes have been plotted on a map below to show that most people follow the route of the transport corridor:

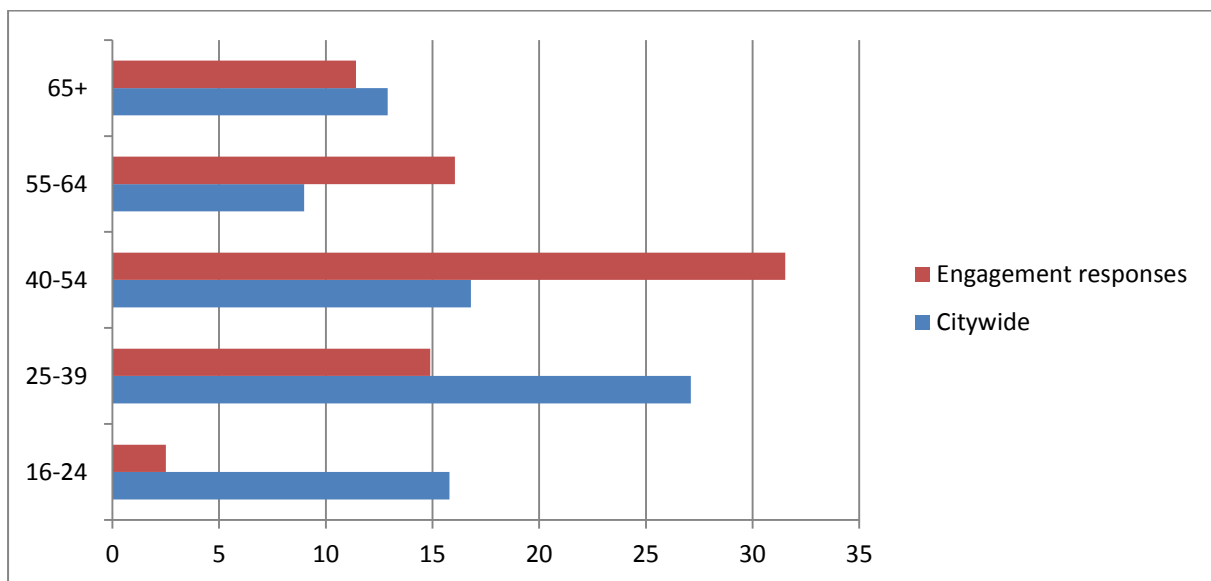


Q16 -What is your age?

16-17 yrs	0%	65-74 yrs	9%
18-24 yrs	2.5%	75-84 yrs	2%
25-34 yrs	15%	85 yrs +	0%
35-44 yrs	32%	Prefer not to say	1.5%
45-54 yrs	19%	Not answered	3%
55-64 yrs	16%		

Response Rate: 97%

Below is a graph showing the engagement responses compared to that of the age of the population in the city. The response rates were fairly close for over 65yrs, but as predicted the responses were under for the 16 to 24 age group. We had more respondents from the 40-54 age group and less from the 25-39 age group.



Q17 – Do you considered yourself to be a disabled person?

Yes	6%
no	85%
prefer not to say	5%
Not answered	4%

Response Rate: 96%

The disability rate for the city of Bristol is around 8% so the 6% response rate is fairly comparable.

Q18 – What is your sex?

Female	43%
Male	47%
Other	0.5%
Prefer not to say	65
Not answered	3.5%

Response Rate: 96%

The male to female ratio in the population of Bristol is around 51% male and 49% female so the ratio of those who responded in the survey was fairly comparable.

Q19 - Have you gone through any part of a gender reassignment process or do you intend to?

Yes	0%
No	87%
Prefer not to say	8%
Not answered	5%

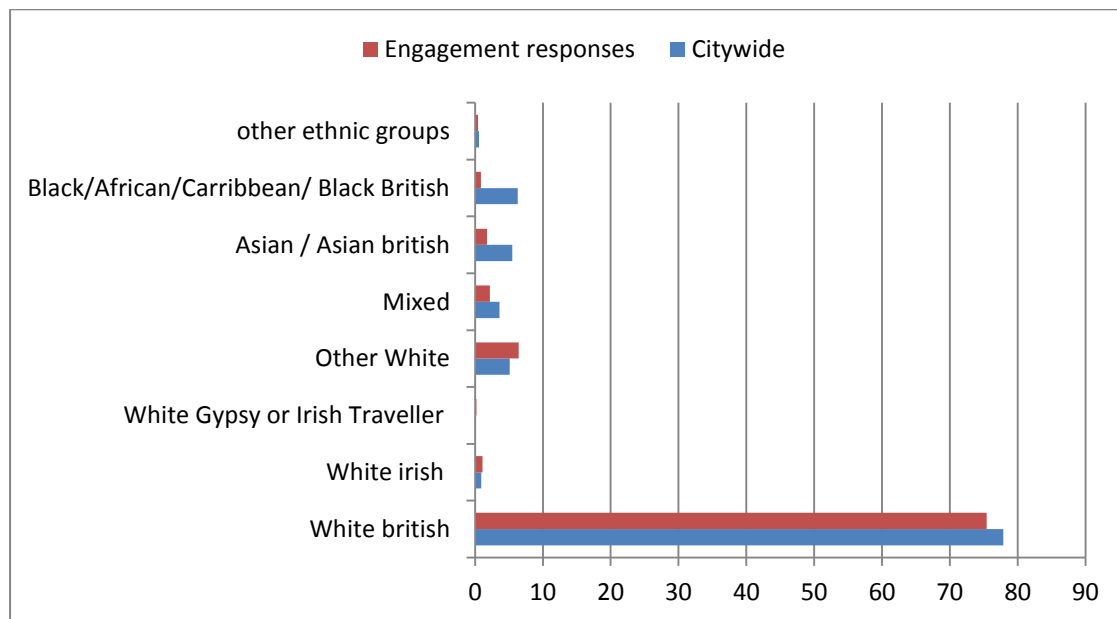
Response Rate: 95%

Q20 - What is your ethnic group?

White British	76%	Mixed / Multi ethnic group	2%
White Irish	1%	Gypsy/ Roma/Irish traveller	0.5%
White Other	6%	Prefer not to say	7%
Black/African/Caribbean/Black British	1%	Any other ethnic background	0.5%
Asian/Asian British	2%	Not answered	4%

Response Rate: 95%

Below is a graph showing the engagement responses compared to that of the population makeup of the city. The response rates were fairly close for White British, White Irish and Other ethnic groups, but as predicted the responses were slightly under represented for Black/African/Caribbean/Black British, Asian/Asian British and Mixed.



Q21 – What is your religion/faith?

No religion	58%	Muslim	0.5%
Buddhist	1%	Sikh	0%
Christian	23%	Prefer not to say	11%
Hindu	0%	Other	2%
Jewish	0%	Not answered	4%

Pagan	0.5%		
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Response Rate: 95%

Q22 -What is your sexual orientation?

Bisexual	5%
Gay Man	2%
Gay Woman/ Lesbian	2%
Heterosexual / Straight	70%
Prefer not to say	15%
Other	1%
Not answered	5%

Response Rate: 94%

Q23 – Are you pregnant or have you given birth in the last 26 weeks?

Yes	1%
no	87%
Prefer not to say	7%
Not answered	5%

Response Rate: 94%

Q24 - Are you a refugee or asylum seeker?

Yes	0.5%
No	87%
Prefer not to say	7%
Not answered	5.5%

Response Rate: 94%

In the final section of the survey people were asked if they would like to receive updated and more information about the project. Nearly 350 people left their name and email address so that they can be kept up to date with this project as it moves forward.

3.3.4 Map and active travel results

The interactive mapping tool was used by many respondents to pin point their issues along the route and the map received over 355 specific comments. At the same time as this engagement process was being carried out the council also had another interactive map where people could add any comments about active travel modes. So to ensure we have got all of the comments that people made that refer to the transport route it was agreed to download those comments as well and the map received 294 comments. In total, there are 649 comments that have been left by respondents detailing their issues along the route.

3.3.5 A37 / A4018 transport route map

Below shows the 355 comments that were left on the A37/A4018 transport corridor map broken down by area and by theme. The responses on the map were broken down by different areas to help analyse the results. The areas are as follow:

- Area 1 – The Coots to West Town Lane
- Area 2 – West Town Lane along A37 to Priory Road junction
- Area 3 – Priory Road junction along A37 to Bath Road junction
- Area 4 – Bath Road to Victoria Street junction
- Area 5 – Victoria Street through Broadmead into Rupert Street to College Green
- Area 6 – College Green to Queens Road
- Area 7 – Whiteladies Road
- Area 8 – Westbury Road to White Tree Hill roundabout
- Area 9 – North View to Henleaze Road
- Area 10 - Henleaze Road to Southmead Road (jct with Doncaster Road)
- Area 11 - Greystoke Avenue to Knole Lane jct with Passage Road
- Area 12 - Passage Rd Roundabout to Henbury Road
- Area 13 – Station Road to Cribbs Causeway

People could select a prepopulated issue type or they could pick ‘other’ to describe their concerns and provide a detailed description. The issue types available from the drop down list were:

- Bus issues
- Bus stops and shelters
- Clean Air
- Crossing points
- Cyclists issues
- Noise
- Pedestrians issues
- Road closure
- Safety
- Speeding issues
- Street Scene
- Traffic Signals
- Other

The most liked comments where more than 10 people liked them are as follows starting with the most popular:

Area	Location	Issue type	Concern	Votes
3	Bath Road by Bellevue Road	Cyclists	Safety of cyclists travelling slowly uphill. Segregated infrastructure urgently needed to keep cyclists safe.	18
3	Wells Rd between Highgrove St and St John's Lane	Cyclists	Cycling up Wells Road feels dangerous. Cars, lorries and buses often overtake too closely. Segregated cycle track is needed	16
4	Bath Road between 3 lamps jct and bridges	Safety	This shared route for pedestrians & cyclists is substandard, & has been allowed to be substandard for too long.	15
4	Bath Road between 3 lamps jct and bridges	Street scene	This road is a major pedestrian commuter route, but the stretch from Bath Bridge to the Three Lamps is such a depressing road	15

			to walk up each day.	
4	Bath Bridges	Cyclists	This pavement is shared space and yet only a metre wide	15
4	Bath Bridges	Safety	Very unpleasant to walk and cycle on, there are 4 lanes for people in cars but only a tiny pavement/cycleway for everyone else.	14
4	Bath Bridges	Cyclists	Southbound cycle lane on the pavement is too narrow. But cycling on the road feels dangerous as cars are going fast.	14
5	Victoria Street	Cyclists	Victoria St should have substantial (1.5m+) segregated bike lanes on both sides of the road to complete link between Centre and Temple Meads.	14
5	Park Street	Pedestrians	Segregated cycle track need to continue up Park Street	14
6	Whiteladies Rd, junction with Queens Rd roundabout	Cyclists	All junctions must have segregation for cyclists.	14
4	Bath Bridges	Cyclists	Narrow pavements and not pleasant walking by main road	13
2	West Town lane junction with Wells Road	Cyclists	Facilities along airport road for cyclists were recently improved, but not at this junction where arguably, improvements are much more important.	11
2	Airport Road Junction with Wootton Park	Cyclists	The cycle paths along Airport Rd and Callington Rd both stop abruptly before Wells Rd and lead you onto a narrow pavement and pedestrian-only crossing.	10
3	Wells Rd between Highgrove St and Firfield St	Cyclists	The stretch of road from St John's Lane up to the top of the hill is awful to cycle up. The cycle lane is intermittent and the road is uneven. The lane is narrow so the traffic passes very close.	10
4	Temple Gate by Station Approach	Cyclists	Current cycle lane is a line of paint on the pavement. Inadequate for current and future cycling numbers. Suggest replace with segregated cycle track on either side of the road by removing one lane.	10
6	Park Street	Cyclists	Current cycle lane stops at College Green. Make this continuous up Park Street.	10
6	Park Street	Cyclists	Segregated infrastructure needed and continuous pavements on side streets	10

Area 1 - The Coots to West Town Lane

24 comments were received about this section: 2 about bus stops and shelters, 5 about crossing points, 13 about cyclist issues, 1 pedestrian issue, 1 safety and 2 others. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Sturminster Road roundabout	Cyclists	Improvements for cyclists urgently needed	8
Sturminster Road by Longreach Grove	Crossing points	A zebra crossing is needed near Hencliffe Road and Longreach Grove to allow for better access to Sturminster Road shops and bus stops.	4
Sturminster Road by Manston Close	Cyclists	Better signage required to highlight presence of Whitchurch Railway Path	4

In summary:

Buses	Should link along Staunton Lane and the A37 to South Bristol Hospital / Imperial Park and one person would like a bus stop at the bottom of Sturminster Road be moved 50 yards up the road.
Crossing points and safety	Required on Sturminster Road to allow better access to Woodlands Academy and Hollway shops and there was a request for traffic calming on this road to slow traffic.
Cyclists	Better signage to highlight presence of Whitchurch Railway Path and join up cycle infrastructure from Manston Close to West Town Lane. Cycle lane required along Sturminster Road and can be achieved by removing parts of the grass verge.
Pedestrians	Footpath needs clearing and cutting back to allow for better access between The Drive and the Whitchurch Railway Path to allow residents to access buses and cycle routes.
Other	Double Yellow lines are needed on bottom of Sturminster Road the length of Sportsfield

Area 2 - West Town Lane along A37 to Priory Road junction

55 comments were received about this section: 1 about bus stops and shelters, 5 about clean air, 8 for crossing points, 15 for cyclists, 4 for noise, 10 for pedestrians, 11 for safety and 1 for traffic signals. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
West Town Lane junction with Wells Road	Cyclists	Facilities along airport road for cyclists were recently improved, but not at this junction where arguably, improvements are much more important.	11
Callington Rd junction with Wells Road	Cyclists	The cycle paths along Airport Rd and Callington Rd both stop abruptly before Wells Rd and lead you onto a narrow pavement and pedestrian-only crossing.	10
Wells Rd between Broadfield Rd and Greenleaze	Clean air	Heavily polluted part of Wells Rd. Unpleasant, unhealthy, discourages walking and cycling.	8

In summary:

Buses	Put buses in laybys so reduces congestion and stops cars pulling out suddenly.
Clean air	Heavily polluted part of Wells Rd. Traffic pollution prevents walking and cycling. divert heavy lorries from A37
Crossing points	Give pedestrian control to the lights on the Wells Road/West Town Lane crossing, and improve the crossings and island. There is no provision for pedestrians to cross the Wells Road with Hengrove Lane. Widen the pavements, plant trees to make this area more pleasant and safe.
Cyclists	The cycle paths along Airport Rd and Callington Rd both stop abruptly before Wells Rd and lead you onto a narrow pavement and pedestrian-only crossing. A fully segregated cycle track should be provided down Wells Road. Need segregated cycle track up the A37
Noise	Far too many HGV's use this area - it is noisy, dirty and unpleasant for walking.
Pedestrians	Pavement on the east side of Wells Road is too narrow. When buses and HGVs travel along the east side of Wells Road the close proximity causes huge air draft. It is not a pleasant safe pavement. At Broadwalk with Talbot Road junction the wait is too long and then not enough time to cross safely, especially if you want to cross two sides.
Safety	Lorries and other vehicles travel very fast downhill. The pavements are very narrow and it feels unsafe, particularly with young children.
Traffic signals	The traffic lights on the Wells Road / Airport road junction only have pedestrian signalling on one side, needs pedestrian signalling on all crossing points

Area 3 – Priory Road junction along A37 to Bath Road junction

96 comments were received about this section: 5 for bus stops and shelters, 7 about clean air, 22 for crossing points, 23 for cyclists, 1 for noise, 3 for other, 14 for pedestrians, 11 for safety, 7 for street scene and 3 for traffic signals. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Bath Road by Bellevue Rd	Cyclists	The steep hill means cyclists are travelling slowly, yet cars are fast. Segregated infrastructure urgently needed to keep cyclists safe.	18
Wells Rd between Highgrove St and St John's Lane	Cyclists	Cycling up Wells Road feels dangerous. Cars, lorries and buses often overtake too closely. Segregated cycle track is needed	16
Wells Rd between Highgrove St and Firfield St	Cyclists	The stretch of road from St John's Lane up to the top of the hill is awful to cycle up. The cycle lane is intermittent and the road is uneven. The lane is narrow so the traffic passes very close.	10

In summary:

Buses	Need double yellow lines all the way from Broad Walk to Bellevue Road, no car parking on main road at any time & permanent bus lane. Bus lanes are too narrow.
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Clean air	The exhaust fumes from congested traffic up the hill create very poor air quality for walkers and cyclists. Standing traffic causes stinking air, get more trees or less cars.
Crossing points	There is a desire line between two parts of Totterdown especially for people wanting to go to the Oxford Street shops from Three Lamps estate, so need crossing by Angers Road. The St Johns Lane junction is designed around motor vehicles. Pedestrians have to wait a long time for the green aspect and have to cross in multiple stages. Also no crossing over the north arm. Would be useful to have additional crossing points along the A37 corridor, lots of young families here. Safety should be a priority.
Cyclists	Segregated cycle track needed for cycling up Wells Road. Broadwalk junction dangerous crossroad for cyclists. Cycling could be improved along this whole route.
Noise	Drivers go so fast up and down the Wells Rd, especially busses and lorries. The 30mph speed limit does not apply. It makes the area feel very unwelcome.
Other	Despite measures to restrict it a lot of cars use Redcatch / Bayham as rat run to queue jump when A37 busy. Point Closures preventing vehicles from rejoining A37 needed. Low Traffic Neighbourhood
Pedestrians	Junction from Wells into Redcatch Road is wide with shallow angle. Priority needs to be given to pedestrians with save continuous pavement and traffic calming. A continuous pavement to improve walking priority and reduce traffic speed would make the Wells Road a better walking route
Safety	Reduce the speed limit on A37 as this would increase safety for all using the corridor. Many HGVs using the road at speed.
Street scene	St Johns Lane area which is surrounded by businesses and restaurants and are already shielded from the busy road, could be better utilised as a public green space with outdoor seating and allow for more social distancing. Attractive bin stores and greening to disguise service area of commercial units, or at least hide from pavement view in some way.
Traffic signals	Cambridge Road is used as a rat run. Cars ignore no entry sign on Cambridge road in rush hour. Enforcement camera needed

Area 4 – Bath Road to Victoria Street junction

47 comments were received about this section: 2 for bus stops and shelters, 25 for cyclists, 2 for other, 6 for pedestrian, 9 for safety, 1 for street scene and 2 for traffic signals. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Bath Road between 3 lamps jct and bridges	Safety	This shared route for pedestrians & cyclists is substandard, & has been allowed to be substandard for too long.	15
Bath Road between 3 lamps jct and bridges	Street scene	This road is a major pedestrian commuter route, but the stretch from Bath Bridge to the Three Lamps is such a depressing road to walk up each day.	15
Bath Road between 3 lamps jct and bridges	Cyclists	This pavement is shared space and yet only a metre wide	15

In summary:

Buses	Reinstate the bus stop close to Temple Meads for Northbound buses. The re-design of Temple Meads includes a bus-hub on the Friary, but buses from the South cannot turn right here to gain access.
Cyclists	Current cycle lane is a line of paint on the pavement by Temple Gate. Inadequate for current and future cycling numbers. Suggest replace with segregated cycle track on either side of the road by removing one lane. There is no cycle access to Temple Meads from the south. Improve cyclist facilities on Redcliffe Way approach. Currently just an ASL but cyclists struggle to filter through to access this. 6 lanes of motor traffic on Temple gate yet cyclists and pedestrians are forced to share pavements. Shared space is not suitable for busy locations.
Other	There is no access into Temple Meads from South Bristol; the only way to reach it is a long detour via Temple Gate, thereby increasing journey time of vehicles.
Pedestrians	Traffic dominated junction with multiple stages for pedestrians crossing. Need to widen footway as does not comply with standards or policies at Temple Gate.
Safety	The pedestrian route over Bath Road bridge is very dangerous and unpleasant. Fast buses travelling inbound, centimetres from pavement. More provision needed for pedestrian safety.
Street scene	Bleak and depressing pedestrian route on Bath Bridges
Traffic signals	At the moment traffic to the station from the south is forced to go down towards St Mary Redcliffe and back or all the way to Old Market, increasing congestion and pollution. Put in a right turn or roundabout at Three Lamps Junction.

Area 5 – Victoria Street through Broadmead into Rupert Street to College Green

27 comments were received about this section: 6 for bus stops and shelters, 9 for cyclists, 2 for other, 3 for pedestrian, 2 for safety, 1 for street scene and 1 for traffic signals. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Victoria Street by Church Lane	Cyclist	Victoria St should have substantial (1.5m+) segregated bike lanes on both sides of the road to complete link between Centre and Temple Meads.	14
College Green	Cyclist	Segregated cycle track need to continue up Park Street.	14
College Green by Anchor Road junction	Pedestrian	Tiny slice of pavement at this junction is frequently packed with people. Re-allocate some of the current five lanes of traffic in this area to pedestrians.	9

In summary:

Buses	Suggest route bus corridor via Baldwin St instead of around Broadmead. If travelling to Temple Meads on the number 2, the bus often stops for about 10 minutes on the Horsefair. Please cut this time or let passengers to complete the journey on another service. The Temple Meads bus stop is too far from the station for those with luggage, mobility issues and everyone in bad weather.
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Cyclists	Cycle lane by St Augustines Parade not clearly marked and pedestrians wonder into it. Needs proper protected cycle routes across the junctions of High Street by St Nicholas Street. Segregated lane ends straight onto pedestrian crossing by College Green. Segregated 2-way cycling preferred in Castle Park. Cycle lane for Park Street.
Other	Too much space allocated to on street parking by High Street. Let private cars use Bristol Bridge/Baldwin Street again.
Pedestrians	Re-allocate space to pedestrians by College Green and Anchor Road junction. The Horsefair by Merchant Street should be pedestrianised.
Safety	Cyclists coming down Park Street have to cross right and cross ped crossing to get to infrastructure. The cycle route on the centre is great but too fast and cuts across the natural pedestrian routes to College Green.
Street scene	Remodel to make the street-scene worthy of this super-historic site by High Street by Broad Street
Traffic signals	The zebra crossings in a highly used pedestrian area cause major delays that can back traffic up onto Wine street and Baldwin street, and therefore throughout the city.

Area 6 – College Green to Queens Road

30 comments were received about this section: 3 for clean air, 2 for crossing points, 16 for cyclists, 2 for other, 2 for pedestrian, 4 for safety and 1 for street scene. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Whiteladies Road junction with Queens Road roundabout	Cyclist	Dangerous junction for cyclists. All junctions must have segregation for cyclists.	14
Park Street between College Green and Queens Road	Cyclist	Current cycle lane stops at College Green. Make this continuous up Park Street.	10
Park Street between College Green and Queens Road	Cyclist	Slow moving cyclists uphill, yet fast moving cars and many side turnings. Segregated infrastructure needed and continuous pavements on side streets	10

In summary:

Clean air	Make air quality legal by closing Park St to private cars in same way as Baldwin St. Remove parking, widen pavement and introduce al fresco dining areas for bars/restaurants. Allow trade vehicles outside office hours & pedestrianise, hold outdoor market to revitalise shopping area. Could extend pedestrian area through centre to join with new Baldwin Street restriction
Crossing points	Clear pedestrian crossing desire lines here between Waitrose and Queens Ave. Pedestrians currently attempt to run across. Replacing with 2 x Zebras either side of the median would make this safe. Install 2+ zebra crossings on each side of the Triangle
Cyclists	Current cycle lane stops at College Green. Make this continuous up Park Street. The gyratory encourages speeding and makes life dangerous for pedestrians and

	cyclists. Make northern edge of Triangle (by Sainsbury's and Wilko) two-way for bikes. Contraflow bike lane on the Triangle to remove dangerous lane changes required when going from Park St to Whiteladies. Cycling out of town from Park St to Whiteladies is too dangerous. Create a signed cycle diversion using University Rd, Elmdale Rd and Tyndalls Park Rd.
Other	Shut Queens Road (Triangle Bit) and make Triangle East and South Two way again. This has been requested for years. A safe protected clearly marked cycle route could remain. Give space to tables and chairs. Close Queens Rd on Bristol Museum's side to all transport modes other than walking and cycling
Pedestrians	Raised continuous pavement giving pedestrians priority along Park Street (and Triangle).
Safety	The triangle is a horrible place to cycle round, up to 3 lanes wide, to get to some exits you need to switch lanes multiple times, while cycle slowly up hill, have had plenty of scary moments. Park street is too difficult to cross.
Street scene	Reallocate parking and/or traffic lane to pavement dining. Support local businesses by using attractive planters to create dining space / spill out.

Area 7 – Whiteladies Road

20 comments were received about this section: 2 for buses, 2 for crossing points, 12 for cyclists, 2 for pedestrians and 2 for safety. The table below shows the top three most popular comments:

<u>Location</u>	<u>Issue type</u>	<u>Concern</u>	<u>Votes</u>
Whiteladies Road	Cyclists	Create a protected cycle route from Park Street to the downs	8
Cotham Hill	Pedestrians	Point closure and pedestrianisation of Cotham Hill high street area	8
Whiteladies Rd, between Worrall Road and Wellington Park	Cyclists	Too much street parking and loading for Sainbury's pushes cyclists out on an uphill bottleneck.	6

In summary:

Bus issues	Bus lane between Hurle Road and Ashgrove Road is frequently blocked with parked cars. The bus lane should be permanent and clear.
Crossing points	Replace traffic light with zebra crossing at Clifton Down station / shopping centre / Whiteladies Gate area.
Cyclists	Need separated and protected cycle track along Whiteladies Road. This is an ideal road to have proper distinguished cycle lanes. Provide cycle feeder lane to ASL for cyclists heading to A4018.
Pedestrians	Point closures on residential roads leading onto Whiteladies.
Safety	Tree root has caused a massive bump in the cycle lane making it completely unusable by St Pauls Road junction. Eliminate car parking on Whiteladies Road and specifically at the top of the road and reallocate to pedestrians and cyclists.

Area 8 – Westbury Road to White Tree Hill roundabout

12 comments were received about this section: 1 for buses, 10 for cyclists and 1 for other. The table below shows the top two most popular comments:

<u>Location</u>	<u>Issue type</u>	<u>Concern</u>	<u>Votes</u>
Westbury Road / Roman Road junction	Cyclists	Difficult to access shared pedestrian and cycle path on Westbury road	5
Westbury road / Whiteladies Road junction	Cyclists	The entire junction/roundabout at the top of Blackboy Hill/Downs is dangerous for cyclists as cars dominate and want to quickly get round.	4

In summary:

Bus issues	Reinstate the bus lane layby
Cyclists	Westbury Road and Parrys Lane junction is difficult to cross as you have to negotiate a lane divider that and has no dropped curb. Makes the junction massive and convoluted. Junction is wide and motor traffic is not calmed so they do not brake. Current shared use path has many conflicts between cyclists/pedestrians. This and the danger from cars of trying to cycle straight ahead across Parrys Lane means many cyclists use road instead.
Other	Junction layout at Westbury Road / Redland Hill is not currently working causing traffic to back up. Eastbound traffic from Redland Hill trying to enter Blackboy Hill backs up (engines running) for too long due to heavy southbound priority flow

Area 9 – North View to Henleaze Road

19 comments were received about this section: 6 for buses, 1 for crossing points, 7 for cyclists, 1 for noise, 1 for other and 3 for safety. The table below shows the top two most popular comments:

<u>Location</u>	<u>Issue type</u>	<u>Concern</u>	<u>Votes</u>
North View, Westbury Rd roundabout	Buses	Roundabout causes major congestion at peak times due to no traffic lights being used. This can add an extra 10-15 mins onto the same bus trip into town from Cribbs.	6
North View, Westbury Rd roundabout	Other	Unequal traffic flows mean that traffic backs up, not being able to enter the roundabout over priority southbound traffic, when progressing westbound onto	5

		the A4018. Signals would be better.	
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In summary:

Bus issues	There should be 24hr bus lanes in both directions on the dual carriageway sections of Henleaze Road and Southmead Road, and buses should have priority through the roundabout. Include up-to-date electronic bus information on Henleaze Road / Holmes Grove bus shelter.
Crossing	Hill View is very wide at this junction and visibility poor when walking towards Henleaze direction from Southmead
Cyclists	Need to separate cycling facilities from cars. Pedestrian crossings are excellent for walking on Henleaze Road. North View is a dangerous section of road with too many park cars going to Waitrose.
Noise	Traffic very noisy in peak times
Other	Roundabout is not the correct solution for this junction. Suggest traffic signals.
Safety	Henleaze Road is very narrow here and improved traffic calming measures should be introduced to reduce the speed of vehicles.

Area 10 - Henleaze Road to Southmead Road (jct with Doncaster Road)

10 comments were received about this section: 3 for buses, 1 for clean air, 2 for crossing points, 3 for cyclists and 1 for safety and there were not any popular comments.

In summary:

Bus issues	Re-route to go into Southmead Hospital at all times, as it is almost impossible to get to hospital without using your car and parking is limited at hospital in peak hours.
Clean air	Strong traffic fumes along this section of dual carriageway on Henleaze Road during morning and evening rush hours as traffic is stationary, held up at roundabout.
Crossing points	Upgrade existing informal crossing to a formal crossing for pedestrians and cyclists to go between Lake Road and Wycliffe Road /Henleaze Rd
Cyclists	Difficult to cycle safely by Lydney Road during rush hour. Allow cycle permeability between roundabout and Lorton Road
Safety	Vintery Leys/Clove Ground used as cut through high speed around blind corner on/off the estate. Make Vintery Leys one way.

Area 11 - Greystoke Avenue to Knole Lane junction with Passage Road

1 comment was received about this section and was for cyclists.

Cyclists	Separate and protected cycle track on Knole Lane
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Area 12 – Passage Rd Roundabout to Henbury Road

3 comments were received about this section and were for Other, Traffic Signals and Safety.

Safety	Improve road markings and signage to ensure traffic gets into the correct (legal) lanes on Crow Lane. People don't want to queue so it can be a free for all. Many potential accidents here and cars always beeping.
Traffic Signals	Traffic control to improve flow of traffic particularly when the ford overflows at the Henbury Road and Crow Lane junction.
Other	Wyck Beck road/ Passage Road roundabout – dual carriageway traffic funnelled into two lane roundabout that isn't wide enough for many vehicles.

Area 13 – Station Road to Cribbs Causeway

5 comments were received about this section and there were 1 cyclists issue and 4 other comments.

Cyclists	Wyck Beck Road/ Passage Road have awful cycling provision.
Other	Wyck Beck Rd/Tranmere Ave junction should be reopened to local traffic. Station Road / Berwick Drive junction if blocked off to through traffic will cause extra congestion at Crow Ln roundabout and Crow Ln plus Henbury Rd.

Overall we received:

Issue type	% of comments received
bus stops / shelters and bus issues	9%
clean air	5%
crossing points	12%
cyclists	39%
noise	1%
other	5%
pedestrian	11%
safety	13%
street scene	3%
traffic signals	2%

Over a third of the comments were on cyclists with a good range of comments on all of the other issues with crossing points and pedestrians comments totalling nearly a quarter of the comments.

3.3.6 Active travel map

Below shows the 293 comments that were left on the active travel along the transport corridor broken down by area and by theme. The responses on the map were broken down by the same areas as the bus map to help analyse the results.

The most liked comments where more than 50 people liked them are as follows starting with the most popular:

Area	Location	Issue type	Concern	Votes
5	College Green	Cycle lanes	There is no way to get on or off this cycle way safely and legally. You can choose to be safe and jump the red or choose to wait	108

			for the green and risk the traffic crossing your path.	
6	Park Street	Pavements	Crossing needed somewhere on this road. This road should be a premier Bristol street but it doesn't have anywhere to cross, nowhere to sit, no trees. It has so much potential. Fails almost all the Healthy Street indicators!	97
6	Park Street	Road closures	Close Park Street to through traffic, except buses and bikes. With Baldwin Street & Bristol Bridge closing, there is no reason for most cars to come this way	87
5	College Green	Cycle lanes	Cycle way on western side of road stops at traffic light by Tesco. Must continue up Park Street to the Triangle.	85
6	Park Street	Cycle lanes	Uphill cycle lane is desperately needed. The road is plenty wide enough. This is the most direct and a less steep option to get up this hill.	82
4	A4 between Bath Bridges and Temple Gate	Pavements	Wider footway (and cycleway)	79
4	A4 at A37	Cycle lanes	After being expected to share a narrow busy pavement, the infra chucks you out at 90 degrees into a bus lane!	74
4	Jct with A4 and A37	Cycle lanes	Too much congestion. No safe cycle route on major artery.	73
5	St Augustines Parade	Cycle lanes	Existing cycle lane here needs much better signage. There needs to be "No Pedestrians" signs, as well as much clearer cycle route signs.	72
4	A4 at Temple Meads roundabout	Cycle lanes	Such a terrible cycle lane. Incredibly narrow and next to a very busy road. Pedestrians often step into the cycle lane to walk round others. The path is simply not wide enough to accommodate the level of pedestrian and cycle traffic.	68
6	The Triangle	Cycle lanes	Exceptionally dangerous for cycles here as goes from one lane of traffic to three with no cycle area. Whole area needs redesigning.	67
7	Whiteladies Road/Cotham Hill	Cycle lanes	Road narrows here with parked cars. Dangerous for cycles as often is location of close overtake by car as drivers accelerate away from the lights to join the queue at the bottom of Whiteladies Road	58
4	A4 between Bath Bridges and Temple Gate	Cycle lanes	As with wells road, could the bus lane be repurposed for a two-way cycle lane? The current shared path is very dangerous for a cyclist	57
4	A4 at Temple Meads	Cycle lanes	A narrow and poorly maintained pavement	56

	roundabout		has been lined with paint to create shared space for bikes and peds with HGVs passing inches away. One wobble or rucksack swing and it are under a bus for anyone on a bike. There are 4 lanes for cars	
4	A4 at Temple Meads roundabout	Cycle lanes	Such a narrow pavement for pedestrians and cyclists to share. Each are given a lane which is about 3 feet wide or less. Cyclists use the outer lane on the edge of a dangerous road you wouldn't want to fall into.	55
4	A4 towards Temple Meads	Cycle lanes	The cycle path curves around the driveway of these businesses, which puts pedestrians and cyclists in each other's way, the cycle path and pavement should be widened and straightened to enhance safety of both users.	55
6	Queens Road	Cycle lanes	There is a thin and dangerous painted lane here but it's usually full of taxis. Segregated lane would be great here.	53
6	The Triangle	Cycle lanes	Dangerous junction and Queen Road use as a 3 lane road is bad for business.	52
4	A4 between Bath Bridges and temple Gate	Pavements	The whole stretch of path from Totterdown bridge towards temple meads is too narrow. At peak times before social distancing it was difficult to pass people without stepping into the road. It gets very congested with pedestrians during rush hour.	50

Area 1 - The Coots to West Town Lane

14 comments were received about this section: 8 for cyclists and 6 for pavements. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Sturminster Road	Cycle lanes	Improve cycle path up Sturminster road, connect from roundabout pedestrian crossing/cycle path, up to the turn-off onto the railway path.	29
Sturminster Road	Cycle lanes	Needs much better signage that this is an access point to the Cycle Path, and hedges etc cut back to make the turn safer	25
Sturminster Road	Cycle lanes	Cycle wheeling ramps do not work.	20

In summary:

Cyclists	Needs a cycleway that connects the Craydon Open Space to Craydon Road (leading to the Whitchurch Railway Path). Continue the Whitchurch Cycle Path.
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Pedestrians	Zebra crossing required enabling safe access to shops, doctors and school on Stockwood Road.
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Area 2 - West Town Lane along A37 to Priory Road junction

6 comments were received about this section: 2 for cyclists, 1 for other, 2 for pedestrians and 1 for speeding issues. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Wells Road (at Airport Rd Junction)	Cyclists	Needs better signage to the back-road/off-road cycle route so people know there's an option other than going up the hill into Knowle.	22
Wells Road (at Priory Rd junction)	Pedestrians	Wait time for pedestrian crossing is so long here and there scale of the junction means you need to run to cross diagonally. Need to make more space for people and less for traffic.	22

In summary:

Cyclists	At Callington Road junction with Airport Road there is a cycle path either side, but it is none existent at junction forcing you to ride with pedestrians in right space.
Other	There is a major road junction here controlled by traffic lights. It provides no protected crossing time for pedestrians and is very dangerous to cross.
Pedestrians	Wait time for pedestrian crossing is so long here and there scale of the junction means you need to run to cross diagonally. Need to make more space for people and less for traffic.
Speeding issues	Speeding on Hengrove Lane is a problem. Council needs to accelerate their local road safety measure for here

Area 3 – Priory Road junction along A37 to Bath Road junction

45 comments were received about this section: 15 for cyclists, 10 for others, 12 for pedestrians, 5 for road closures and 3 speeding issues. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
A37 Wells Road by Crowndale Road	Cyclists	I am too scared to commute to work by bike as I'd have to go down the very busy Wells Rd. Can be improved with an off road cycle path.	33
Wells Road (at Highgrove Street)	Cyclists	Could consider reuse of the bus lane for a two way segregated cycleway	33
Wells Road (at Brecknock Rd)	Cyclists	No cycle lane and the busy road with lots of HGVs makes cycling dangerous, especially going uphill where there is no bus lane either. Also the pavements are too narrow to allow for social distancing	32

		when walking.	
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In summary:

Cyclists	No cycle lane and the busy road with lots of HGVs makes cycling dangerous, especially going uphill where there is no bus lane either. Also the pavements are too narrow to allow for social distancing when walking. The cycle path here is narrow and dangerous. Wells Rd needs a two-way cycle path all the way up.
Other	Traffic constantly gets gridlocked here at busy times with traffic coming down the Wells Road and blocking traffic coming into it from St Johns Lane. There are far too many HGVs that use Wells Road as a cut through the city, many of them travelling far too fast down the hill.
Pedestrians	Make the pavement continuous across this junction with Redcatch Road and put in a raised table as cars turning off the Wells Road swing in too quickly, endangering pedestrians. Allow road space to be allocated to pedestrian's uphill on Wells Road where pavement is too narrow, particularly between Firfield Street and School Road.
Road closures	Close timed closure permanently to avoid rat running through Totterdown and create low traffic neighbourhood.
Speeding issues	The road is used as a rat run to cut off the three lamps junction going up the Wells Road. Make The Wells Road 20mph.

Area 4 – Bath Road to Victoria Street junction

59 comments were received about this section: 2 for buses, 35 for cyclists, 7 for other, 13 for pedestrians and 2 for road closures. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
A4 at A37	Cycle lanes	After being expected to share a narrow busy pavement, the infra chucks you out at 90 degrees into a bus lane	74
Jct with A4 and A37	Cycle lanes	Too much congestion. No safe cycle route on major artery.	73
A4 at Temple Meads roundabout	Cycle lanes	Such a terrible cycle lane. Incredibly narrow and next to a very busy road. Pedestrians often step into the cycle lane to walk round others. The path is simply not wide enough to accommodate the level of pedestrian and cycle traffic.	68

In summary:

Buses	Comments about Bath Bridge area around the bus stop for Temple Meads being too far away on Victoria Street.
Cyclists	The shared cycle and pedestrian route at the A4 at Temple Meads roundabout junction is too narrow to share and pedestrians often walk into it particularly next to a busy road. Need segregated cycle lane along Victoria Street as well and would benefit from two crossing on A4 to separate cyclists and pedestrians.

Other	Temple Gate difficult to cross with speeding traffic and pedestrians have to wait a long time to cross the lights.
Pedestrians	Pavements along Totterdown Bridge too narrow towards Temple Meads particularly when next to several speeding lanes of traffic and air pollution is awful.
Road closures	Narrow pavements and parked cars with large lorries causing pollution require road closures westbound and eastbound at the junction of York Road and Temple Gate.

Area 5 – Victoria Street through Broadmead into Rupert Street to College Green

68 comments were received about this section: 1 for bus stops and shelters, 40 for cyclists, 5 for other, 10 for pedestrians, 10 road closures and 2 for speeding issues. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
College Green	Cyclists	There is no way to get on or off this cycle way safely and legally. You can choose to be safe and jump the red or choose to wait for the green and risk the traffic crossing your path.	108
College Green	Cyclists	Cycle way on western side of road stops at traffic light by Tesco. Must continue up Park Street to the Triangle.	85
St Augustines Parade	Cyclists	Existing cycle lane here needs much better signage. There needs to be "No Pedestrians" signs, as well as much clearer cycle route signs.	72

In summary:

Buses	On Nelson Street the pavement is too narrow and no room for a shelter.
Cyclists	The cycle lane on the western side of College Green stops at traffic lights by Tesco but must continue up Park Street to the Triangle. The junction at St Augustines Parade needs clear separation between cyclists and pedestrians. Need a continuation of the cycle lane on Victoria Street.
Other	Vehicles are still turning into Baldwin Street against the pedestrian lights and this is not safe.
Pedestrians	Difficult for pedestrians to get from the centre to the Anchor Road crossing to College Green. The Baldwin Street Victoria Street junction is complicated for pedestrians.
Road Closures	Extend pedestrianisation up to Wine Street to the junction with The Pithay.
Speeding issues	The loop around Broadmead is used by racers and is dangerous.

Area 6 – College Green to Queens Road

39 comments were received about this section: 1 for buses, 19 for cyclists, 5 for other, 9 for pedestrian, 4 for road closures and 1 for speeding issues. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Park Street	Pedestrians	Crossing needed somewhere on this road. This road should be a premier Bristol street but it doesn't have anywhere to cross, nowhere to sit, no trees. It has so much potential.	97
Park Street	Road closures	Close Park Street to through traffic, except buses and bikes. With Baldwin Street & Bristol Bridge closing, there is no reason for most cars to come this way	87
Park Street	Cyclists	Uphill cycle lane is desperately needed. The road is plenty wide enough. This is the most direct and a less steep option to get up this hill.	82

In summary:

Buses	Pedestrianise the centre and ensure buses are forced to run on zero emission fleets.
Cyclists	The Triangle is dangerous for cycles as goes from one lane of traffic to three with no cycle area and need segregation rather than a painted line. Cycle lane uphill for Park Street.
Other	Pavement is too narrow on the Triangle and insufficient cycle parking in this area.
Pedestrians	Need a crossing on Park Street and pavements too narrow at the Triangle and Queens Road.
Road Closures	Close Park Street to through traffic and exemptions for buses and cyclists
Speeding issues	Cyclists too fast for pedestrians on the Centre.

Area 7 – Whiteladies Road

28 comments were received about this section: 12 for cyclists, 4 for other, 7 for pedestrians, 4 for road closure and 1 for speeding issues. The table below shows the top three most popular comments:

Location	Issue type	Concern	Votes
Whiteladies Road/Cotham Hill	Cyclists	Road narrows here with parked cars. Dangerous for cycles as often is location of close overtake by car as drivers accelerate away from the lights to join the queue at the bottom of Whiteladies road	58
Blackboy Hill	Cyclists	Better cycle lane solution needed here. Uphill and narrow middle lane cycle path	49

		makes it very dangerous with cars speeding past on both sides	
Whiteladies Road	Cyclists	Safer cycling	45

In summary:

Cyclists	Better cycle lane solution needed at top of Whiteladies Road. Uphill and narrow middle lane cycle path makes it very dangerous with cars speeding past on both sides. Take road space from vehicles and give it to pedestrians and cyclists for the entire length of Whiteladies Road, by making them one way inbound (buses excepted, so passing places needed) and Pembroke Road one way outbound.
Other	Burlington Road is a rat run, force traffic to only turn left onto Whiteladies Road and reduce risks and make rat run less attractive
Pedestrians	There is no space to walk on the pavement. Cars are now speeding off Whiteladies Road making the road even more dangerous. Bottom of Cotham Hill needs closing urgently.
Road closures	Aberdeen Road is a rat run for Whiteladies Road and needs a point closure.
Speeding issues	Traffic too fast off the lights by the top of Whiteladies Road.

Area 8 – Westbury Road to White Tree Hill roundabout

9 comments were received about this section: 8 for cyclists and 1 for road closures. The table below shows the top two most popular comments:

<u>Location</u>	<u>Issue type</u>	<u>Concern</u>	<u>Votes</u>
Westbury Road	Cyclists	Safer cycle path (i.e. barrier between cycle path and traffic). This safer route would ideally begin from Westbury on Trym or from Crow Lane/Passage Road roundabout	33
Westbury Road	Cyclists	Cannot access the cycle path having ridden up Blackboy hill. Needs a dropped kerb.	24

In summary:

Cyclists	Buses are often waiting for opportunity to enter White Tree Hill roundabout. Cyclists can enter much more easily but are either stuck at the back of the queue, or try to filter through a long line of busses with very little space between or in front
Road Closures	Cars cut through and drive fast and park where people are walking across from the top of Blackboy Hill to the Downs.

Area 9 – North View to Henleaze Road

5 comments were received about this section: 1 for buses, 3 for pedestrians and 1 for other and there were not any popular comments. In summary:

Bus issues	North View is a highly valued bus route for local residents but the pavement
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	needs widening.
Pedestrians	North View pavements are narrow and busy road.
Other	Due to parked cars on the right hand side of the road the space for cyclists is very narrow along North View

Area 10 - Henleaze Road to Southmead Road (jct with Doncaster Road)

11 comments were received about this section: 6 for cyclists, 4 for other and 1 for pedestrians and there were not any popular comments. In summary:

Cyclists	Cycle lane needed in both directions on Henleaze Road. No room for cyclists on Southmead Road making their way to the hospital.
Other	Difficult to cross the dual carriageway
Pedestrians	Henleaze Road is a busy and popular shopping area.

Area 11 - Greystoke Avenue to Knole Lane junction with Passage Road

2 comments were received about this section and were for cyclists and pedestrians.

Cyclists	This is a very wide road with busy and fast cars. It is often made narrower by cars parked either side. A segregated and different colour cycle path. Make it safer for residents to cycle to the shops near Southmead.
Pedestrians	Make footpath dual for cyclists and pedestrians running adjacent to Charlton Road and Pine Road

Area 12 – Passage Rd Roundabout to Henbury Road

4 comments were received about this section and were 3 for cyclists and 1 for speeding issues.

Cyclists	Better cycle provision using barriers to separate bicycles from rest of traffic on Wyck Beck roundabout.
Speeding Issues	Very little traffic respects the 20mph zone and pedestrians trying to cross Henbury Road using the traffic island run considerable risk as do cars and cyclists.

Area 13 – Station Road to Cribbs Causeway

1 comment was received about this section and was for cyclists.

Cyclists	On Station Road mark the cycle lane on road up to and over railway bridge.
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Two comments were out of scope and not in Bristol. Overall we received:

Issue type	% of comments received
Bus issues	2
Cyclists	51
Other	13

Pedestrians	22
Road closures	9
Speeding issues	3

See 'Appendix 1 – Summary of A37 & A4018 response by area' for a breakdown of comments starting at the The Coats in the south and working north towards A4018 and onwards to Henbury Road.

3.3.7 Emails and phone calls

Of those who choose to contact the team via email 36 enquiries were received. A summary of the comments are shown in the tables below broken down between theme and geographical area:

Theme	Comments
Buses	<p>Far too complicated bus stops and too many parked up on bus stops waiting out their times.</p> <p>Need prepaid tickets like oyster cards to improve system</p> <p>Consider other bus routes like the number 1 as well</p> <p>Will the bus lane on Wells Road by a 24 hour bus lane?</p> <p>Improve the bus network as not reliable at the moment</p> <p>Buses need to be given some sort of priority, in order to make them more attractive to users.</p> <p>Buses are unreliable and expensive and number 2 is every 20 minutes and is often a single bus that is overcrowded.</p>
Cycling	<p>Improve the cycle infrastructure particularly considered segregated routes</p> <p>Changed lane priorities on A4018 will vastly reduce traffic use due to the bus / cycle lanes creating pinch points as the road infrastructure is not wide enough for segregated cycle tracks.</p> <p>There needs to be proper separation between cyclists and pedestrians throughout, and there needs to be a proper cycle path over the downs and down the route into the city.</p> <p>Suggest converting some of the huge roundabouts to Dutch style ones as safer.</p>
Park & Ride	<p>Need P&R facilities in Almondsbury and Cribbs Causeway for traffic from SG to stop coming in and congesting the city.</p>
Charging system	<p>Charge vehicles using access roads from all of SG and BANES areas and introduce a daily charge for non-Bristol residents</p>

Area	Comment
West Town Lane to Airport Road	<p>Cycling on the Whitchurch Way cycle route leaving onto West Town Lane and following it into Sturminster Road needs improvement as that section is dangerous.</p> <p>Cars turning right from the Wells Road into Hengrove Lane have to wait for a gap and the inbound traffic drivers in the outside lane often swerve dangerously to avoid them.</p> <p>The bus should travel all the way up Whitchurch Road and turn left at Staunton lane and then onto Craydon Road as the 376 service is not good enough.</p>
Broadwalk to Bath Bridges	<p>Cycling uphill is unpleasant with the single lane forcing fast and heavy traffic close to you.</p> <p>The pavement is poor and in places is narrow with low curbs and huge vehicles</p>

	<p>travelling uphill at speed.</p> <p>Zebra crossing on A37 Wells Road dangerous to use as cars don't notice it and are going too fast. Need a proper pedestrian crossing by the Sunshine Pre School.</p> <p>Widen pavements and slow traffic on Wells Road</p>
Centre to Clifton Triangle	<p>Should be greater physical barrier between cars and bikes.</p> <p>Make Park Street buses only.</p>
Whiteladies Road	<p>Cycle lane at the top of Whiteladies Road turning right and then left along the Downs heading north needs to be reassessed. There is a cycle lane on Whiteladies Road leading to the traffic lights at the top of the hill and then you are expected to be on the pavement heading north along the Downs after the roundabout but there is no cycling route to link the two routes.</p>
White Tree roundabout to North View/ Northumbria Drive	<p>The contraflow for cyclists on Westbury Park is confusing as it only lasts for a short distance.</p> <p>White Tree roundabout needs pedestrian crossings for walkers.</p> <p>Dedicated cycle path across the Downs would be safer than shared, with traffic light-controlled cycle crossing over Parry's Lane.</p> <p>Dedicated cycle path to City from the Downs and back. Dedicated bus lane one way in to city (am) and one way out of city (pm) at commuter/peak times from Cribbs to the City and back.</p>
Southmead Road (Henleaze to Doncaster Road section)	<p>There needs to be crossings at the A4018 end of Charlton Road and also the crossing of Passage Road as it swings left off the A4018 route to become Greystoke Avenue.</p> <p>Suggest bus stop on Southmead Road by traffic lights with Doncaster Road be moved or put double yellow lines opposite. Buses held up by traffic and need to be able to flow more freely</p>
Crow Lane to Henbury Road	<p>Very few observe the 20mph speed limit.</p> <p>Needs physical traffic calming measures</p> <p>Narrow section on Henbury Road to Station Road which makes it unpleasant to cycle</p> <p>Buses get caught in the congestion at the Passage Road roundabout from Knole Lane</p> <p>Traffic bad turning right at the Crow Lane junction with Henbury Road where priority is given to Westbury Rd so convert to mini roundabout.</p> <p>Make passage road / Crow Lane roundabout traffic signalised and reduce speed to 30mph on Passage Rd to make more cycle and pedestrian friendly.</p>

The team also received 15 phone calls and was either asking for paper copies or for a call back to clarify some queries. These included: can the number 2 bus route travel to Whitchurch instead? How does this link with the bus gate on Bristol Bridge? And want to know about the other A4018 Westbury project.

4. Appendices

4.1 Appendix 1 - Early Engagement Summary Report

We asked:

Early engagement with local people and those who travel along the route began in 24th July 2020 and finished 21st September 2020 and we were:

- seeking views from key and critical stakeholders at an early stage, on priorities, what they think should change and issues and concerns to inform preliminary design of the transport corridor
- seeking views from local people living and working along the corridor, those travelling along the corridor, and businesses, at an early stage to inform preliminary design of the route
- beginning a constructive dialogue and create the environment where people can be involved throughout the process of design and implementation
- creating a good understanding of the scheme and its benefits amongst stakeholders, local businesses, local people and commuters

The engagement tools used included:

- Virtual Exhibition on Travelwest pages
- Survey on the Consultation hub
- Interactive Mapping tool
- Supporting communications including social media, press release and new articles

How we engaged:

- Emails to 245 stakeholders
- Press release and social media toolkit to stakeholders
- Social media posts
- Emails and newsletters to business database of over 450 businesses
- 4000 postcards to all properties along the route

Targeted the 'less heard' communities

- 1700 survey drops and postcards
- Posters in local libraries and community centres
- Schools were contacted along the route

You said:

We had responses from stakeholders, local businesses and the general public as summarised below:

Themes

From all of the feedback from stakeholders, businesses and the public the main themes are:

- Wider pavements and more crossing points on main roads
- Segregated cycle lanes on all main roads particularly travelling uphill
- Priorities at all main junctions for pedestrians and cyclists and allow single crossing stages eg Airport Road / A37, West Town Lane and A37
- Where there are multi traffic lanes reallocate road space to walking, cycling and buses eg Triangle gyratory, Bath Bridges and Whiteladies / Westbury Road junction

Stakeholders

107 emails sent to critical stakeholders and 138 emails sent to key stakeholders. 20 emails were received and 5 meetings held to discuss the project.

Summary of responses

Many agreed with the reallocation of road space towards pedestrians, cyclists and buses. Pedestrians need wide pavements and single crossing points, cyclists need segregated infrastructure and buses need bus lanes and priority at junctions where they get caught in congestion. Others asked about how this will join up with Temple Meads, Clifton Down station and wanted better interchange facilities and comments were made about parallel rat running with the A37 and A4018.

In terms of specific improvements for pedestrians, cyclists and buses are needed at the:

- A37 junction with Airport Road / Wootton Park,
- hill section of A37,
- Broadwalk and A37 junction,
- Bath bridges area,
- Park Street cycle lane,
- Triangle gyratory
- Top of Whiteladies Road junction with Westbury Road and Stoke Road.

Local Businesses

Engaged with 1200 businesses (450 from existing database and 750 businesses identified along the route) and 270 took up information on engagement and offers.

Public feedback

1261 comments received:

- 562 survey responses
- 648 interactive mapping points (includes active travel map responses)
- 51 emails and phone calls

The virtual exhibition had:

- 1822 page views and 1505 interactions on the page
- 67% of people reached the page via Travelwest web pages
- 398 live chats

Survey results

- Of those who responded nearly two thirds were residents and just over half walk and drive along the route and just over 40% cycle and use the bus.
- Nearly 80% agree and strongly agree with taking road space away from the car and providing more walking, cycling and bus infrastructure.
- Over 70% strongly agreed that safe crossing points and feeling safe were key for transport corridors closely followed by clean air and a place to walk and cycle.
- Over half of the respondents think the road is unsafe to cycle on and unpleasant to walk along as the streets are congested with too much traffic.
- 64% want safer cycle corridors and 52% want more cycle priority
- Over 40% of the people who answered the survey will walk and cycle more after lockdown and nearly 40% will drive less by car.

Specific comments via area:

West Town Lane to Airport Road	Many comments relate to improvements to the Wells Road/Hengrove Way and Airport Road junction with regards pedestrians and cycling crossings and providing segregated cycle lanes along A37 Wells Road.
Broadwalk to Bath Bridges	Too many HGVs on the Wells Road, need more crossing points, continuous bus / cycle lane and improvements are required to the Three Lamps to Bath Bridges road layout for both pedestrians and cyclists.
Centre to Clifton Triangle	Need the road layout by the Triangle sorted for cyclists and pedestrians eg close Queens Road section and only allow buses, cyclists and pedestrians. Many request to remove parking on one side of Park Street for continuous cycle lane.
Whiteladies Road	Junction at the top of Whiteladies Road is dangerous for cyclists and confusing for pedestrians. Reduce on street parking to allow proper separated continuous cycle infrastructure.
White tree roundabout to North View/Northumbria Drive	The White Tree roundabout needs improving particularly from North View as it is dangerous for all users.
Southmead Road (Henleaze Road to Doncaster Road)	Most comments about the dual carriageway and the need to make it safer for buses and cyclists and the suggestion of a removal of the mini roundabout to make it safer.
Crow Lane to Henbury Road	Improve Crow Lane roundabout as congested and dangerous for cyclists and pedestrians.

A37/A4018 mapping tool results

355 comments were recorded. 39% of the comments were about cyclists. The most popular comments related to the:

- Three Lamps junction at Bath Road and Wells Road and along to Temple Meads where improvements for pedestrians and cyclists are needed as pavements are narrow and reallocation of road space is required.
- Top of Whiteladies Road where there are multi traffic lanes and cyclists and pedestrians require improvements as it is dangerous.
- A cycle lane is also required on A37 and on Park Street to cater for uphill cyclists and on Victoria Street for cyclists

Within the main report you can find a breakdown for each area by issue type showing the main concerns and suggested improvements.

Active travel mapping tool results

293 responses made along the route. 51% were comments about cyclists. The most popular comments related to:

- College Green / Anchor Road junction where pedestrians and cyclists require more space to cross the road and more crossings needed on Park Street.
- Cycle lane on Park Street disappears by Tesco and is required all the way uphill
- Triangle gyratory needs improvements as it is dangerous for cyclists and does not prioritise pedestrians
- No 2 bus stop needs to be relocated from Victoria Street closer to Temple Meads.

Emails / phone calls

36 emails and 15 phone calls were received.

4.2 Appendix 2 – Paper Booklet Survey

Appendix 2 - Paper booklet survey

Have your say

Bristol City Council is asking for your ideas on possible improvements along the A37 and A4018



Get involved

We want your views on how this route could be improved for walking, cycling and bus travel. Your suggestions will help us design proposals that will work for everyone. Find out more about the project and have your say at:

www.travelwest.info/A37A4018 Please comment by **11 September 2020**



A37/A4018 Transport corridor

We want to hear your ideas for improvements to the A37/A4018 transport corridor. The route starts in Stockwood and travels along the A37 through Hengrove, Knowle and Totterdown into the central area calling at Temple Meads. It then heads north along the A4018 and travels into Westbury, Southmead and Henbury before arriving at Cribbs Causeway.

This project aims to greatly improve walking, cycling and public transport infrastructure along this corridor and will focus on the areas where the congestion is an issue such as on A37 Wells Road, A4018 Whiteladies Road and in the centre.

Improvements to this transport corridor will focus on pedestrians, cyclists and bus users and will look to achieve:

- better pedestrian environments providing safe crossing points and attractive streetscapes,
- reallocation of road space for cyclists to encourage more active travel
- bus infrastructure improvements to help the buses move quickly through the traffic improving journey times and reliability.

By implementing changes to this transport corridor and providing a better travelling experience for those on sustainable transport modes more people may choose to make the switch, which will help reduce congestion and improve air quality.

Bus travel and the emerging Bus Deal

Over the next 10 to 15 years Bristol and the West of England authorities have committed to developing and improving bus services as a priority for the city in partnership with First West of England. This project supports this long term aspiration.

At the current time West of England authorities are working with bus operators on a recovery plan once travel restrictions and social distancing due to the Coronavirus Pandemic, are relaxed.

First West of England have committed to a future Bus Deal with the West of England Combined Authority and Bristol City Council so that the city and bus operators can work together to improve journey times, increase passenger numbers and expand the network. This project will support that partnership.

A37/A4018 Transport Corridor

This project is part of a wider project which will look at eight routes across the city over the next 10 years. We would like your views on how this corridor could be improved for walking, cycling and bus travel. Your suggestions will help us design proposals that will work for everyone.

We are asking for your views on what improvements could be made along the whole route and specifically at seven different places along the route to help buses travel more easily, and to make it safer and easier for people to cycle and walk.

We are at a very early stage and would like your ideas to help us develop more detailed proposals that will work for everyone.

We have provided a map of the whole route and information on seven specific locations.

You can complete the survey online at www.travelwest.info/A37A4018 where you will also find an interactive map where you can add your comments about specific locations on the route and see what other people have said.

Alternatively please return this booklet in the freepost envelope to:

Transport Engagement Team, PO BOX 3399, 100 Temple Street, Bristol, BS1 9NE

Please add any comments to the maps or in the comment boxes. There is a short survey to complete about what you think are important considerations.

If you would like to speak to someone about this please contact us on transport.engagement@bristol.gov.uk, leaving you name and contact details and we will arrange to call you back.

Please let us have your feedback by 11 September 2020.

The photos below show good examples of positive changes that have been made elsewhere



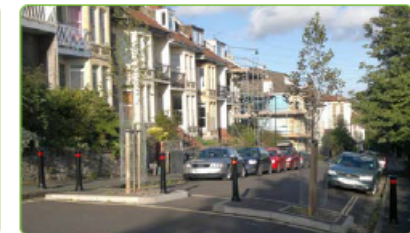
Comments



Comments

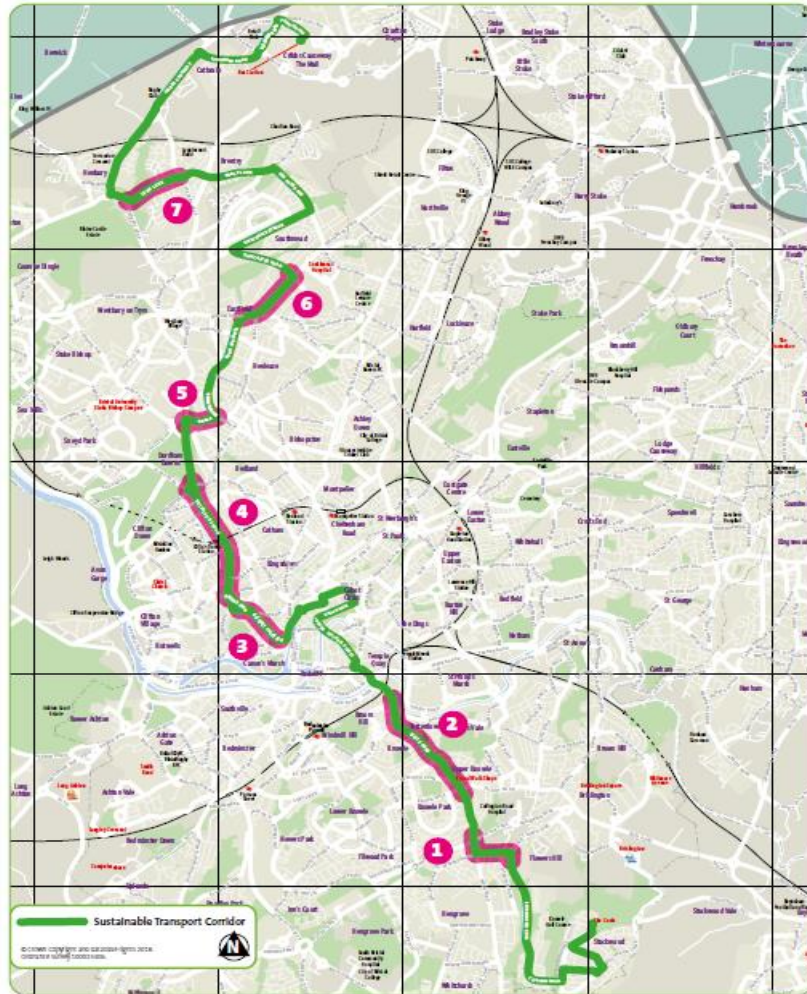


Comments



Comments

A37/A4018 Transport corridor



4

1: West Town Lane to Airport Road



5

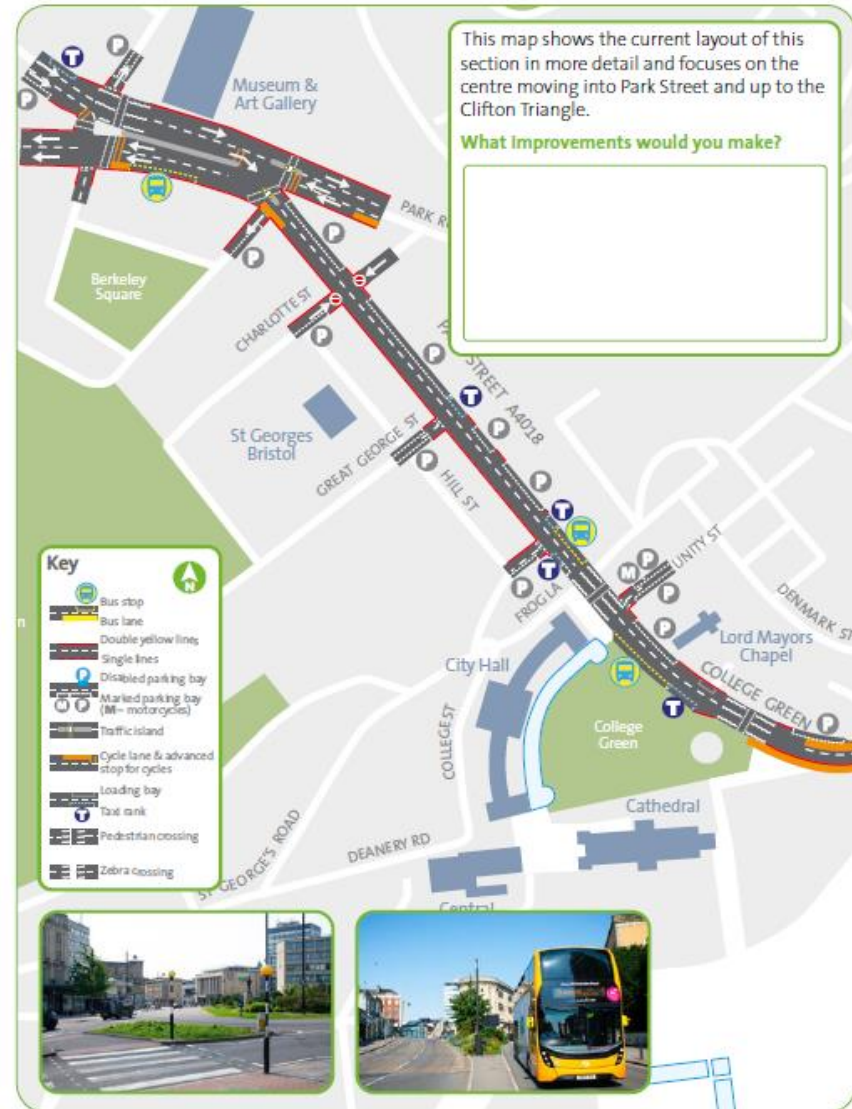
2: Broadwalk to Bath Bridges

3: Centre to Clifton Triangle

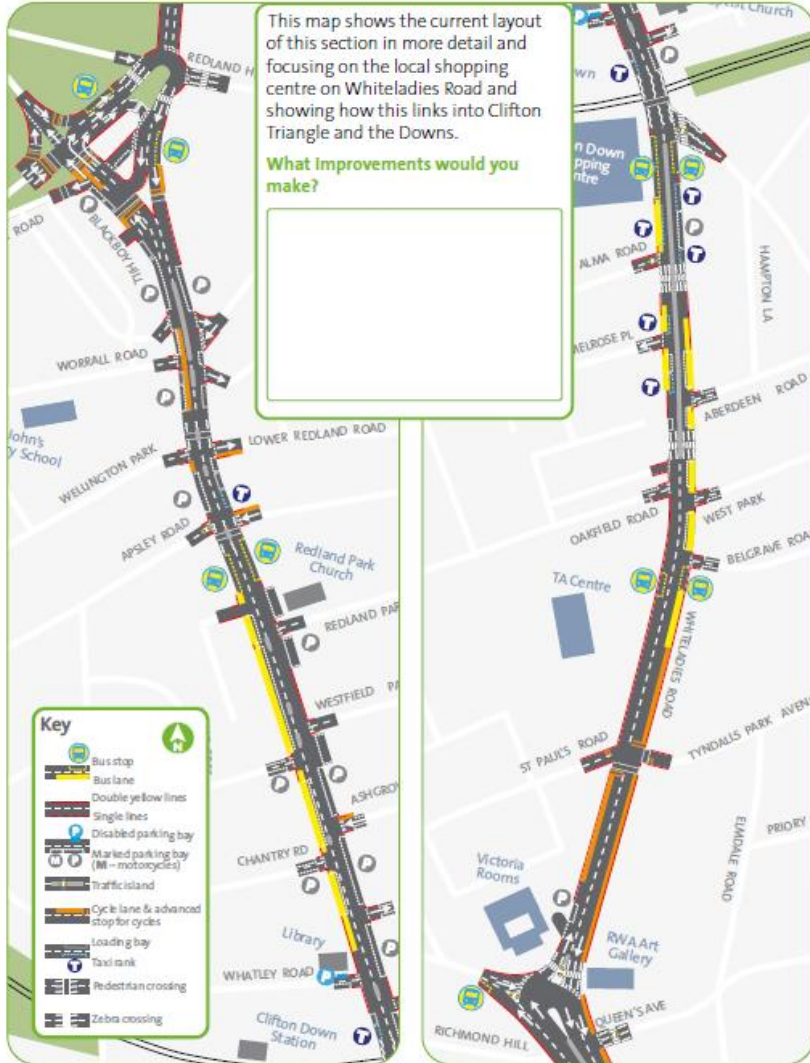
2: Broadwalk to Bath Bridges



3: Centre to Clifton Triangle



4: Whiteladies Road



5: White Tree roundabout to North View/Northumbria Drive



6: Southmead Road (Henbury Road to Doncaster Road section)

Key

- Bus stop
- Bus lane
- Double yellow lines
- Single lines
- Disabled parking bay
- Marked parking bay (M - motorcycles)
- Traffic island
- Cycle lane & advanced stop for cycles
- Loading bay
- Taxi rank
- Pedestrian crossing
- Zebra crossing

This map shows the current layout of this section in more detail and focuses on the dual carriageway section of Henbury Road and following it up to the junction of Doncaster and Southmead Road.

What improvements would you make?

7: Crow Lane roundabout to Henbury Road

This map shows the current layout of this section in more detail and focuses on the roundabout and the shopping area on Crow Lane.

What improvements would you make?

Key

- Bus stop
- Bus lane
- Double yellow lines
- Single lines
- Disabled parking bay
- Marked parking bay (M - motorcycles)
- Traffic island
- Cycle lane & advanced stop for cycles
- Loading bay
- Taxi rank
- Pedestrian crossing
- Zebra crossing

Survey questions

1. Which of the following best describes you?

(Please tick all that apply)

- I am a resident along the corridor
 - I am a business owner along the corridor
 - I work along the corridor
 - I am a bus user along the corridor
 - I am a cyclist along the corridor
 - I am a pedestrian along the corridor
 - I am a car driver along this corridor
 - I am a taxi / private hire driver
 - I am a regular visitor to the area
 - I am responding on behalf of Voluntary Group/Community Group/Social Enterprise
 - Other (please specify):
- If you are responding on behalf of a business/voluntary group/community group/social enterprise please provide the name:

2. What is the main form of transport you usually use along this corridor?

- Walk
- Bicycle
- Bus/Metrobus
- Car
- Van
- Taxi
- Motorcycle
- Other (please specify):

3. Would you support more bus, walking and cycling infrastructure and priorities even if it meant taking road space away from cars?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

4. Do you agree or disagree that that the following should apply to main transport corridors:

- Have safe crossing points
- Have enough shade and shelter
- Have places to stop and rest
- Minimise traffic noise
- Be places people can walk and cycle
- People feel safe
- Have things to see and do
- People enjoy using the route
- Have clean air

5. What are the main difficulties you currently experience with the street environment along the transport corridor? Please tick all that apply:

- The road is unpleasant to walk along
- The street are too busy with people
- The road feels unsafe to cycle on
- The road does not provide enough facilities for bicycles
- The buses get held up in the traffic/the buses are too slow
- The buses are unreliable
- The street is busy with traffic
- There is not enough parking
- There is too much congestion
- Other (please specify):

6. How important do you think the following improvements to the transport corridor are?

	Very important	Fairly important	Important	Slightly important	Not at all important	No opinion
Better lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easier to cross the road	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wider pavements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safer cycle corridors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More cycle priority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cycle parking facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bus priorities to speed up journey times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bus stops with shelters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Traffic calming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased greenery such as trees and bushes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. When the lockdown restrictions begin to ease, are you planning to use the following modes of transport more or less?

	More	Same	Less
Walk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cycle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taxis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Car	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Van	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motorbike	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>			

8. Do you have any other comments or suggestions?

About you

We would like to receive feedback from people with as wide a variety of views and needs as possible in Bristol.

It would be very helpful if you could complete the following 'About You' questions. This will help us ensure that no-one is discriminated against unlawfully. All questions are optional. You do not have to answer any of them if you prefer not to, but please make sure you click 'Finish Survey' at the bottom the page to submit your answers to the previous questions.

Information provided will be treated in the strictest confidence and in accordance with the General Data Protection Regulation (GDPR). Personal and sensitive information will be used solely for the purpose of equalities monitoring to ensure that everyone is treated fairly.

Our [privacy policy](#), which explains how we will process your personal information, how long we will retain it and your rights as a data subject are available here.

Please answer the following questions by ticking the boxes that you feel best describe you.

9. What is your full postcode, e.g. BS9 3JZ.

If you are responding on behalf of a business or other organisation, please provide the postcode of the organisation's premises in Bristol.

10. What is your age?

- 0–10 25–34 65–74
 11–15 35–44 75–84
 16–17 45–54 85 +
 18–24 55–64 Prefer not to say

11. Do you consider yourself to be a disabled person?

- Yes No Prefer not to say

12. What is your sex?

- Female Prefer not to say
 Male Other (please describe):

13. Have you gone through any part of a gender reassignment process or do you intend to?

- Yes No Prefer not to say

14. What is your ethnic group? (please tick one box only)

- White British Black/African/Caribbean/Black British Prefer not to say
 White Irish Mixed/Multi ethnic group Any other ethnic background (please describe):
 White Other Gypsy/Roma/Irish Traveller

15. What is your religion/faith?

- No Religion Jewish Prefer not to say
 Buddhist Muslim Other (please describe):
 Christian Pagan
 Hindu Sikh

16. What is your sexual orientation?

- Bisexual Heterosexual/Straight Other (please describe):
 Gay Man Prefer not to say
 Gay Woman/Lesbian

21. Are you pregnant or have you given birth in the last 26 weeks?

- Yes No Prefer not to say

22. Are you a refugee or asylum seeker?

- Yes No Prefer not to say

If you would like to receive updates and more information about this project, please give your email address below.

Information you provide will be treated confidentially and in accordance with the Data Protection Act 1998 and General Data Protection Regulation (GDPR) (EU) 2016/679. Your contact details will be used solely for the purpose of keeping you informed about the outcome of this consultation and future transport consultations if you have ticked the box to request this. Our privacy policy explains what we do with your personal information, how long we keep it and your right to withdraw your consent at any time you choose.

- I would like to receive updates and more information about this project and I consent to my contact details being used for this purpose as defined in Bristol City Council's privacy policy.

If you would like to be kept informed, please provide your email address:

Email address:

You can complete this survey online at www.travelwest.info/A37A4018 where you will also find an interactive map where you can add your comments about specific locations on the route and see what other people have said.

Alternatively please return this booklet in the freepost envelope to:

Transport Engagement Team
PO BOX 3399
100 Temple Street
Bristol BS1 9NE

If you have a comment or question please email us on transport.engagement@bristol.gov.uk or phone **07775 115 909** the answerphone and leave your name and contact details and we will arrange to call you back.

Please let us have your feedback by **21 September 2020**.

If you would like this information in another language, Braille, audio tape, large print, easy English, BSL video or CD rom or plain text please contact us by emailing transport.engagement@bristol.gov.uk or calling **07775 115 909**.



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Nb. The numbering on the questions for the last page is an error and should have been 17 and 18 respectively, but as this did not affect the survey a reprint was not requested.



Number 2 bus route - A37/A4018 Consultation Response

September 2020

Bristol Cycling Campaign

Bristol Cycling Campaign believes that every Bristolian, whatever their age or ability, deserves safe and inviting space for cycling on all Bristol's streets. We represent Bristolians who cycle for every day, utility purposes; to school or university, to the shops, to work, or simply for leisure and health. We also represent those who would like to ride around Bristol but are currently unable to do so for fear of motor traffic. We have around 500 donating or paying members and over 3,000 subscribing supporters, as well as many more followers on social media.

General Comments

We note that the proposals are bus centric - the 'sustainable transport corridor' is very indirect in several places, and is unlikely to therefore be a suitable cycle route in its entirety. In order to enable cycling the route will need to depart from the No. 2 bus route and use more appropriate or direct routes.

We would remind the Council of the recently published "Gear Change" document from the DfT, in particular this summary principle for cycle infrastructure design on page 43:

"6. Consideration of the opportunities to improve provision for cycling will be an expectation of any future local highway schemes funded by Government.

To receive Government funding for local highways investment where the main element is not cycling or walking, there will be a presumption that schemes must deliver or improve cycling infrastructure to the standards in the Local Transport Note, unless it can be shown that there is little or no need for cycling in the particular highway scheme. Any new cycling infrastructure must be in line with this national guidance. The approach of continuous improvement is recognised in both the National Planning Policy Framework and Local Cycling and Walking Infrastructure Plan Guidance. Cycle infrastructure requirements should be embedded in local authority planning, design and highways adoption policies and processes."

So although this is a Bus Deal, not cycling, scheme, primarily, it must "improve cycling infrastructure to the standards in the LTN". Plainly there is a need for cycling in all the areas, all urban or suburban, none rural, the scheme covers. Any designs must, not should, comply with national guidance. Essentially this means segregated cycling routes throughout, certainly as a starting point. There should be consistency and legibility along long sections of the route, rather than the constant changes in level and type of infrastructure provision which are unfortunately present in some other cycle routes in Bristol.

This is a key cycling route. It comprises Bristol routes 3 (A4018) and 4 (A37) in the Local Cycling and Walking Infrastructure Plan (LCWIP). The LCWIP is a WECA and BCC adopted Plan for investment over the next 15 or 16 years. We are therefore slightly surprised this consultation has not made reference to it and is not subject to it.

The LCWIP should be upgraded to take account of LTN 1/20, which was written before that document was published and both WECA and BCC must acknowledge that development, and commit to revising the detail to take account of it. This is essential or schemes will not get DfT funding. It can relatively easily be done, or at least started, by incorporating our response to the LCWIP ([Local Cycling and Walking Plan Consultation Response](#)) in a revised document. In accordance with the Sustainable Transport hierarchy, any public transport proposals should not be given priority over, or adversely affect, implementation of those routes to a high standard.

Route Comments

As this consultation is high level, our comments on specific sections are points for further consideration rather than detailed design proposals, which would be premature. We welcome consultation from the council about specific options under consideration further along the design process.

1) West Town Lane to Airport Road

- The A37 in this section is very busy, and with multiple lanes squeezed into the corridor and fast traffic. Based on LTN1/20 protected space for cycling must form any cycle route throughout this.
- Cycle routes need to be sufficiently wide to allow for the differential in speeds caused by the steep hills.
- At the multiple junctions it is important that signal timings are set such that cyclists do not have to wait for substantial periods of time in multiple places, or that desirable grade separation is provided.
- There is a need for a better connection with Whitchurch Railway path, which could be improved to provide an alternative good quality route.
- Consider closing West Town Lane to through traffic, as this duplicates the role of A4174 between the A4 and A37. This would be a major benefit and enable space to be reallocated to cycling.

2) Broadwalk to Bath Bridges

- This section is also busy with relatively fast traffic and based on LTN1/20 protected space for cycling needs to form any cycle route through this.
- Cycle routes need to be of sufficient width – unlike some of those currently in this area, requiring re-allocation of road space.
- There are many side roads (often with poor visibility), to improve safety many of these should be closed to vehicles. Mainline speeds may need to be lowered to allow the safe installation

of cycle priority crossings of remaining side roads. A Knowle Low Traffic Neighbourhood should be considered.

- The Broadwalk junction features an excessive number of lanes on some approaches (e.g. the west side) and should be made more cycle friendly, to connect this route to side roads.
- Need to remove on street parking to provide space for sustainable modes.
- Out, or south, bound there is poor provision up the hill. If a segregated route can only be provided on one side then make it uphill.
- St Johns Lane junction, better facilities for St Johns Lane and outbound. Improve links to side routes, eg. Oxford Street, St Lukes Road, Victoria Park
- Bath Road outbound and Three Lamps junction major improvements required. Consider a new cycling and walking bridge. Better priority for outbound cycles (and buses) to Wells Road.

3) Centre to Clifton Triangle

- Park Street should be closed to through traffic (except buses, cycles and pedestrians) and parking reduced – making it a safe street for cycling although segregation from the numerous buses, certainly uphill, possibly downhill, will be required. If Park Street can not be closed it requires a segregated cycle route both up and down hill.
- The Triangle should be re-designed to be less car centric in general, but especially with Protected Space for Cycling on a direct alignment from Centre to Whiteladies, perhaps along Queens Road, with separate connections to Jacob Wells Road. We have put forward proposals, both permanent and interim, previously.
<https://bristolcycling.org.uk/2013-10-29-pedestrianise-clifton-triangle/>
- On the Centre/St Augustine's Parade. The semi shared space is problematic and a clear segregated (different colours, levels or best pedestrian paved/cycling tarmac) cycle route is required.
- Anchor Road junction needs to be improved. It has Insufficient space for cyclists.

4) Whiteladies Road

- Victoria Rooms junction should be re-designed as per above
- Throughout this section, protected Space for Cycling required, unless traffic volumes can be significantly reduced and average speeds lowered. This would need to be sufficiently wide to allow for the differential in speeds caused by the steep hills. Removing on street parking and the Central reservation will provide sufficient space, except perhaps for a few pinch points.
- Where possible junctions with side roads should be closed to improve safety, reducing on street parking would also reduce conflict. Consider Clifton and Redland Low Traffic Neighbourhoods.
- The gyratory at the top of Blackboy Hill is hazardous to cyclists and due to the volumes of traffic involved Protected Space for Cycling is required. It would be important that signal timings are set such that cyclists do not have to wait for substantial periods of time in multiple places.
- Alternatively, preferably additionally, the existing contraflow route on Grove Rd and Durdham Park could be improved with a safe (traffic light/toucan/tiger ?) crossing of Redland Rd.

5) White Tree Roundabout to North View/Northumbria Drive

- The key Cycle route is along Westbury Road. Proposals for this were dealt with as part of the A4018 bus consultation. The Downs Committee has approved the separation of pedestrians and cyclists in light of the proposed cycle track along Westbury Road, with a new footpath being built on the Downs. The existing zebra crossings at White Tree roundabout need to be upgraded. The section of footway along Westbury Road can and should be widened to allow a minimum 4m shared path around the Badminton School grounds but separation of bikes and walkers should be maintained where width permits.
- Car parking should be removed on North View.
- Could a bus gate be installed on North View?
- Alternatively could a parallel cycle route via Berkeley Rd and Alfred Rd be feasible with treatment of the North View/Northumbria Drive junction linking to White Tree Rd, a quietway?

6) Southmead Rd

- For a cyclist or walker, Southmead Road is not a direct route from Bristol City Centre to the Crow Lane Roundabout.
- It is a busy road and to make cycling open to all would require segregation, if there is space.
- Will a bus gate be considered? How would that work for Hospital traffic?
- There are useful parallel quietway routes (Lake Road and Kendon Drive). It may be resources should be devoted to improving these.
- Proposals for a segregated cycle route along Falcondale Rd, Brentry Hill and Passage Rd were made as part of the A4018 bus Consultation. This is the direct route and these need to be implemented to a high standard.

4.4 Appendix 3b – Stakeholder responses – Bristol University

The below proposals have been developed by Sustainability, University of Bristol - 12.05.2020

No	Location	Category
1	Blackboy Hill - Whiteladies Road - Clifton Triangle - Park Row - Upper Maudlin St	Whole route arrangements
2	Woodland Road (Park Row to Tyndalls Park Rd)	Pop-up cycle lanes
3	Tyndalls Park Road (Whiteladies Road to St Michaels Hill)	Pop-up cycle lanes
4	Queens Road (Clifton Triangle to Gordon Road)	Pop-up cycle lanes
5	St Paul's Road (Whiteladies Road to Queens Road)	Pop-up cycle lanes
6	Parrys Lane - Saville Road - Stoke Road (to Blackboy Hill)	Pop-up cycle lanes
7	Park St (College Green to Queens Road)	Pop-up cycle lanes
8	Colston St (Centre to Park Row)	Pop-up cycle lanes
9	Queens Road (Clifton Triangle)	Filtered permeability
10	Queens Road (Queens Ave to Clifton Triangle)	Widen footways / crossings
11	Junction of Queens Road and University Road	Widen footways / crossings
12	Queens Road (University Road to top of Park St)	Widen footways / crossings
13	Queens Road (junction with Pembroke Road)	Widen footways / crossings
14	Queens Avenue (bus stop)	Widen footways / crossings
15	St Michaels Hill top (local shops)	Widen footways / crossings
16	Lower Park Row	Widen footways / crossings
17	Elton Road (Elmdale Road to Woodland Road)	Widen footways / crossings
18	Clifton Triangle West / Queens Road / A4018	Widen footways / crossings
19	Clifton Triangle East / Queens Road	Widen footways / crossings
20	Queens Road / Park Row / Park St	Widen footways / crossings
21	Park Row (adjacent to Trenchard St car park exit)	Widen footways / crossings
22	Woodland Road junction with Cantocks Close	Widen footways / crossings
23	Tyndall Avenue	Pedestrian and cycle zones
24	St Michaels Hill top (between Tyndall Avenue and Cotham Hill)	Pedestrian and cycle zones
25	Cotham Hill (between Whiteladies Road and St Michaels Hill)	Pedestrian and cycle zones
26	Woodland Road between Elton Road and St Michaels Park	Filtered permeability
27	Merchant Venturers Building, Woodland Road	Cycle parking
28	Tyndall Avenue	Cycle parking
29	Tyndall Avenue / Woodland Road	Cycle parking
30	Langford Campus, North Somerset	Fast-tracking permanent schemes
31	Old Park Hill	School streets

Notes
Cycle corridor using light segregation of existing painted cycle lanes, adding new sections and repurposing on-street parking where required
Light segregation of existing painted cycle lanes, adding new sections and repurposing on-street parking where required
Light segregation of existing painted cycle lanes, adding new sections and repurposing on-street parking where required
Light segregation of existing painted cycle lanes, adding new sections and repurposing on-street parking where required
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Light segregation of existing painted cycle lanes, adding new sections and repurposing on-street parking where required
Light segregation of existing painted cycle lanes, adding new sections and repurposing on-street parking where required
Light segregation of existing painted cycle lanes, adding new sections and repurposing on-street parking where required
Restrict SE-bound motor traffic to buses and other vehicles for service access only (local shops) with priority for pedestrians and cycles; other traffic diverted via west and south of Clifton Triangle (two-way)
Widening of narrow section of footway on approach to Clifton Triangle
New zebra crossing on side road
Widening of narrow footway on pedestrian through route across face of Bristol Museum and Wills Building (removing guardrail)
Widening of narrow footway on pedestrian through route
Widening of narrow footway at bus waiting area
Widening of narrow footways outside Co-op and local shops
Widening of narrow footway on pedestrian through route
Widening of narrow footway on pedestrian through route
Widen footway and increase pedestrian phase on signal controlled crossings x 3
Widen footway and increase pedestrian phase on signal controlled crossings x 3
Widen footway and increase pedestrian phase on signal controlled crossings x 2
Widen footway and increase pedestrian phase on signal controlled crossing
New zebra crossing
Restrict motor traffic to buses and other vehicles for University access only (University campus) OR introduce one-way arrangement for private vehicles
Restrict motor traffic to buses and other vehicles for service access only (local shops)
Restrict motor traffic to buses and other vehicles for service access only (local shops)
Restrict motor traffic to buses only with priority to pedestrians and cycles (University campus)
Repurposing of part on University underground car park to secure cycle parking
Provision of additional short stay cycle parking on University estate
Repurposing of on-street car parking bays to short stay cycle parking
Conversion of bridle way to shared use route
Restricting vehicles for school drop-off and pick-up at St Michael's on the Mount C of E Primary School, Old Park Hill (very narrow streets on approach)

4.5 Appendix 3c – Stakeholder responses – Bristol Walking Alliance

Response by Bristol Walking Alliance to the A37/A4018 Transport Corridor Improvements Consultation



Bristol Walking Alliance would like to make the following points in connection with the consultation on what measures should be taken to improve the A37/A4018 Transport Corridor.

We have responded to the specific questions posed in the online consultations, make some general points that are relevant to this and other bus corridors, and include comments on specific issues with this bus corridor.

Responses to specific questions from the online consultation

Would you support more bus, walking and cycling infrastructure and priorities even if it meant taking road space away from cars?

Yes, we strongly agree with this. It will also be an essential part of achieving the Council's 2030 goals for addressing the Climate Emergency and for meeting its clean air targets.

Do you agree or disagree that that the following should apply to main transport corridors: Have safe crossing points; Have enough shade and shelter; Have places to stop and rest; Minimise traffic noise; Be places people can walk and cycle; People feel safe; Have things to see and do; People enjoy using the route; Have clean air ?

Yes, we strongly agree with all these Healthy Streets Indicators. Indeed we support Healthy Streets being used generally on Council schemes as a design tool, and to test people's perceptions of the before/after improvement.

What are the main difficulties you currently experience with the street environment along the A37/A4018 transport route?

From the offered list, we believe the following apply:

- *The road is unpleasant to walk along*
- *The buses get held up in the traffic / the buses are too slow*
- *The buses are unreliable*
- *The street is busy with traffic*
- *There is too much congestion*

How important do you think the following improvements to the transport corridor are?

From the offered list, we believe the following are very important:

- *Easier to cross the road*
- *Wider pavements*
- *Bus priorities to speed up journey times*
- *Bus stops with shelters*
- *Increased greenery such as trees and bushes*

Examples of positive changes

We fully support the introduction of the following measures listed in the consultation:

- *Dropped kerbs and tactile paving at crossing point*
- *One way route with reallocation of road space using planters and raised bus stop*
- *Pedestrian crossing showing pedestrian priority*
- *Point closure on residential road allowing access for cyclists and pedestrians*
- *Continuous footway over an entrance to residential road*
- *Raised pedestrian/cycle crossing priority on side road*
- *24 hour bus lane available for buses, cyclists and motorcyclists*
- *Zebra crossing for both pedestrians and cyclists (segregated!)*

We like the lights-controlled crossing at Clifton Down, and wonder if it can be replicated elsewhere. At that crossing, the space for motor vehicles is minimised. This allows frequent green light for pedestrians whilst making it safer to cross and minimising delays for motorists.

Comments that apply to this and other bus routes

Pedestrian improvements

Bus routes, especially in the city centre and inner suburbs, are also important routes for pedestrians.

In some places, the width of the footway is inadequate for the number of pedestrians.

- Pavement width should be proportionate to the numbers of pedestrians using it (e.g. it is inadequate on Anchor Road at the bottom of Park Street, and on Queens Road especially at the Triangle).
- Pavements should not be shared with cycles (e.g. on Bath Bridge and along Bath Road).

In some places, there is insufficient space to allow for both those waiting for a bus and for those passing by.

- Pavements should be wider at bus stops (e.g. Queens Road, Wells Road/Highgrove Street, and Wells Road/Beaconsfield Road).

Progress along the route for pedestrians is often hampered by the number of side junctions where it is difficult or dangerous to cross.

- Wide side junctions should be narrowed (e.g. Whiteladies Road/Aberdeen Road and Wells Road/Oakmeade Park).
- Continuous footways should be provided across side junctions.
- Where alternative access is possible, side junctions should be closed to motor traffic.

Crossing busy roads along the route can be difficult for pedestrians.

- Where there are lights-controlled junctions, explicit pedestrian crossing points should be provided on the branches (e.g. junction of West Town Lane with Wells Road).
- Lights sequences should give adequate pedestrian crossing time.
- All standalone lights-controlled pedestrian crossings should be upgraded to Puffin crossings with pedestrian-responsive timing.
- New crossings should be introduced where there are long stretches without any crossings (e.g. Wells Road).
- Whenever possible single-stage crossings should be used rather than multi-stage.

For the elderly and the frail it can be important when walking to local facilities that there is the opportunity to rest.

- Seating should be provided, preferably away from the road, on well-used pedestrian routes to shops and bus stops.

In addition, for some pedestrians, lack of access to public toilets prevents them venturing out.

- Public toilets, or public access to toilets in business premises, should be available and signposted across the city centre and in all local centres.

Bus improvements

Many pedestrians are also users of public transport. To increase the use of public transport it is essential that buses run regularly and reliably. Congestion on the roads, particularly at peak hours, is the biggest barrier to reliability. There are several places along this route (e.g. Whiteladies Road, Wells Road) where bus lanes are inadequate because of limited hours of operation and lack of enforcement

We advocate the following measures wherever congestion is an issue along the route:

- Bus lanes should be provided along busy roads and leading up to busy junctions.
- Buses should be given priority at junctions.
- Bus lanes should be 24-hour or at least have extended hours of operation (7am-10am, 3pm-7pm).
- Bus lanes should be enforced by CCTV.

Regularity of service is important, along with making any waiting times known and comfortable:

- All bus stops should have bus information displays.

- Reliability of information displays should be improved.
- All bus stops should have shelters and seats.

It is important for those who are less agile that bus stops are conveniently placed for transport connections and for access to retail and leisure areas:

- Distances from bus stops to railway and bus stations and to retail and leisure facilities should be kept well within the maximum guideline of 400m, and preferably less than 100m.

In the city centre, connections to other main bus routes need to be well defined and easy to use.

- Bus stops that provide transfer points to other bus routes should be sited close together, should not involve crossing busy roads, and should offer enhanced waiting facilities.

Comments on specific areas along the A37/A4018 corridor

West Town Lane to Airport Road

The lights-controlled junction of **West Town Lane** with **Wells Road** needs explicit pedestrian crossing space and lights on at least three branches.

Broadwalk to Bath Bridges

More formal pedestrian crossings (zebra or lights-controlled) are needed along **Wells Road**. For example, there are no such crossings on the long stretch between Cemetery Road and Greenmore Road.

The many side junctions on **Wells Road** should be provided with continuous pavements. The speed limit along Wells Road road should be reduced to 20mph, as on other similar built-up arterial roads (e.g. Whiteladies Road).

At the junction of **Wells Road** and **St John's Lane**, it is unacceptable that it requires FIVE separate pedestrian stages/waits to cross from Mama Bear's Day Nursery to Tescos.

The footway across **Bath Bridge** and along **Bath Road** to **Three Lamps** is totally inadequate, especially as it is currently shared with cyclists.

Since the No 1/2 bus stop was moved from outside **Temple Meads** station to the end of Victoria Street it has made the distance that pedestrians have to walk to the station platform more than 400m. Also, the distance between the stop at the bottom of the Wells Road to that stop is around 850m, which is too great a separation.

Centre to Clifton Triangle

Nelson Street should be made into a pedestrian-only zone as it provides a key walking route between the Centre and Broadmead. Buses could be re-routed along Lewins Mead with a new two-way bus-only section into Union Street.

The **Centre** no longer provides a convenient interchange point between bus routes because the bus stops are too far apart (approx. 400m between stops C6 and C9). Well defined interchanges with other cross-city bus routes should be provided, with good waiting facilities and information displays.

Pedestrian routes between **College Green** and the **Centre** are inadequate. The pavement beside Anchor Road is too narrow for the number of users, forcing pedestrians into the cycle lane. There is no pedestrian-priority crossing, only a refuge, on the desire line across Anchor Road at the bottom of Park Street between Mark Lane and Denmark Street.

Through traffic should be excluded from **Park Street** by including a bus gate at the top of the hill, making it easier for pedestrians to cross the road. If through traffic is not excluded, there should be changes to make it safe to cross part-way down the hill. Continuous pavements should be introduced at each side junction along Park Street, making it easier for pedestrian to walk up and down this key walking route.

The footway on the east side of **Queens Road** is too narrow with an inadequate bus stop (though the temporary Covid-19 related changes have improved this). This part of the **Triangle** should be made into a pedestrian priority area with two-way bus/cycle down the middle having built-out bus stops with shelters on each side. Other motor traffic should go around the other two sides of the Triangle. This will also provide better foot access to businesses inside the Triangle.

The temporary closure of the junction with **University Road** should be made permanent, but if this is not possible a continuous pavement should be provided along this section of Queens Road.

Whiteladies Road

Side junctions that are too wide for pedestrians, with turning vehicles, make it difficult to cross: **Aberdeen Road, West Road, Belgrave Road**. Build-outs or continuous pavements are required.

The outgoing bus lane along **Whiteladies Road**, particularly the section between Whatley Road and Apsley Road, is often blocked by parked vehicles during peak hours – it needs extended hours and better enforcement.

The pavement on the east side of **Whiteladies Road** between Cotham Hill and Aberdeen Road is narrow and obstructed by street furniture and commercial bins.

There is a pinch-point in the pavement on **Whiteladies Road** between Ashgrove Road and Westfield Park which could be reduced by removing one of the parking bays.

White Tree roundabout to North View/ Northumbria Drive

Whether through this scheme or the A4018 improvements, the western side of the stretch of **Westbury Road** between the top of Blackboy Hill and White Tree roundabout should be segregated with pedestrians on a new parallel path on the Downs (as agreed by the Downs Committee) and cyclists having a dedicated lane by the road.

White Tree roundabout is a bottleneck, particularly for buses exiting from **North View**. It is difficult to reconfigure without taking land from the Downs. Could lights control improve peak flows?

Southmead Road (Henleaze Road to Doncaster Road section)

The section of **Southmead Road** between Henleaze Road and Wellington Hill West has four lanes of traffic with bus stops on each side but no pedestrian crossing to reach them.

Crow Lane roundabout to Henbury Road

No comments

Bristol Walking Alliance
10 September 2020

enquiries@bristolwalkingalliance.org.uk

4.6 Appendix 3d – Stakeholder Response – Joint Labour Party Letter

Dear Kye,

We are pleased to see that Bristol City Council has been awarded £3 million to improve the A37/A4018 transport corridor. This is a vital connection between the north and south of our city, and is particularly valuable to us in Stockwood as it sits along the number 2 bus route. We are also delighted that the focus of the improvements is on new infrastructure for walking and cycling, as well as improving access to the bus network and improving the reliability of public transport.

We are reaching out to you to express our support for the consultation on the improvements that local people would like to, as well as to highlight several areas that we have identified where we believe this funding could be used for the benefit of both of our wards.

Our priorities lie along the A37, particularly the segment between Whitchurch Village and the A4174. Our first idea for improvement would be a segregated cycle lane along this road. There currently exists a painted cycle lane, but we believe a segregated lane would provide additional safety for cyclists. There are issues regarding bus stops and parking that would need to be looked at, but we believe there is enough road space that a significant amount can be reallocated for cycling.

A second improvement is the West Town Lane/Wells Road junction. We believe the current junction is far too car-centric, and is not safe or suitable for walkers or cyclists, particularly young children or less mobile people. Our idea for this site is that this crossing could be given pedestrian controlled lighting. This would enable people to control the flow of traffic and cross safer. This would also involve creating islands on the central divide with barriers suitable for bicycles to keep people safe from accidentally stepping into traffic. This improvement would greatly improve access to the bus network, as well as make the journey to school safer for students at West Town Lane Academy who live in the Hengrove and Whitchurch Park ward, as well as those who live along the Wells Road and around Beryl Grove.

We look forward to working with you on delivering these key improvements along this route, and will continue to promote this consultation and make the case for active travel improvements locally. We are very happy to meet with officers or members of your team to discuss these improvements further, as well as any other opportunities to improve local walking and cycling connections. In solidarity,

**Mark Brain
Samuel Fox
Justin Ibbett
Lee Starr-Elliott
Jon Moore**

 **Labour**



Walkability Report No 1

Appendix A

Broadwalk to Bath Bridge

Feedback by volunteers on obstacles and benefits on the route

A. Wells Road from Broadwalk to School Road, both sides, Tuesday, 17th July 2018, 3pm

1. Broadwalk/Wells Road junction – Green Man indicator is given in every direction at the same time but there is insufficient time for the pedestrian to comfortably cross in any direction (ie diagonally); therefore, to cross the road diagonally, it is necessary to cross the feeder roads in turn waiting for a cycle of the traffic lights at each stage
2. Bench by the Broadwalk Shopping Centre



3. Traffic noise felt to be high in many places
4. Air quality felt to be affecting breathing a little after a period walking on Wells Road

5. Presence of A-boards on the pathway resulting in needless obstruction



6. Sheffield stands for bicycles positioned at an angle on the pavement resulting in needless pavement narrowing



7. Bus stop and shelter taking up the full width of the footpath when busy with people queueing and boarding an in-bound bus



8. Problem junctions on Wells Road, for example,

- Redcatch Road – vehicles turn at speed off the Wells Road into Redcatch Road (a one-way street) – this means that the pedestrian crossing Redcatch Road must look out for vehicles turning off the main road suddenly from north and south directions



- Beaconsfield Road – very wide side road with fast traffic leaving the main road from 30mph to 20 mph zone – the curved pavement encourages the driver to maintain main road speed into the side road



9. Where a traffic island is provided to support crossing the Wells Road between junctions with Beaconsfield and Calcott Roads, we found the central island too small and felt vulnerable with traffic travelling at speed on both sides – you can see this informal crossing on the left of the above photograph indicated by a tall pole carrying a spherical lamp
10. The traffic island at Beaconsfield Road is a crossing with the benefit of an island and the only way to cross the two busy lanes of fast traffic in a half-mile stretch from Greenmore Road to Cemetery Road.
11. Footpath narrowed by overgrown hedging on the hill
12. Footpath on the east side between Somerset Road and Clyde Road is narrow bringing the pedestrian close to fast-moving traffic – a situation that worsened a few years ago when the northbound bus lane was widened pushing southbound traffic closer to the footpath
13. Bicycle users going south climbing the hill on the wider west pavement – some are courteous, some are rude presuming right of way; it seems that they are on this pavement to avoid the traffic on their slow climb where the road is narrowed by the northbound bus lane

14. Damaged brick-paved footpath fronting parade of shops (Wells Road Nos. 180 to 186), used by cars to pass over to park, making it a precarious place to walk – pavement rough and sloping towards the roadway



15. Waiting time at light-controlled pedestrian crossings (Pelican or Puffin) is excessive – eg pedestrian presses the button, waits, sees a gap in the traffic, crosses the road, lights change to give the pedestrian the Green Man, which they no longer require and as a result, car waits needlessly at red light
16. Uneven surface in places – difficult to illustrate
17. Footpath narrow in places – see other illustrations in this report
18. Trees lining the street are a welcome sight – see illustrations above

**B. Wells Road from School Road to Three Lamps then Bath Road to Bath Bridge
Saturday, 4th August 2018, noon**

19. Problem junctions: crossing side roads is troublesome as vehicles leave the main road at speed, both sides of Wells Road
- School Road – although it's not wide, it's difficult to observe approaching vehicles in three directions – Wells Road northbound, Wells Road southbound and School Road westbound
 - Highgrove Street – same experience as School Road

- Lilymead Avenue – the side road slopes onto the main road and as a result a vehicle speeds up leaving and joining the main road; this junction also has a kerb space between the dropped kerb and the City Car Club reserved parking bay which is not quite big enough for a vehicle but, if parked regardless, results in an obstruction for the pedestrian crossing the side road



20. Sheffield stand for bicycles positioned at an angle on the pavement resulting in needless narrowing – if this Sheffield rack were parallel to the main road it would double as a bollard to prevent pavement parking



21. Footpath close to fast and noisy traffic passing this parade of shops (inc. 142 Wells Road), due to narrowing of the road and cars (legally) parked in the bus lane opposite



22. Continuous pavement over the one-way junction with Knowle Road is a good experience for the pedestrian but would benefit from a traffic stop line on the Knowle Road side of the continuous pavement



23. Continuous pavement at Knowle Road incorporates a cycle path which is not obvious to the pedestrian and laid out to suggest that the pedestrian should give way

24. Bus stop and shelter taking up the full width of the footpath when busy with people queueing and boarding an in-bound bus



25. Stores on the west side of Wells Road, south of the St Johns Lane junction – vehicle parked on the pavement, obstructing inward bus flow, driver unloading goods into the store; on examination we could find no other access to the store for deliveries; it appears that the store no longer has its former delivery entrance at the rear – presents a dilemma: encouraging local shops / creating safe pavements



Clutter on the Wells Road looking north

26. Pedestrian crossings at School Road and the St Johns Lane junction are some distance, given the intervening shops and a day nursery

27. Nice place to rest at the Wells Road junction with St Johns Lane, thanks to the efforts of local campaigners, much appreciated



28. Up to five stages to crossing at the Wells Road/St Johns Lane junction; encourages the pedestrian to dash through the traffic





St Johns Lane/Wells Road if you want to get from Mama Bear's Day Nursery (on the east side) to Tesco (on the west side) you must first cross the southbound Wells Road traffic, then the northbound traffic, walk a bit cross the westbound St John's Lane traffic, cross the eastbound St John's Lane traffic turning south, then finally the eastbound St John's Lane traffic going north on the slip road. Nimble pedestrians follow the shortest route by running through the traffic!

- 29. Speed of the traffic turning into Angers Street from Wells Road, which is one-way off the main road, was found to be quite threatening to volunteers crossing this narrow side road
- 30. Light-controlled pedestrian crossing between St Johns Lane and Bellevue Road is well positioned for access to bus stops on each side of the main road
- 31. Handy bench near the bus stop



32. Drop kerb at Bellevue Road in need of improvement – drop kerb insufficient



33. Wells Road east side - overgrown trees obstructing and obscuring the footpath on the approach to the Bath Road at Three Lamps junction



34. Four-stage crossing for the pedestrian at Three Lamps Junction (Bath Road/Wells Road junction), which feels confusing and potentially hazardous due to buses being

allowed through whilst other road vehicles are stopped

35. Bath Road east side - overgrown trees obstructing and obscuring the footpath between the railway bridge and Wells Road junction

36. Bath Road east side -this is a very narrow path with a white line down the centre to segregate the pedestrian from the bicycle user; cycle path is outbound only (going south) but frequently used inbound and can be frightening for all users



37. Bath Road west side approaching Bath Bridge – bicycle-user slip road from highway onto footpath with no indication to pedestrian or cyclist how to deal with this



38. Bath Road west side – road sign posts in the roadway at the cycle slip road, pictured above, create an obstruction: space between the posts is 88cm and between the right-hand post and the kerb is 110cm



39. Newly refurbished section of road and footpath at the approach to the Bath Bridge – not clear why half the pavement is tar and rest is paving stones – potential for huge pedestrian/bicycle-user conflict



40. Crossing York Road is now light controlled, which is welcome; crossing York Road onto Bath Bridge is easy but the crossing requires a long wait – 90 seconds waiting for the Green Man on this occasion; a similarly long wait was encountered at the Pelican crossing on the southbound carriageway of the Bath Road

End of Walkability Report No 1, Appendix A

4.8 Appendix 4 – Summary A37/ A4018 responses by area

The following tables summarise the comments received from the survey and mapping tools by area. The areas are as follows:

- The Coots to West Town Lane
- West Town Lane to Airport Road
- West Town Lane to Priory Road junction
- Broadwalk to Bath Bridges
- Bath Road to Victoria Street
- Victoria Street to College Green
- Centre to Clifton Triangle
- Whiteladies Road
- Westbury Road to White Tree roundabout
- White Tree Roundabout to North View/ Northumbria Drive
- North View to Henleaze Road
- Greystoke Avenue to Knole Lane
- Passage Road roundabout to Henbury Road

The Coots to West Town Lane

Buses	Should link along Staunton Lane and the A37 to South Bristol Hospital / Imperial Park and one person would like a bus stop at the bottom of Sturminster Road be moved 50 yards up the road.
Crossing points and safety	Required on Sturminster Road to allow better access to Woodlands Academy and Hollway shops and there was a request for traffic calming on this road to slow traffic.
Cyclists	Better signage to highlight presence of Whitchurch Railway Path and join up cycle infrastructure from Manston Close to West Town Lane. Cycle lane required along Sturminster Road and can be achieved by removing parts of the grass verge. Needs a cycleway that connects the Craydon Open Space to Craydon Road (leading to the Whitchurch Railway Path). Continue the Whitchurch Cycle Path.
Pedestrians	Footpath needs clearing and cutting back to allow for better access between The Drive and the Whitchurch Railway Path to allow residents to access buses and cycle routes. Zebra crossing required enabling safe access to shops, doctors and school on Stockwood Road.
Other	Double Yellow lines are needed on bottom of Sturminster Road the length of Sportsfield

West Town Lane to Airport Road

Theme	Summary of comments
buses	Request for bus improvements such as provide more bus lanes and bus priority at traffic lights to help reduce journey times. Make bus lane 24 hr from Whitchurch into central Bristol. Traffic priority at the junction with Airport Road.
Cycling	Continuous and segregated (1.5m+) cycle lanes on either side of the road with priority over side junctions. Advanced stop line for cycles. Segregated cycle lane up wells road from Airport road, because it's so steep and cars are accelerating hard from a

	stop. The West Town Lane and A37 Wells Road junction could be a candidate for a Dutch roundabout with priority for people not cars. Take space out of the two lanes to make a bus lane/cycle lane. Provide fully segregated single-directional cycle tracks on both sides on Sturminster Road as there is adequate road width to accommodate.
Pedestrians	All side roads need to have full drop curbs, pavements need to be level and not full of lumps and bumps which inhibit wheelchair users being able to use it safely and it is essential that the pavements are not shared spaces and cyclist need to use the roads for the safety of all. Needs marked pedestrian crossings and green/red lights as it is currently very dangerous to cross Airport road/ Wells Road in any direction. There should definitely be pelican / puffin crossing at the junction of West Town Lane / Wells Road / Hengrove Way. Improved pedestrian crossing at traffic lights at junction of West Town Lane and Wells Road. There is no concession for pedestrian trying to at the West Town Lane junction. Given the number of schools in the area & immediate proximity.
Road layout	Make the southbound left lane on Wells Rd left turn only to improve car and cycle access to Airport Rd. The outbound lanes as they approach the traffic lights cause congestion and dangerous driving. Make the left lane for turning left only so traffic waiting for green straight on signal doesn't block the cars turning left. This will reduce pollution avoiding idling. Difficulty turning left or right onto Wells Road need green arrow filter lights.
Traffic lights	Improve the traffic lights to make it safer for vehicles and for pedestrians to cross at Airport Road / Wells Road/ Hengrove Way junction. The junction of Broadwalk, Wells Road and Priory Road would be safer if cars from Broadwalk and Priory road were given separate changes of the lights instead of the cars having to cross each other at the junction at the same time. Filter arrows for turning across Wells Road, you have to jump across in front of cars or can wait 2-3 turns to green before turning
Speeding issues	Traffic calming for vehicles travelling along Callington road, as they travel very fast, particularly at night, and for the downhill section of wells road, between Callington rd and Broadwalk. Speed calming measures on Sturminster Road.

West Town Lane to Priory Road

Buses	Put buses in laybys so reduces congestion and stops cars pulling out suddenly.
Clean air	Heavily polluted part of Wells Rd. Traffic pollution prevents walking and cycling. divert heavy lorries from A37
Crossing points	Give pedestrian control to the lights on the Wells Road/West Town Lane crossing, and improve the crossings and island. There is no provision for pedestrians to cross the Wells Road with Hengrove Lane. Widen the pavements, plant trees to make this area more pleasant and safe.
Cyclists	The cycle paths along Airport Rd and Callington Rd both stop abruptly before Wells Rd and lead you onto a narrow pavement and pedestrian-only crossing. A fully segregated cycle lane should be provided down Wells Road. Need segregated cycle lane up the A37. At Callington Road junction with Airport Road there is a cycle path either side, but it is none existent at junction forcing you to ride with pedestrians in right space.
Noise	Far too many HGV's use this area - it is noisy, dirty and unpleasant for walking.
Pedestrians	Pavement on the east side of Wells Road is too narrow. When buses and HGVs travel along the east side of Wells Road the close proximity causes huge air draft. It is not a pleasant safe pavement. At Broadwalk with Talbot Road junction the wait is too long and then not enough time to cross safely, especially if you want to

	cross two sides. Wait time for pedestrian crossing is so long here and there scale of the junction means you need to run to cross diagonally. Need to make more space for people and less for traffic.
Safety	Lorries and other vehicles travel very fast downhill. The pavements are very narrow and it feels unsafe, particularly with young children.
Traffic signals	The traffic lights on the Wells Road / Airport road junction only have pedestrian signalling on one side, needs pedestrian signalling on all crossing points
Other	There is a major road junction here controlled by traffic lights. It provides no protected crossing time for pedestrians and is very dangerous to cross.

Broadwalk to Bath Bridges

Buses	Introduce bus lane as bus gets stuck in traffic. There is only space for one bus lane along most of the Wells Road, so why not look at 'reversible bus lanes'? This could be located in the centre of the road and used by inbound buses in the morning and outbound in the afternoon. Make the bus lane continuous. 24HR bus lanes needed. Need double yellow lines all the way from Broad Walk to Bellevue Road, no car parking on main road at any time & permanent bus lane. Bus lanes are too narrow.
Clean air	The exhaust fumes from congested traffic up the hill create very poor air quality for walkers and cyclists. Standing traffic causes stinking air, get more trees or less cars.
Crossing points	There is a desire line between two parts of Totterdown especially for people wanting to go to the Oxford Street shops from Three Lamps estate, so need crossing by Angers Road. The St Johns Lane junction is designed around motor vehicles. Pedestrians have to wait a long time for the green aspect and have to cross in multiple stages. Also no crossing over the north arm. Would be useful to have additional crossing points along the A37 corridor, lots of young families here. Safety should be a priority.
Cyclists	The cycle lane needs to continue all the way from Three Lamps to Broadwalk, not stop suddenly just as the hill gets steep. Cycle lane going up the Wells Road. An actual unbroken cycle lane that goes all the way to Temple Meads. Why has the section around Temple Meads and Bath Bridge been missed out on this? Reduce width of the road for motor traffic between Three Lamps and Temple Meads to allow space for proper separated cycling infrastructure and wider pavements for pedestrians and to slow traffic speed.
HGVs	Ban or discourage HGVs from using the Wells Road as they pollute the area. Reduce lorry traffic significantly by building the ring road project. Drivers go so fast up and down the Wells Rd, especially buses and lorries. The 30mph speed limit does not apply. It makes the area feel very unwelcome.
Other	Despite measures to restrict it a lot of cars use Redcatch / Bayham as rat run to queue jump when A37 busy. Point Closures preventing vehicles from rejoining A37 needed. Low Traffic Neighbourhood. Traffic constantly gets gridlocked here at busy times with traffic coming down the Wells Road and blocking traffic coming into it from St Johns Lane. There are far too many HGVs that use Wells Road as a cut through the city, many of them travelling far too fast down the hill.
Pedestrians	Putting more vegetation along the route may encourage walkers; help with air quality and carbon impacts, there is room to do this on some stretches of pavement on the A37. Either widen pavement to improve pedestrian/cycle use along the road or put in dedicated cycle and bus lane in both direction. Walking

	from Three Lamps to Bath Bridges is unsafe at the moment as there is not enough space for both cyclists and pedestrians on the pavements. The staged pedestrian crossing near Broadwalk is dangerous, pedestrians are left in the middle of the road waiting for the lights to change and often run across on red, have a single crossing all the way over. Have a second pedestrian crossing further down the Wells Road near Beaconsfield Road. All side roads need to have full drop curbs, pavements need to be level and not full of lumps and bumps which inhibit wheelchair users being able to use it safely. There needs to be more pedestrian crossings between the Broadwalk and the Coop in Totterdown. More pedestrian or zebra crossings along the Wells Road.
Road layout	Unable to turn right from Wells Road onto Bellevue Road, causing unnecessary additional travel. The roads opposite to the Wells Road used as rat runs especially Oxford Street and Cambridge Street, preventing residents from turning right from Bellevue Road onto Cambridge St. More double yellow lines around bend as these are blind spots especially when larger vehicles park on corners. Broadwalk junction needs redesigning e.g. inbound left turn filter to Broadwalk. Make Calcott Road and Wells Road junction no access. Reducing this route as a rat run for traffic avoiding the Broadwalk traffic signals. Improve road surface as too many pot holes and dangerous.
Safety	Reduce the speed limit on A37 as this would increase safety for all using the corridor. Many HGVs using the road at speed.
Street scene	St Johns Lane area which is surrounded by businesses and restaurants and are already shielded from the busy road could be better utilised as a public green space with outdoor seating and allow for more social distancing. Attractive bin stores and greening to disguise service area of commercial units, or at least hide from pavement view in some way.
Traffic signals	Cambridge Road is used as a rat run. Cars ignore no entry sign on Cambridge road in rush hour. Enforcement camera needed

Bath Road to Victoria Street

Buses	Reinstate the bus stop close to Temple Meads for Northbound buses. The re-design of Temple Meads includes a bus-hub on the Friary, but buses from the South cannot turn right here to gain access.
Cyclists	Current cycle lane is a line of paint on the pavement by Temple Gate. Inadequate for current and future cycling numbers. Suggest replace with segregated cycle lane on either side of the road by removing one lane. There is no cycle access to Temple Meads from the south. Improve cyclist facilities on Redcliffe Way approach. Currently just an ASL but cyclists struggle to filter through to access this. 6 lanes of motor traffic on Temple gate yet cyclists and pedestrians are forced to share pavements. Shared space is not suitable for busy locations.
Other	There is no access into Temple Meads from South Bristol; the only way to reach it is a long detour via Temple Gate, thereby increasing journey time of vehicles.
Pedestrians	Traffic dominated junction with multiple stages for pedestrians crossing. Need to widen footway as does not comply with standards or policies at Temple Gate.
Safety	The pedestrian route over Bath Road bridge is very dangerous and unpleasant. Fast buses travelling inbound, centimetres from pavement. More provision needed for pedestrian safety.
Street scene	Bleak and depressing pedestrian route on Bath Bridges
Traffic signals	At the moment traffic to the station from the south is forced to go down towards

	St Mary Redcliffe and back or all the way to Old Market, increasing congestion and pollution. Put in a right turn or roundabout at Three Lamps Junction.
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Victoria Street to College Green

Buses	Suggest route bus corridor via Baldwin St instead of around Broadmead. If travelling to Temple Meads on the number 2, the bus often stops for about 10 minutes on the Horsefair. Please cut this time or let passengers to complete the journey on another service. The Temple Meads bus stop is too far from the station for those with luggage, mobility issues and everyone in bad weather.
Cyclists	Cycle lane by St Augustines Parade not clearly marked and pedestrians wonder into it. Needs proper protected cycle routes across the junctions of High Street by St Nicholas Street. Segregated lane ends straight onto pedestrian crossing by College Green. Segregated 2-way cycling preferred in Castle Park. Cycle lane for Park Street.
Other	Too much space allocated to on street parking by High Street. Let private cars use Bristol Bridge/Baldwin Street again.
Pedestrians	Re-allocate space to pedestrians by College Green and Anchor Road junction. The Horsefair by Merchant Street should be pedestrianised. Difficult for pedestrians to get from the centre to the Anchor Road crossing to College Green. The Baldwin Street Victoria Street junction is complicated for pedestrians.
Safety	Cyclists coming down Park Street have to cross right and cross ped crossing to get to infrastructure. The cycle route on the centre is great but too fast and cuts across the natural pedestrian routes to College Green.
Street scene	Remodel to make the street-scene worthy of this super-historic site by High Street by Broad Street
Traffic signals	The zebra crossings in a highly used pedestrian area cause major delays that can back traffic up onto Wine street and Baldwin street, and therefore throughout the city.

Centre to Clifton Triangle

Theme	Summary of comments
Road layout	Reduce/remove car traffic from Park Street to make it easier for the bus as well as reducing pollution and enabling cyclists and pedestrians to have a more pleasant journey up and down Park Street. Make dual carriageway in front of the museum a single carriageway. Roads all around the triangle need resurfacing, there are some big potholes which are particularly dangerous for cyclists. Add more greenery to absorb emissions; whether that is trees or plants but do not compromise road space in order to do this. Park Street works, is functional and feels like a safe place to walk/commute.
Buses	Quicker boarding of buses or more frequent buses so that they're not waiting 10 mins in rush hour to depart. Also removing Broadmead as a changeover/idling area as the bus waits for 10 mins in Broadmead and then 10 min at this bus stop adding to journey time. Bus priority lanes on the triangle, remove parking from Park Street. Park street no through route except for buses enforced by camera (taxis access only).
Cyclists	Make Triangle bi-directional for cyclists (in a continuous and segregated cycle lane). Replace parking and traffic lanes with restaurant/bar seating where appropriate. Widen pavements. Make Park Street open to bikes, buses and taxis only. Uphill cycle

	track on Park Street. The cycle lane that stops by college green needs to extend up the hill. Ideally it needs to not be contraflow; turning into it from downhill is a nightmare.
Pedestrians	Stop so much parking along Park street and give pedestrians priority at side roads. There are no crossings between College Green and the Triangle. Queens Road should be completely pedestrianised. Park Street should be closed to most traffic, open only to buses, cyclists and access for residents – plus business restocking at limited times of day. Raised continuous pavement giving pedestrians priority along Park Street (and Triangle). Need a crossing on Park Street and pavements too narrow at the Triangle and Queens Road.
Clean air	Make air quality legal by closing Park St to private cars in same way as Baldwin St. Remove parking, widen pavement and introduce al fresco dining areas for bars/restaurants. Allow trade vehicles outside office hours & pedestrianise, hold outdoor market to revitalise shopping area. Could extend pedestrian area through centre to join with new Baldwin Street restriction
Crossing points	Clear pedestrian crossing desire lines here between Waitrose and Queens Ave. Pedestrians currently attempt to run across. Replacing with 2 x Zebras either side of the median would make this safe. Install 2+ zebra crossings on each side of the Triangle
Other	Shut Queens Road (Triangle Bit) and make Triangle East and South Two way again. This has been requested for years. A safe protected clearly marked cycle route could remain. Give space to tables and chairs. Close Queens Rd on Bristol Museum's side to all transport modes other than walking and cycling
Safety	The triangle is a horrible place to cycle round, up to 3 lanes wide, to get to some exits you need to switch lanes multiple times, while cycle slowly up hill, and have had plenty of scary moments. Park street is too difficult to cross.
Street scene	Reallocate parking and/or traffic lane to pavement dining. Support local businesses by using attractive planters to create dining space / spill out.

Whiteladies Road

Theme	Summary of comments
Buses	Get parked cars off of the road so buses can move quickly. Build a tram line instead of buses along this route. A lot of investment along this route already why need more? More affordable and reliable buses required and 24 bus lanes on key routes. Bus lane between Hurlle Road and Ashgrove Road is frequently blocked with parked cars. The bus lane should be permanent and clear.
Cyclists	Safe, separated cycling infrastructure throughout, even if it means taking space from cars. Whiteladies Road doesn't have a continuous lane. The traffic islands are effective at traffic calming and allowing pedestrians to cross, but the road would benefit from a couple more between Whatley Road and Aspley Road. Top of Whiteladies Road is a no-go zone for many cyclists. Fully segregated infrastructure should be a top priority here.
Pedestrians	More priority for pedestrians when crossing side roads. Close Roman Road to cars (and consider removal to improve Downs). All side roads need to have full drop curbs, and not drop into drain covers, pavements need to be level. Point closures on residential roads leading onto Whiteladies. There is no space to walk on the pavement. Cars are now speeding off Whiteladies Road making the road even more dangerous. Bottom of Cotham Hill needs closing urgently.
Road layout	Remove parking on Whiteladies road to allow continuous bus lanes to be added. Make the gyratory system at the top of Whiteladies safer and more pleasant by removing

	traffic lanes / adding calming measures (narrowing, planters etc.). Reduce on street parking to allow proper separated continuous cycle infrastructure.
Crossing points	Replace traffic light with zebra crossing at Clifton Down station / shopping centre / Whiteladies Gate area.
Safety	Tree root has caused a massive bump in the cycle lane making it completely unusable by St Pauls Road junction. Eliminate car parking on Whiteladies Road and specifically at the top of the road and reallocate to pedestrians and cyclists.
Road closures	Aberdeen Road is a rat run for Whiteladies Road and needs a point closure.

Westbury Road to White Tree roundabout

Bus issues	Reinstate the bus lane layby. Buses are often waiting for opportunity to enter White Tree Hill roundabout. Cyclists can enter much more easily but are either stuck at the back of the queue, or try to filter through a long line of busses with very little space between or in front
Cyclists	Westbury Road and Parrys Lane junction is difficult to cross as you have to negotiate a lane divider that and has no dropped curb. Makes the junction massive and convoluted. Junction is wide and motor traffic is not calmed so they do not brake. Current shared use path has many conflicts between cyclists/pedestrians. This and the danger from cars of trying to cycle straight ahead across Parrys Lane means many cyclists use road instead.
Other	Junction layout at Westbury Road / Redland Hill is not currently working causing traffic to back up. Eastbound traffic from Redland Hill trying to enter Blackboy Hill backs up (engines running) for too long due to heavy southbound priority flow

White Tree roundabout to North View /Northumbria Drive

Theme	Summary of comments
Buses	Covered bus stop outside Westbury Park Tavern (opposite Waitrose) in Northumbria Drive - currently just a bus stop post with no protection from the elements. The Westbury Road bus stop for route 2 is in a very awkward and narrow place. Right at the turn off from the roundabout. Remove bus lanes. Inbound bus lanes never have buses in them and create longer queue of cars.
Cyclists	Better way for cyclists to cross the white tree roundabout. Enhance separation of cyclists from cars and improve the ability to cross the road for both pedestrians and cyclists. The roundabout is especially challenging as a cyclist. A dedicated cycle lane when approaching the roundabout from Northumbria Drive. At the moment they have a cycle lane at the end of Westbury Park Road, but then are stranded at the roundabout itself. Provide a fully segregated single directional cycle track down North View by narrowing the lane widths to 2.75m (enough to allow HGV and Bus to pass). Consider closing the side roads to allow for pedestrian and cyclist permeability and reduce rat running, otherwise provide a continuous footway to encourage pedestrian and cyclist priority over the side roads.
Road layout	Turn the White Tree Roundabout into a Dutch roundabout, like the one in Cambridge with cycle tracks encircling the roundabout, with the zebra crossings becoming parallel crossings. Car parking removed on North View. Change layout that lets Westbury Park Road users who may be rat running to exit and add to the blockage of North View which holds up buses.

Pedestrians	Zebra Crossings on Parry's Lane and North View in place of existing crossing points. Why does Bristol seem to specialise in having pedestrian crossings actually at roundabouts? This is a high-traffic junction, but there is traffic from all directions so I think the roundabout is actually quite efficient. The Zebra crossings are not in a great location on the roundabout from a safety perspective, but they do represent a direct route when walking. Widen pavements for shoppers and removal of parking on North view.

North View to Henleaze Road

Bus issues	There should be 24hr bus lanes in both directions on the dual carriageway sections of Henleaze Road and Southmead Road, and buses should have priority through the roundabout. Include up-to-date electronic bus information on Henleaze Road / Holmes Grove bus shelter.
Pedestrians	North View pavements are narrow and busy road.
Crossing	Hill View is very wide at this junction and visibility poor when walking towards Henleaze direction from Southmead
Cyclists	Need to separate cycling facilities from cars. Pedestrian crossings are excellent for walking on Henleaze Road. North View is a dangerous section of road with too many park cars going to Waitrose.
Noise	Traffic very noisy in peak times
Other	Roundabout is not the correct solution for this junction. Suggest traffic signals.
Safety	Henleaze Road is very narrow here and improved traffic calming measures should be introduced to reduce the speed of vehicles.

Southmead Road (Henleaze Road to Doncaster Road)

Theme	Summary of comments
Buses	New direct bus routes or more frequent buses on the most commonly used route people use private transport for. No 2 bus need to extend journey through inside the Southmead hospital. It will help people the public who visit the hospital and staff who travel to Cribbs Causeway. Suggest the bus stop on Southmead Road by traffic lights with Doncaster Road be moved or double yellow lines are put opposite. When buses turn onto Southmead Road from Doncaster Road and stop at this bus stop traffic is regularly held up causing problems at the traffic lights. Convert B4056 dual carriageway to single carriageway with bus lanes.
Cyclists	Better cycle lanes/cycle priority for turning right at B4056 roundabouts. One way segregated cycle tracks on each side of the road. Separate or protected cycle lanes. Cyclists travelling from the B4056 to Wellington Hill West are not provided for. The dual carriageway discourages cycling in this location. Cycle lane needed in both directions on Henleaze Road. No room for cyclists on Southmead Road making their way to the hospital. Difficult to cycle safely by Lydney Road during rush hour. Allow cycle permeability between roundabout and Lorton Road
Pedestrians	Pedestrian Crossing (traffic lights) across B4056 as you approach roundabout. Make it easier to cross the road (dual carriage way) from the bus stop just after the junction of Lake Road and Southmead Rd to access the nearby streets in Henleaze. Also, plant

	more trees and shrubs to make this part of Southmead Rd more welcoming and attractive.
Road layout	The double-mini roundabout is very confusing and should be improved. The lane selection isn't clear and maybe that could be aided by clearer signage or road marking. That section of Southmead Road, up to the double roundabout is constantly busy. More so since the new hospital opened. To encourage more people to use the bus upgrade all the bus stops.
Clean air	Strong traffic fumes along this section of dual carriageway on Henleaze Road during morning and evening rush hours as traffic is stationary, held up at roundabout.
Crossing points	Upgrade existing informal crossing to a formal crossing for pedestrians and cyclists to go between Lake Road and Wycliffe Road /Henleaze Rd
Safety	Vintery Leys/Clove Ground used as cut through high speed around blind corner on/off the estate. Make Vintery Leys one way.

Greystoke Avenue to Knole Lane

Cyclists	Separate and protected cycle track on Knole Lane. This is a very wide road with busy and fast cars. It is often made narrower by cars parked either side. A segregated and different colour cycle path. Make it safer for residents to cycle to the shops near Southmead.
Pedestrians	Make footpath dual for cyclists and pedestrians running adjacent to Charlton Road and Pine Road

Passage Road roundabout to Henbury Road

Buses	Increase number of buses to improve punctuality. Crow Lane has more than enough bus routes serving it to compensate for punctuality issues. All frequent bus services on that route serve both The Mall and the centre.
Cyclists	Better cycle provision using barriers to separate bicycles from rest of traffic on Wyck Beck roundabout. One way segregated cycle tracks on each side of the road where there are no bus lanes. Crow Lane roundabout is incredibly dangerous. Crow Lane roundabout is not a pleasant place to be as a pedestrian or cyclist, environmental and crossing improvements could be made. Provide a fully segregated single-directional cycle track on both sides of Crow Lane.
Safety	Improve road markings and signage to ensure traffic gets into the correct (legal) lanes on Crow Lane. People don't want to queue so it can be a free for all. Many potential accidents here and cars always beeping.
Traffic Signals	Traffic control to improve flow of traffic particularly when the ford overflows at the Henbury Road and Crow Lane junction.
Other	Wyck Beck road/ Passage Road roundabout – dual carriageway traffic funnelled into two lane roundabout that isn't wide enough for many vehicles.
Pedestrians	Sheltered pedestrian footbridges that are sloped and have cycle lanes going over the busy roads. Safer for walkers and the school times of street activity.
Road layout	Remove Crow Lane roundabout and install traffic light. The roundabout at the Old Crow is very intimidating to cyclists. There are no gaps in traffic and its fast moving between the two dual-carriageways. Perhaps traffic-lights on the roundabout will allow more time to cross between streams.

Consultation Report on improvements to the number 2 bus route (A37/A4018)

January 2022



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1. Summary

Between 29 November 2021 and 28 January 2022 Bristol City Council in partnership with West of England Combined Authority (WECA) conducted consultation on proposed transport improvements to the number 2 bus route which follows the A37 and A4018 roads.

How we engaged

To ensure the survey reached as wide an audience as possible the team did the following:

- Letters to properties along the route and to those affected by possible road closures
- Posters in local bus services
- Posters were put up in the local area to raise awareness of the survey
- Online survey was compatible with word reader software
- Local stakeholders and community groups were asked to help raise awareness of the survey
- Promoted the survey via online social media platforms which appeal to different age ranges
- Officers conducted two 'town hall' virtual meetings with local businesses, stakeholders, and residents to present the three possible schemes and hear feedback.
- Officers held several drop-in sessions and on street surveys across the entire route during the consultation period

Stakeholders

Several meetings were held during the consultation period in response to the emails that were sent out asking organisation and groups to get involved. The meetings that were held included conversations with:

- Bristol Cycle Campaign
- City Centre revitalisation board
- University of Bristol
- WECIL/BPAC group
- City Centre BID / Park Street Traders
- Secondary meeting with Michael Potts and other Park Street traders
- Bridewell Police Station
- Business West (held after consultation deadline)
- Royal West of England Academy
- First Group
- Redcliffe and Temple Business Improvement District

8 written responses were also submitted that covered the whole route.

Each section also had local groups who responded:

North area

- Downs committee
- Henleaze Society

Central area

- City Centre Business Improvement District

- Redcliffe and Temple Business Improvement District
- University of Bristol
- Bristol Property Agents Association
- Bristol Blue Licensed Taxi Association
- Bridewell Police Station
- Taxi rep
- Brandon Hill Residents Group
- Charlotte Street Residents Group
- Oxfam Shop
- Clifton and Hotwells Improvement Society

South

- TRESA
- Friends of Redcatch Park

Survey

A total of 2206 completed responses have been captured using the Virtual Engage platform over the consultation period. 968 respondents provided an email address and the total number questions answered by all respondents was 19.54k.

North section

The north booklet covers the following areas with transport proposals:

- Crow Lane and Henbury Road junction - 57% of respondents agree and strongly agree
- Crow Lane - 46% of respondents agree and strongly agree
- Knole Lane /Crow Lane - 50% of respondents disagree and strongly disagree
- Southmead Road - 63% of respondents disagree and strongly disagree
- Henleaze Road (to Eastfield Terrace) - 49% of respondents agree and strongly agree
- Henleaze Road (Holmes Grove) - 63% of respondents disagree and strongly disagree
- North View and Parrys Lane - 46% of respondents agree and strongly agree
- Whiteladies Road / The Downs junction - 47% of respondents agree and strongly agree and 43% disagreed and strongly disagreed

Central section

The central booklet covers the following areas with transport proposals:

- Queens Road - 62% of respondents agree and strongly agree
- Triangle - 52% of respondents agree and strongly agree
- Park Street - 45% of respondents agree and strongly agree and 49% disagree and strongly disagree
- College Green - 52% of respondents agree and strongly agree
- Victoria Street / Bristol Bridge - 73% of respondents agree and strongly agree
- Victoria Street - 78% of respondents agree and strongly agree

South section

The south booklet covers the following areas with transport proposals:

- Three Lamps junction - 46% of respondents disagree and strongly disagree
- St John's Lane - 46% of respondents disagree and strongly disagree
- Bayham Road - 64% of respondents disagree and strongly disagree
- Redcatch Park through to Broad Walk - 55% of respondents disagree and strongly disagree
- Woodbridge Road - 42% of respondents disagree and strongly disagree and 43% agreed and strongly agreed
- Wootton Park / Wells Road and West Town Lane /A37 junctions - 78% of respondents disagree and strongly disagree
- West Town Lane - 50% of respondents disagree and strongly disagree
- Bus Lanes - 43% of respondents disagree and strongly disagree and 46% agreed and strongly agreed

2. Background

Over the last 10 years we have made changes to the road network to improve bus journey times and to encourage more walking and cycling. With the climate emergency and 2030 carbon neutral targets we need to propose radical changes to the road network that will make real differences to transform bus travel and encourage walking and cycling.

This is an ambitious project to improve how people travel across the city along key transport routes, making it easier to connect people to jobs and leisure opportunities, anticipating growing population and supporting the city's health and economic growth.

The aim is to make it easier and more convenient to use the bus, walk and cycle wherever possible, rather than use private cars. This project aims to make walking and cycling more attractive and to give priority to buses through infrastructure improvements. This would reduce air pollution to improve the health of everyone.

This project therefore looks at the longer term aspirations to grow bus travel and First West of England have committed to work with the WECA and Bristol City Council. This will ensure that the city and bus operators can work together to improve journey times, increase passenger numbers, and expand the network,

Over the last few years cycling and walking levels have remained high compared to other major cities and Bristol has seen growth in bus use. COVID-19 has presented extra challenges – bus travel has by necessity, substantially reduced during the lockdown. At the same time cycling has seen a significant increase.

Without significant investment in walking, cycling and bus infrastructure it will be difficult to encourage people to drive less and only use cars when essential, particularly as we recover from the coronavirus pandemic. Investment is needed to tackle high levels of traffic congestion and reduce levels of air pollution.

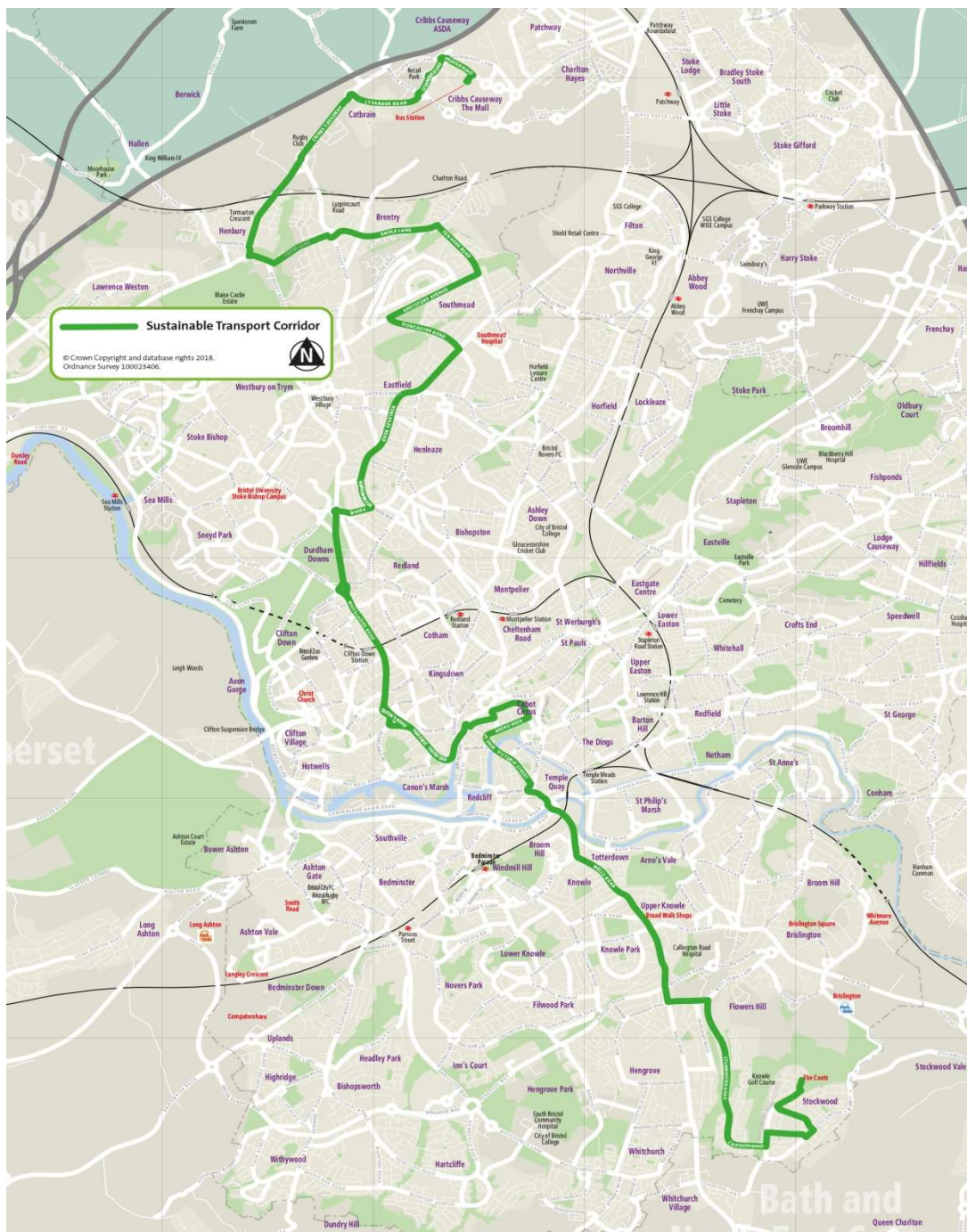
2.1 Number 2 bus route

The route starts in Cribbs Causeway and travels through Henbury, Southmead and Westbury and heads south on the A4018 down Park Street and into Cabot Circus. It passes Temple Meads and travels along the A37 through Windmill Hill, Knowle and Hengrove finishing in Stockwood.

Transport proposals to this route will also benefit the number 1, 3 and 4 bus services that use part of this route.

The scheme looks to help buses get through junctions quicker and provide more space for cyclists to give them protection. Priority will be given to main roads to help keep buses moving and side roads will benefit from less turning movements and rat running to improve the neighbourhood environment.

Below is a map showing the A37/ A4018 transport route:



2.2 Early Engagement

In July to September 2020 the council conducted early engagement in partnership with West of England Combined Authority (WECA) on introducing significant improvements to the A37/A4018 transport corridor following the number 2 bus route. Over 245 stakeholders and 1200 local businesses were engaged, and 1261 comments were received from the public through the survey, mapping tool, emails, and phone calls.

The main themes from the early engagement were:

- Nearly 80% of respondents agreed with taking road space away from the car and providing more walking, cycling and bus infrastructure.
- Over 70% strongly agreed that safe crossing points and feeling safe were key for the transport corridor and were closely followed by clean air and places to walk and cycle.
- 60% of respondents felt bus priorities to speed up journey times were very and important.

The main feedback from stakeholders, local businesses and the public were:

- Wider pavements and more crossing points on main roads
- Segregated cycle lanes on all main roads particularly travelling uphill
- Priorities at all main junctions for pedestrians and cyclists and allow single crossing stages e.g., Airport Road / A37, West Town Lane and A37
- Where there are multi traffic lanes reallocate road space to walking, cycling and buses e.g., Triangle gyratory, Bath Bridges and Whiteladies / Westbury Road junction

Stakeholders

Many agreed with the reallocation of road space towards pedestrians, cyclists, and buses. Pedestrians need wide pavements and single crossing points; cyclists need segregated infrastructure and buses need bus lanes and priority at junctions where they get caught in congestion. Others asked about how this will join up with Temple Meads, Clifton Down station and wanted better interchange facilities and comments were made about parallel rat running with the A37 and A4018.

In terms of specific improvements for pedestrians, cyclists and buses are needed at the:

- A37 junction with Airport Road / Wootton Park,
- hill section of A37,
- Broadwalk and A37 junction,
- Bath bridges area,
- Park Street cycle lane,
- Triangle gyratory
- Top of Whiteladies Road junction with Westbury Road and Stoke Road.

Survey results

- Of those who responded nearly two thirds were residents and just over half walk and drive along the route and just over 40% cycle and use the bus.
- Nearly 80% agree and strongly agree with taking road space away from the car and providing more walking, cycling and bus infrastructure.
- Over 70% strongly agreed that safe crossing points and feeling safe were key for transport corridors closely followed by clean air and a place to walk and cycle.
- Over half of the respondents think the road is unsafe to cycle on and unpleasant to walk along as the streets are congested with too much traffic.
- 64% want safer cycle corridors and 52% want more cycle priority
- Over 40% of the people who answered the survey will walk and cycle more after lockdown and nearly 40% will drive less by car.

This early engagement feedback has been used to develop more detailed designs for each section of the route (south, central, and north) which have been used in this public consultation.

2.3 Objectives of consultation and communications

The main aim of the consultation process was to:

- seek views from key stakeholders on the proposals
- seek views from local businesses, local people living and working along and near the bus route
- continue constructive dialogue and create an environment where people can be involved throughout the process of design and implementation
- create a good understanding of the possible proposals and any benefits amongst stakeholders, local businesses, local people, and commuters
- demonstrate that the council is prioritising sustainable transport options to help Bristol become a sustainable city with a low impact on our planet, clean air, and a healthy environment for all

To achieve these objectives, the team agreed upon key messages such as:

- Bristol City Council is committed to working with local people and partners to improve sustainable transport across the city.
- We are improving key routes across the city to make these journeys easier, improving conditions for all forms of transport and those that live and work along those routes. This includes changes to junctions, creating bus gateways, improving reducing traffic on side roads, and improving the environment for everyone.
- Part of this route has seen improvements around Bristol Bridge.
- During the consultation the council also asked about transport proposals for Park Row which are particularly relevant to the central section of this project, so it was agreed to direct people to both consultations so they could consider them in conjunction.
- The council have also introduced active travel measures during COVID-19 aimed at making it easier for people to choose to walk and cycle
- The council have been talking to businesses, local people living and working along the route to get early thoughts on what works well, what could change and how people would like to be able to travel. This feedback helped to produce the proposals discussed in the consultation.

The target audiences for this project include stakeholders such as:

- Bristol City Council ward members, Members of Parliament
- South Gloucestershire Council and West of England Combined Authority
- Hospitals, care homes, emergency services
- Educational facilities such as the University, colleges, and local schools
- Business Improvement Districts, Business West and local businesses and traders
- Transport Operators
- Transport campaign groups
- Equality groups
- Local people who live on the bus route or on side roads
- Local resident associations, faith, and community groups
- People working on the route
- People who visit local places on the route
- Commuter along the route

3. Consultation Process

It was agreed the team would hold a consultation process from 29 November 2021 until 28 January 2022 and it was for 8 weeks rather than the normal 6 week period as this covered the Christmas period. The consultation covered proposals for the entire transport corridor, but due to the length of the corridor the consultation was broken down into 3 sections known as the north, central and south sections.

Each section had general transport improvements proposals across the entire route which were explained at the start of each booklet and included:

- upgrade of bus stops
- floating bus stops
- continuous footways
- improvements of crossing where possible
- 24 hour bus lanes
- Build out at junctions
- Cycle route marked on the road

North section

This starts on the South Gloucestershire boundary on Station Road, along Crow Lane and Knole Lane, through Southmead Road, onto Henleaze Road, over the Downs and onto Whiteladies Road by Tyndall's Park Road (map shown in section - 5.1.1).

Central section

This starts at the bottom of Whiteladies Road, down Park Street through Cabot Circus, over Bristol Bridge, along Victoria Street, past Temple Meads and onto the Bath Bridges (map shown in section – 5.2.1).

South section

This starts at the Three lamps junction on the A37 and follows the Wells Road through Knowle, past Airport Road onto West Town Lane and into Sturminster Road, as well as some improvements in the Stockwood area.

This section also had proposals included for 24 hour bus lanes that continued from the West Town Lane junction along the A37 to the boundary with Bath and North East Somerset (map shown in section – 5.3.1).

3.1 Consultation Survey

It was important that people and stakeholders had an opportunity to comment on the proposals along all sections of the route or to only comment on the sections that took their interest. To facilitate this (as noted) above the corridor was split into three sections and each section was broken into locations along the route.

In the north area there are 8 sections covering the following locations:

- Crow Lane and Henbury Road junction
- Crow Lane

- Knole Lane /Crow Lane
- Southmead Road
- Henleaze Road (to Eastfield Terrace)
- Henleaze Road (Holmes Grove)
- North View and Parrys Lane
- Whiteladies Road / The Downs junction

In the central area there are 7 sections covering the following locations:

- Queens Road
- Triangle
- Park Street – main proposal
- Park Street – alternative options
- College Green
- Victoria Street / Bristol Bridge
- Victoria Street

In the south area there are 9 sections covering the following locations:

- Three Lamps junction
- St John's Lane
- Bayham Road
- Redcatch Park through to Broad Walk
- Woodbridge Road
- Wootton Park / Wells Road and West Town Lane /A37 junctions
- Hengrove Lane
- West Town Lane
- Bus Lanes

For each location the format of the survey followed a simple design:

- the proposal with a key showing the proposed changes,
- supporting text outlining what we are proposing and why we are proposing this
- followed by questions.

The questions included *“to what extent do you agree or disagree with the proposed transport changes to ...”* and would be specific to the location shown in the image. There was also a free text question where the survey noted *“if you would like to tell us why you agree or disagree, or if you would like to suggest any changes to the proposals, please do so using the textbox below”*.

In the central and south areas there were questions that followed a different format. In the central area the Park Street location showed an image of the main proposal with supporting text as outlined above but the questions were slightly different. After the agree or disagree question the survey asked people to *“tell us how important to you each of the following proposed transport changes for*

Park Street area” and then listed eight bullet points which covered different parts of the proposal. This was followed by alternative options for Park Street which were presented using red and green arrows on a map showing the possible proposals outlining the pros and cons of the alternative options followed by a question that asks, *“please tell us whether you prefer the main proposal to install a bus gate at the top of Park Street or one of the alternative options”*.

In the south area the Hengrove Lane location showed an image of the area outlined in pink and noted that this is area where the survey is seeking views about traffic flow and possible solutions. The supporting text provided some possible ideas and followed these with the question *“we are asking for suggestions on how to reduce rat running, speeding traffic and congestion on these residential roads”*.

Additional public realm images were used to help illustrate some of the more ambitious proposals in the central area and alternative traffic flow diagrams were also provided to help people understand the proposed new traffic movements. These are all available in section 5.2.1 under the central area.

As the team are keen to receive feedback from people with as wide a variety of views and needs as possible in Bristol the survey included the following ‘About You’ questions (refer to section 5.4.1 for a full list of questions and responses). These help to ensure that no-one is discriminated against unlawfully and all questions are optional, and people did not have to answer them if they preferred not to.

3.2 Virtual platform

Following on from the success of the virtual exhibition in the early engagement exercise the team felt it was appropriate to use the same platform to showcase the transport proposals, so the online platform was again a virtual exhibition hosted by Arups and was situated on the Travelwest website.

When you first click onto the link there was an introduction to the site explaining how to navigate around the site and a key showing you what each icon meant. Once you had read the instructions you would click onto the continue button and enter the virtual exhibition. You would first see an image on the virtual wall that played a video talking you through the project and explaining how the site worked and what you would see. There was a virtual desk in front of that wall where you would click on an icon and fill in the ‘About You’ questions. Once you had completed those you would move around the virtual room and see three more displays on the wall. Each display board covers the three areas with maps showing the user the route with icons on each location. The user could select the location they were interested in, and a pop up window would appear with the image showing the proposals, the supporting text, and the questions down the right hand side. Once you had completed the questions you could close the window and move onto the next location where you wanted to see more details.

The platform was designed so that the user could look at each area and choose which location or locations they wished to comment on rather than a more traditional survey. Traditional surveys follow a rigid structure where the user would have to scroll past all the areas to get to where they wanted to look. The traditional approach was more likely to see a lower number of responses than this virtual exhibition as it was more convenient to the user and allowed them to tailor it to their area of interest.

The survey was hosted on the Travelwest page and on the consultation hub on the council website and had a shortened link of www.bristol.gov.uk/a37a4018.

3.3 Consumables

The team produced different products to support the consultation process and agreed on a survey as the best way to collate views from the community. The products included the survey in the form of 3 booklets (one for each area) with a freepost envelope, leaflet, postcards, business cards and posters. All the information was provided online and was compatible with word reader software.

Below are images of the business card, poster, and leaflet:



The survey was designed to capture views from residents, businesses and anyone who uses the bus route to help get people to have their say on their section of the route and whether they agree with

it and to provide any free text comments. The paper copy of the survey was designed in the form of three booklets to cover each area.

Each booklet was split into the following sections:

1. Introduction – why are we making changes (included a map of the bus route and the relevant section)
2. Sections of the route – image of proposal with supporting text and the survey questions
3. ‘About you’ questions

The team also produced posters specifically for First West of England so that they could put them up in the buses to encourage bus users to get involved. The original plan was to supplement this with the team carrying out the surveys on board with passenger but with covid restrictions in place it was felt this was not possible at this time.

The team also produced laminated versions of the plans for drop in sessions and had five large display boards for the sessions. One of the display boards showed the whole bus route, three showed each section of the route and the fifth showed the Bayham Road cycle route in more detail for the south area. Below are examples of the overall route, the north, and the Bayham Road route in the south area:



The team provided different ways for the public to get in touch if anyone had a comment or required a survey in a different format. They could contact the Transport Engagement team on email at transport.engagement@bristol.gov.uk, by phone 0117 9036449 or by writing to: A37/A4018, Transport Engagement, PO BOX 3399, 100 Temple Street, Bristol, BS1 9NE.

3.4 Communication plan

The communication channels used for the consultation included a press release, social media accounts, letters to residents, posters on street, emails and toolkits to stakeholders, articles in local newsletters and to local schools, mailing lists such as Next-door and Ask Bristol and an update in the mayor's blog.

The toolkit sent to city partners, industry groups, transport user groups, emergency services, equality groups and stakeholders are for them to help publicise the consultation via their networks.

The team also worked with partners such as First Bus, ward members, cycling and walking groups and local schools to spread the word and held briefings for ward members prior to the consultation going live.

The online survey had a shortened link www.bristol.gov.uk/A37A4018 that was promoted and publicised through social media channels and newsletters. To ensure those who do not have online access were also included the team produced paper copies of the products.

A social media plan was created which included images of the consultation and text for use in communications and web friendly copy for website, Facebook posts, Twitter and copy for newsletters that were used for local organisations. These social media posts were also promoted by the Travelwest, Betterbybike and other transport social media accounts. A press release was circulated to local news outlets which announced the proposals under consideration.

3.5 Face to face engagement and promotion

The team carried out a variety of engagement approaches which included drop-in sessions, door knocking for businesses, on street surveys and virtual meetings.

Drop in sessions

The team arranged drop-in sessions covering all three areas of the route. People could register for these via Eventbrite where tickets could be booked for each session. The sessions were 2 hours in length and had around 2 to 3 officers in attendance who were on hand to answer any questions from those who came and provide information in the form of leaflets and paper copies of the survey. These were advertised online and via social media and mentioned in the letters sent out to residents and businesses in the areas.

At each session the team had large display boards with images of the whole bus route and an enlarged map of each area so that people had a choice of products to look at.

Door knocking

The team also carried out door knocking of businesses and traders on Park Street, Queens Road, the Triangle and College Green. Team members spoke to each business to explain the proposals for Park Street as there was confusion as to what the proposals were as discovered at local stakeholder meetings.

On Street events

The team have a trike which can act as a centre piece for engagement events. You can put consultation material on the trike and use the back end to store leaflets etc. The team carried out pop up on street events in areas of high footfall such as Broad walk shopping centre, Clifton Down shopping centre and on Park Street / College Green.

Virtual meetings

Two 'town hall' style virtual meetings were organised. The first on 20 December 2021 and the second was on 6 January 2022 both in the evenings. People were invited by letter and by social media invites and asked to pre-register by email so the team knew how many were attending and could manage numbers in terms of break out rooms.

The meeting format included an introduction followed by a presentation covering the scheme so far and explaining the proposals for each section. The attendees were then split into break out rooms to allow individuals the time and space to express their opinions and ask questions.

3.6 Stakeholders

An email was sent to citywide stakeholders and local stakeholder groups and letters were sent to those directly impacted by the proposals to ensure everyone knew about the consultation and could have a say.

Emails with details of the consultation and inviting comment were also sent to over 100 key stakeholders such as:

- emergency service providers
- equality groups
- transport operators
- transport board members
- educational institutions
- refuse firms
- faith groups
- voluntary and community sector groups
- energy, water, and telecommunication providers

3.7 Seldom heard communities

Traditionally the younger population, those from ethnic minority groups and those living in the most deprived wards are often seldom heard from. To ensure those groups and those living close to the bus route and proposed road closures were aware of the consultation process the team sent out

letters to local properties in the areas. Social media posts also targeted this area and encouraged people to respond. The stakeholders contacted at the beginning and during this engagement also represented many groups within the community and were asked to help encourage and engage members to have a say.

The council is very aware that not everyone has access to online resources which is why the team put up posters in the local streets to advertise the consultation and provided contact details in different forms. On all the paper and online copies of the consultation products the team provided a phone number which had an answerphone function. People could call and leave a message asking a question, asking for the material in a different format or leave a comment and someone would get back to them. An email address was also provided along with a written address, so people had a choice of how they wished to communicate. The team also offered phone appointments and virtual meetings to allow people to speak to the team if they had any questions and queries.

4. Results

The following section will detail the results from the drop in sessions, two virtual meetings, stakeholders, and the survey.

4.1 Drop in sessions

Drop in sessions attended by officers were held in all three areas.

The nine sessions in the north are detailed below:

Wed 8 Dec 2021	2 to 4pm	Clifton Down Shopping Centre
Sat 11 Dec 2021	10 to 12 noon	Clifton Down Shopping centre
Tues 4 Jan 2022	5 to 7pm	Newman Hall, Westbury
Tues 11 Jan 2022	5:15pm-7:15pm	Southmead Library
Wed 12 Jan 2022	2 to 4pm	Newman Hall, Westbury
Thurs 13 Jan 2022	10am-12pm	Southmead Library
Tues 18 Jan 2022	10 to 12 noon	Henbury Library
Thurs 20 Jan 2022	5.15 to 7.15pm	Henbury Library
Thurs 27 Jan 2022	5.30 to 7.30pm	Henleaze Library

Over 200 people attended these sessions and key themes were:

Theme	Summary of comments
Park Street	Most people felt Park Street would be good once they understood you can still get access.
North View	People were not sure about the shared path for peds and cyclists but happy about the street not being closed

Road closures	Most comments were from residents who were concerned about local road closures and wanted to understand the rationale behind the suggestions.
Lake Road	Comments were made about the closure of Lake Road and the parking issue by the lake itself particularly in the summer months.
South Gloucestershire boundary	Few people commented about the development happening in South Glos and how that would negatively affect the Bristol roads and number 2 bus route.
Dual carriageway	There were concerns about the reduction to a single carriageway way from a dual carriageway although the new crossings were supported.

The three drop-in sessions in the Central area are detailed below:

Wed 5 Jan 2022	10am to 12 noon	City Hall Foyer
Fri 7 Jan 2022	2pm to 4pm	City Hall Foyer
Mon 24 Jan 2022	2 to 4pm	City Hall Foyer

Approximately 10 people attended these sessions. The team knew numbers would be lower so took the opportunity to go door to door with the on Park Street, Queens Road and on the Triangle. The key themes from the business door knocking and the drop in sessions were:

Theme	Summary of comments
Park Street	Mixed views from traders and most thought the proposal was to pedestrianise the street which is not correct. Once that was explained some relaxed about the proposal and were keen to understand how the employees could get access and how deliveries could be made.
Road closures	Spoke to residents in Charlotte Street and St Georges Road who supported the proposals but wanted to understand how they would get access to their homes.

The eight drop-in sessions in the South area are detailed below:

Thurs 9 Dec 2021	10 to 12 noon	Christ Church, Hengrove (church hall)
Mon 13 Dec 2021	5 to 7pm	Christ Church, Hengrove (church building)
Tues 14 Dec 2021	2 to 4pm	Broadwalk Shopping Centre
Thurs 6 Jan 2022	10am to 12 noon	Imperial Sports Ground
Fri 14 Jan 2022	5pm-7pm	Stockwood Free Church
Sat 22 Jan 2022	10 to 12 noon	Broadwalk Shopping Centre
Tues 25 Jan 2022	5 to 7pm	Whitchurch Village Community Centre
Wed 26 Jan 2022	2 to 4pm	Whitchurch Village Community Centre

Over 200 people attended these sessions and key themes were:

Theme	Summary of comments
West Town Lane junction	Main issue was the banned left turn from WTL into A37 Wells Road and the unintended consequence of sending traffic down Hazelbury road and Mowbray Roads.
Bayham Road cycle route	Concern about the impact on Norton / Calcott one-way and Redcatch park cycle path.
24 hr bus lanes	Concern about parking and congestion if 24 hr bus lanes brought in.
515 bus service	If the WTL left turn ban is introduced where will the 515 bus service, be diverted?

4.2 Stakeholders

Several meetings were held during the consultation period in response to the emails that were sent out asking organisation and groups to get involved and have a say and some groups responded to letters and social media and others found out via third party groups spreading the word. The meetings that were held included:

- Bristol Cycle Campaign
- City Centre revitalisation board
- University of Bristol
- WECIL/BPAC group
- City Centre BID / Park Street Traders
- Secondary meeting with Michael Potts and other Park Street traders
- Bridewell Police Station
- Business West (held after consultation deadline)
- Royal West of England Academy
- Redcliffe and Temple Business Improvement District

Below is a table that summarises the feedback from citywide stakeholders (copies of the full submissions are available on request):

Citywide Stakeholders	Feedback summary
First West of England	<p>The submission notes: this to be welcomed and will provide improvements to the route 2 and 2a. Significant actions has already been taken by the council to improve priority for buses including Bristol Bridge and Baldwin Street closure to through traffic and the northbound bus lane on The Haymarket. It is clear some compromises have been made in the proposals such as Queens Road public realm and an off road cycle lane on Victoria Street in place of a bus lane. However, understand that the needs of active travel also need to be met. Parking in bus lanes is a major issue that slows buses and must not be forgotten.</p> <p>North section – supportive of changes proposed but have noted that buses get stuck across Southmead Road at the mini roundabout junction with Wellington Hill with cars to the offside due to a kerb build out to the nearside. Buses can also lose time on Henleaze Road due to parked cars and not clear if this is being dealt</p>

	<p>with. Be keen to know what is proposed for North View as this can also be a pinch point. Would like extension of times to bus lanes on Whiteladies Road.</p> <p>Central section - supportive of changes and feel Park Street and College Green are the most important changes. There are lot of conflicting movement on Broad Quay and feel it would be worth investigating the extension of the bus lane beyond the junction as far as bus stop C7 to bolster the proposed bus gate scheme. The proposed scheme does not include Temple Meads / Temple Gate area so this will continue to be a bottleneck on the route.</p> <p>South section – supportive of changes and want all bus lanes to be converted to 24 hour bus lanes.</p>
Stagecoach	<p>Stagecoach is not the main operator in Bristol but aside from some minor technical concerns around are very complementary about the proposals:</p> <p>"We wish nevertheless to record our support in principle for this quite ambitious scheme. It well demonstrates a very high level of City Council commitment to putting bus at the very heart of the future mobility offer for the City, and the intent to support a continuation of the impressive increase in bus patronage that as being recorded in the City prior to COVID. Very importantly, the Mayor’s ambition to double bus patronage in the City by 2030 as well as the objectives of the West of England Combined Authority and North Somerset Council Joint Bus Services Improvement Plan, certainly requires the scale and ambition exemplified by the current proposals, if it is to be achieved"</p> <p>They detailed a few stand out characteristics such as a comprehensive set of proposals that align with the whole route corridor and bold proposals such as Park Street bus gates and on the Wells Road. They like that the proposals position the bus above private car use and achieve a balance between improving conditions for active travel in places where there is not enough space to provide full segregation for cycles and improve journey times for buses.</p>
Bristol Cycling Campaign	<p>Bristol Cycling Campaign believes that this scheme does not meet the stated aims or technical requirements, because the cycling elements are fragmented and, in many sections, completely missing. Most of the proposed changes in the central area are of good quality design and will make a real positive change to cycling in that area. We strongly support these proposals from Clifton Triangle to Victoria Street...but in the northern and southern sections the cycling provision is discontinuous, sometimes poor quality and often missing altogether. We urge Bristol City Council to re-think the proposals, increase the level of ambition, and enable people of all ages and abilities to make a safe, convenient, and sustainable journey all the way from where they live to where they’re going. Do the good bits, fill the gaps and do much more?</p> <p>Cite large response in engagement for safer cycling facilities and state except for some excellent proposals in the central area (Clifton Triangle and Victoria Street), the proposals are overwhelmingly limited to bus improvements, or indeed no changes at all. Express concern that the scheme does not adhere to LTN1/20 guidance and quotes the delivery standards laid out by the CRSTS funding. Given the lack of compliance with quality standards and policy, it is highly possible that the West of England Combined Authority will refuse to fund this scheme as consulted. Bristol Cycling also provided a detailed design audit of the scheme.</p>

<p>Bristol Civic Society</p>	<p>This scheme is important because it is the first of the programme of arterial route schemes. It is the first time we can see the reality of what is proposed on an arterial route. Bolder interventions could have been presented as options, and the engagement could have facilitated a richer, more informed discussion.</p> <p>Design compromises can be down to practical constraints or political choices. There is no explanation of the design compromises that have been made, but it seems clear that in this case, some compromises have been a political choice, using the argument ‘why propose something that will not be accepted by enough people?’ This seems short-sighted as the designs do not appear to deliver on the objectives. Where choices are the result of technical judgement of officers, it would be helpful to explain why these bolder choices are not possible.</p> <p>Walking: there are some welcome changes, especially the public realm changes near the Victoria Rooms. But there are two major exceptions – at the Triangle where you could pedestrianize Queens Road, and nothing is proposed on the Bath Road leading up to Three Lamps junction where there are high flows of pedestrians and cyclists.</p> <p>Cycling: there are some very good proposals in the city centre, but outside the city centre there are large gaps in provision. A quiet route parallel to part of the A37 is offered, but the draft designs do not show any alternative route to the north. The proposals are insufficient to encourage less confident cyclists to switch mode. The council needs to be clearer on what it will be able to deliver to enable all-ages cycling – not just on this route, but across Bristol.</p> <p>Buses: there are some good proposals in the city centre, especially the bus gate on Park Street. Away from the city centre, there are some significant gaps in bus lanes and there are doubts that the changes are enough to transform the provision. Buses will be freed up on some parts of the route, but not much outside the city centre. Good bus infrastructure that allows free passage, faster journeys, and more reliability is crucial to a viable and popular bus service. The proposals should attract more passengers, but it is questionable whether the changes are enough to encourage a significant switch to bus travel.</p> <p>Private motor traffic: judgements must be made about whether each potential design intervention would excessively impede the flow of private motor traffic. In the city centre, bold decisions have been made, including bus gates at Baldwin Street and Bristol Bridge, and proposed at Park Street. Outside the city centre, we suggest that bolder interventions, including removing car parking spaces, as in some other cities, could have been presented as options, as part of a ‘decide and provide’ approach, not the conventional ‘predict and provide’ approach.</p>
<p>Bristol Walking Alliance</p>	<p>Bristol Walking Alliance is pleased to see and support a significant number of improvements to the walking environment proposed for the A37 / A4018 (number 2 bus route).</p> <p>They support these general improvements along the route such as</p> <ul style="list-style-type: none"> • Upgrade of drop kerbs at junctions • Upgrade of bus stops • Improvement of crossings where possible • Continuous footways

	<ul style="list-style-type: none"> • Build outs at junctions • Narrowed junctions and crossings <p>They welcome:</p> <ul style="list-style-type: none"> • Removal of through traffic from Park Street – support the bus gate option • Wider footways connecting College Green to the Centre • New signal-controlled crossings of Wells Road and Southmead Road • Pedestrian improvements along Victoria Street • More public space near the Victoria Rooms on Queen’s Road <p>They recommend:</p> <ul style="list-style-type: none"> • Seating as well as street trees are included in enlarged footway spaces. • Pedestrian crossing lights have increased responsiveness to pedestrian crossing requests. <p>The BWA provided technical feedback on the route outlining what they support and where improvements can be made and highlighted 4 major concerns:</p> <ul style="list-style-type: none"> - Lack of improvement on the route between Temple Meads and Three Lamps - Inadequate footway widths on sections of Queens Road and Triangle - Object to staging of pedestrian crossing at Wells Road and St John’s Lane - Path on Downs alongside Westbury Road: Does not want it to become shared use in accordance with agreements with the Downs Committee
Business West	<p>Business West Chambers of Commerce & Initiative is the main business representation and leadership organisation for the West of England, supporting 22,000 individual businesses across the wider region. The functioning of Bristol’s transport system has long been a concern for the businesses that are based in the city and the city region. Strongly welcome the creation of better city region transport governance, and the enhanced focus from Bristol and the other West of England authorities on the investments and changes needed to improve the functioning of our transport system, to support modal shift and the region’s ambition for achieving net zero and tackling climate change.</p> <p>We require an evidence base and wider context approach within a proper plan and strategy. Traffic engineering seems to dominate the design and implementation of schemes, without sufficient supportive evidence about transport impacts and interconnected issues for Bristol’s broader economic and urban planning context.</p> <p>The consultation provides clear details of the scheme proposals but provides no background context in terms of the benefits to different groups of transport users, wider economic and place benefits, and potential benefits and impacts on businesses. It is evident that there will be significant impacts on businesses, in terms of access to premises, and wider accessibility for customers, employees and visitors. It will be critical to address these issues to ensure the success of the scheme.</p> <p>It would be useful to understand how the planned scheme fits into a longer-term programme of transport improvements, how they contribute to stated objectives and how these will influence transport behaviours and journeys. It would also be helpful to understand if any modelling and impact assessment has already been undertaken, to understand the forecast impacts on travel behaviour and modal</p>

	<p>shift, and re-assignment onto other routes and potential congestion impacts. This will be critical to the strategic case, economic case, and deliverability of the scheme, all of which will need to be addressed in the business case to secure funding.</p> <p>The scheme proposals are strongly led by issues of traffic engineering, road layouts and enhanced infrastructure for bus and cycling uses. These are all important issues. But they do not address the issue of how the city works, and how these measures will support the economic health of places along the corridor and their broader role in the economic functioning of the city. There is an assumption, in places, that road access can be constrained and that the economic function of the city and individual area will carry on as normal – with minor adjustments to behaviour, but with no negative impacts on visitor numbers, retail footfall or the local business ecosystem.</p> <p>We are encouraged by the efforts made by BCC and WECA outlining this proposal, which shows creativity with commitment to active travel for our city. However, we believe that it is essential to set and monitor the specific and measurable objectives that this improvement aims to achieve; otherwise, it might fail to contribute to the most needed transport behavioural shift.</p>
Cycling works Bristol	<p>CyclingWorks Bristol have been working to build support amongst employers in our region for steps to make commuting by bike safer & easier. The initiative is currently supported by 48 regional employers, who employ a total of 30K people in our area.</p> <p>Whilst it may be considered efficient to roll together a project combining buses, cycling & walking to facilitate a mode shift for people who are traveling along this corridor running from N to S across the city, it risks compromising the outcome for all modes.</p> <p>Within WECA’s LCWIP, the Southern section of bus route 2 is described as Cycling route Bristol 5, following the Bayham Road Quietway & Filwood Greenway and Bristol 5 Variant (along the A37). The complete lack of provision on the A37 (LCWIP Bristol 5 Variant) is questioned. Northern section of the bus route is described as LCWIP Cycling route Bristol 1, following Park St & Whiteladies Rd, neither of which include the provision of continuous, protected bike lanes. In conclusion a continuous corridor approach has not been applied to the described cycling provision, rather occasional interventions have been proposed intermittently along the route.</p> <p>It is good to see the proposals for Victoria Street, also on a short section of Sturminster Road (both kerbs protected bike lane), on Queens Road (road reallocation to public realm space), and on the Downs parallel to Westbury Rd (dedicated new bike path), but clearly this does not deliver continuous protection for cyclists, we particularly question:</p> <ul style="list-style-type: none"> • No changes to the shared paths of Temple Gate or Bath Bridge • A cessation of dedicated bike lane at College Green, despite Park St proposed to be bus gated • No dedicated provision for cyclists along Whiteladies Rd

	<p>Setting aside the fact that the design fails to meet the criteria of coherence and directness, there are specific key junction locations which patently fall short of the required safety standards:</p> <ul style="list-style-type: none"> • Wells Rd (A37) at St Johns Lane on/off the Bayham Road route deviation • Three Lamps Junction (A37/A4) • The Downs Gyratory (A4018) <p>Non-compliance to LTN 1/20 will inevitably lead to challenges and delays through the planning approval stages, if not rectified before submission to Active Travel England.</p>
Friends of Suburban Bristol Railways (FoSBR)	<p>FoSBR sees rail as the essential core of an integrated transport network. Therefore, very disappointed to see that no consideration has been given to improving integration between bus and rail services in this scheme.</p> <p>The A4018/A37 route passes close to two important train stations, at Clifton Down and Bristol Temple Meads, and a proposed new station at Henbury. It seems that the design process has completely ignored the possibility of improving interchange at Clifton Down, or of providing for it at Henbury. Bus/rail interchange at Bristol Temple Meads is also very poor. This problem has not been resolved in the recent Temple Meads master planning exercise.</p>

4.2 Localised Stakeholder feedback

Some stakeholders are area based and submitted their feedback detailing the concerns, issues and support by area. Others who attended meetings submitted feedback once they had a chance to look at the proposals in more detail.

North area groups

Local Stakeholder	Summary of comments
Downs Committee	<p>The following points were raised by committee members:</p> <ol style="list-style-type: none"> 1. When closing Roman Road to traffic and making it pedestrian / cycling only, the committee will still require heavy vehicle access to the water tower event space. The proposed new path parallel to the A4018 may need to be crossed by vehicles as part of events, this needs further investigation. 2. The path will need to have good drainage as this is an area of the Downs with flooding issues. It should not shed gravel across the area. 3. There is a strong preference from the committee that the paths be segregated into pedestrian and cycle lanes as per the paths on Stoke Road. 4. There is existing permission for the new path from the committee, granted during discussions of a cycle loop project. This can form part of a potential loop but will not complete it. 5. The plans show the removal of a zebra crossing from the Redland Hill junction. It was confirmed that crossing would be retained. 6. It is hoped the consultation and modelling will provide helpful data on feasibility of the possibly closing Parrys Lane and the impact on White Tree roundabout

	<p>7. Officers may wish to consider a no right turn for incoming traffic into Parry's Lane to improve flow. The proposed build up for the Parry's Lane entrance may restrict the flow of outbound traffic.</p> <p>8. North View has many issues and officers may want to consider a targeted consultation on residents. Bus priority is needed but is hard to implement.</p> <p>9. Officers are encouraged to consult with the developers of St Christopher's School to see if they can be involved in any infrastructure projects. The damaged footpath on Westbury Park and Claypit Road was mooted as a possibility.</p>
Henleaze Society	<p>The society have profound concern over certain changes which will affect streets in The Groves area of Henleaze: namely Henley, Holmes, Lawrence and Owen. The plans show a proposal to block Holmes Grove at the entrance to Henleaze Road. Even if there was sufficient room at the Henleaze Road end for vehicles to turn around, access and egress it would prove extremely difficult for ambulances, fire tenders, delivery vans and refuse collectors.</p> <p>In addition, placing a block entrance at Holmes would increase the amount of traffic along Henley and Lawrence in both directions and therefore probably result in:</p> <ul style="list-style-type: none"> (a) more damage to parked cars, but more importantly, (b) more injuries to pedestrians who frequently walk along Henley & Lawrence to and from Henleaze School and those who walk to the shops on Henleaze Road. <p>Whilst understand the necessity of improving the reliability of the Number 2 & 2a bus, do not understand the need to block Holmes to accommodate a "new, high quality bus shelter" and to provide a "significant area of new and usable public space". This could still be achieved by re-siting the existing zebra crossing, utilising a section of the extremely wide pavement alongside the rank of shops, and repositioning the zebra opposite Boots.</p>

Central area groups

Local Stakeholder	Summary of comments
Bristol City Centre Business Improvement District	<p>Bristol City Centre BID does not support this proposal in its current form:</p> <p>There is no evidence provided of any benefit that will accrue to the many businesses primarily in the retail, leisure, and hospitality sectors. Whilst there are clearly identified benefits for public transport, for pedestrians and for cyclists, there is no clear economic benefit for the area. There is no evidence provided of how a scheme such as this will benefit a 'high street'.</p> <p>The most significant concerns are from businesses in the Hospitality or Retail sectors who have clearly articulated their concerns to the council on these proposals. These sectors have already suffered several challenges in recent years. Any proposal to make such a significant change should be clear that it will support the existence of those businesses if the council is serious about maintaining them and their economic benefit, in this area of the city centre.</p>

	<p>The restrictions to vehicle movements will reduce the level of passing shoppers and effectively cut off Park Street from the rest of the City Centre. This comes at a time when we should be welcoming back visitors to our High Streets and developing an area which increases footfall, rather than creating further barriers to trade.</p> <p>BID member survey: Responses from 66 individual companies (70% from Park Street/Queens Road area)</p> <ul style="list-style-type: none"> - 72.73% feel that they would be directly impacted by the proposal - the main concerns are the displacement of traffic causing increases in congestion and pollution in other areas of the centre, access around the centre as a whole and the increase in journey times. Only 3% of respondents feel that they will not be impacted and 22.7% feel that the improvements will have a positive impact on pollution levels these perceptions seem to be in direct conflict with the aims of the proposal of: “..improving the transport system as a whole, making it accessible to everyone in Bristol” and “..tackling the problems of pollution and congestion.” - The final question in the survey asked, “Following the release of the full consultation which statement most accurately represents your opinion on the proposal?” 24.24% are in favour of the proposal, 75.76% are against the proposal <p>Following a review of the survey responses we would invite Bristol City Council to give further consideration to the proposal and work with the Bristol City Centre BID and the impacted businesses (particularly those on Park Street/Queens Road) to revise the proposal to the benefit of all parties.</p> <p>we would suggest that further additional consideration be given to the following points:</p> <ul style="list-style-type: none"> • Pedestrian crossings or solutions to allow for easy and safe access to both sides of the street. • Permits for access to business premises to allow for operational access through either bus gates during business hours. • Consultation with strategic partners to discuss the potential challenges regarding anti-social behaviour caused by additional seating areas and open spaces. • Innovative solutions for creating a destination street. <p>We would welcome conversations to further develop a vision for the street which looks to overcome some of the challenges faced by the businesses, particularly with regard to the reduction in footfall and the resulting impact on trade. To this end, we have commissioned a piece of work from a local architectural and design practice to work with businesses on seeking their vision for the future of the area.</p>
<p>Redcliffe and Temple Business Improvement District</p>	<p>Overall, the Redcliffe & Temple BID is supportive of the council’s ambition to improve sustainable transport and improve public realm within the City Centre.</p> <p>The BID supports all the major proposals in the Victoria/Bristol Bridge sections of the project. The BID is concerned that due to the proposed loss of parking that we map out alternative parking for retail businesses on Victoria St. The BID is keen to recognise further public realm improvements where possible.</p>

<p>University of Bristol</p>	<p>As a major institution they have provided detailed comments for the sections where there is a direct impact to the university.</p> <p>North View and Parrys Lane – welcome the upgrades at this junction and the new path. The closure of Parry’s Lane will require a diversion of the U1 unibus services via Whitetree roundabout, but they are not concerned by this as the service should be quicker with the other change on the route.</p> <p>Whiteladies Road / The Downs junction – welcomes the new 24 hour outbound bus lane on Whiteladies Road between Wellington Park and York Street.</p> <p>Queens Road – they would like to be involve in the emerging plans with regards the public realm given the context and neighbouring grade II listed buildings. They support the segregated cycle way and junction rearrangement, but they have some concerns and suggestions:</p> <ul style="list-style-type: none"> -lack of extra footway given to eastern side of street -provide more space at new crossing point outside of Beacon House -proposed cycle lane in front of Beacon house reduces space in an area of major congestion -Queens Avenue Bus stop not included in the plans, and they object to its removal and noted that the proposed cycleway would be in direct conflict with the bus stop - concern that no provision for loading bays has been included on Queens Ave for Beacon House -the removed left turn into Whiteladies Road will create long vehicle trips between Students Union building and Richmond building. The University requests that BCC considers a review of the Whiteladies Road/St Paul’s Road/Tyndalls Park Road junction as part of this scheme. -the removal of the current banned right-hand turn from St Paul’s Road into Whiteladies will assist with the above issue, while the removal of the current left-hand turn from Whiteladies Road into Tyndall’s Park Road will open a very much required access route into the Estate for the University’s Unibus U1 bus service. <p>Triangle - requires more dialogue regarding the potential impact for the University’s Clifton Campus (current and planned), from a displaced traffic perspective resulting from the bus gates on Park Street. Supports Triangle South taxi rank and Queens Road segregated cycleway and Berkeley Ave (although travel behaviour will be impacted). The concerns are:</p> <ul style="list-style-type: none"> - Traffic pressure on alternative routes; Park Row and Clifton Campus - Concerned no improvements to footpath or street furniture in front of Will's memorial building - requests this opportunity to review loading arrangements for Wills building and Merchants Venturers building - concerned about footway widths outside of Sainsburys' and requests widening and movement of Bus Stop (with requisite infrastructure) to outside of the bank - Concerned about lack of footway width outside Pret A Manger <p>Park Street - Inter-campus travel will be affected with the proposed arrangement on Park Street. Key concerns include:</p> <ul style="list-style-type: none"> - viability of large vehicles gaining access to their George Street property
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	<p>- how will the Park Row proposals be able to accommodate increased volumes of traffic, increased traffic through Clifton campus and the impact on the University's new public realm scheme.</p> <p>Victoria Street - The University welcomes the new segregated cycle path that will provide improved connectivity between the Clifton Campus and Temple Quarter and Bristol Temple Meads.</p>
<p>Bristol Property Agents Association</p>	<p>BPA requested further engagement and have been contacted by their members (traders, commercial property owners and businesses) who highlighted concerns and impacts regarding the Park Street proposal. BPA calls for a planning brief to sit around these proposals to instruct better the future of property use on Park St. The main concerns are:</p> <ul style="list-style-type: none"> • The impact on traders due to changed flow of passing trade. • Likely effect on visitors from the north of the city who may change their shopping habits to focus on the Cribbs Causeway area once travel to and from Park Street / Queens Road becomes difficult. The area operates independently from Whiteladies Road / Broadmead in the retail market attracting a specific set of traders and occupies a unique position in the retail market which will not be replaced if retail occupier demand for the area falls away. • Lack of alternative parking capacity for visitors – West End car park is often full in normal market conditions. • Sequencing of these proposals with other retail area proposals in the city – Park Street is viewed as a stable and unique trading area that has fared well in comparison to Broadmead during covid, to introduce this very significant change whilst the market recovers could very quickly disrupt the economic recover of the traders in this location. • The impact on potential reuse of vacant buildings and upper parts in this location leading to long term vacancy. • The likely impact on alternative E class use demand for former office buildings from businesses that rely on customers making their own way to the buildings (Clinic, Consulting and Fitness businesses). • The potential impact on demand for the key office buildings in the Queens Road area by changed patterns of demand – whilst currently viable as office buildings many of these large properties are aging and will require significant investment in coming years to meet new environmental legislation from their institutional owners which will not be forthcoming if demand for the office space falls away. This is likely to lead to a net reduction in the availability of office space in the Clifton area further accelerating the decline in office use through Clifton. This is likely to be further affected by the potential relocation of the BBC away from Whiteladies Road. • The general lack of consultation with the commercial landlords in the area and the speed of consultation that these proposals have been subject to. <p>The general improvement of the Queens Road area is welcomed but it is important that the way that this unique area of the city works from an economic and property perspective is fully understood as the proposals will change the way the area develops in the future. The general view of the members was that they would generally lead to the long term loss of both retail and office use in the area.</p>

Bristol Blue Licensed Taxi Association	<p>BBLTA are cautiously supportive of the proposals, however, they wish to negotiate the taxi rank offering which is being worked through. The trade does recognise the advantage that the Park Street Bus Gates would give them, however, their main concern is rank allocation.</p> <p>Although the Trade recognises the benefit of the proposed Park St sustainable transport corridor it does object to the closure of Park St Avenue, the removal of the left turn from Canons Road to College Green and the removal of the right turn from Counterslip.</p>
Bridewell Police Station	They were concerned about Bridewell Street proposals; however, we are developing a new design.
Police – Taxi rep	Wanted to understand the proposals. Rank distribution main concern along with the loss of right turn at Counterslip and left turn into College Green. Also concerned about emergency service vehicles being impeded by waiting taxis on narrower Park St.
Brandon Hill Residents Association	<p>Cite that many residents still depend on the car for journeys of further distance – from work to leisure journeys within Bristol and beyond. This includes elderly residents who require access to the medical centre on Whiteladies Road or shops and other facilities. Removing the option to travel on Park Street would make many regular journeys more difficult, protracted and time consuming, when public transport options are not available.</p> <p>For this reason, we would encourage you to make residents passes through any traffic filter system/ bus gate available for these three streets. Queens Parade residents must be able to retain access Great George Street, via Park Street, for current CPZ parking system to be able to continue to function.</p> <p>Have particular concerns about the impact of increased congestion on St George’s Road, both for its impact on local pollution levels and for its potential to create serious traffic bottlenecks, most notably on the flow of traffic on the roundabout at the west end of St George’s Road and on the southern end of Jacob’s Wells Road - (given traffic volumes on the other arms priority is largely given to the other arms of the roundabout and traffic is held back on St Gerges Rd as a consequence). Without addressing this roundabout with significant re-engineering, we fear that standing queues on St George’s Road will become a semi-permanent feature, and our vehicular access to the west and north of Bristol will become extremely difficult and time consuming.</p>
Clifton & Hotwells Improvement Society	<p>Response received from the deputy chairman of the Clifton & Hotwells Improvement Society, an amenity society, established over 50 years ago and having some 1000 members.</p> <p>Opposed to the plans for the following reasons:</p> <ol style="list-style-type: none"> a. There will be increased traffic flow in Park Row and Upper Maudlin St, thereby causing greater levels of pollution in the vicinity of the Bristol Royal Infirmary. b. The area outside the Infirmary is already heavily congested as there are scant facilities for dropping off and picking up patients and visitors. The extra traffic will cause utter chaos. c. The closure of Park St to traffic will mean that Great George St, St George’s Church, Brandon Hill, and Charlotte St will be inaccessible to cars (this is an in

	<p>correct understanding of the proposals).</p> <p>d. This closure will force those obliged to use cars (the elderly, infirm, those with small children) to make lengthy detours to reach their destinations, thereby increasing pollution.</p> <p>This scheme has not been properly considered neither has it been properly publicised. It seems unlikely that even 1% of Bristol residents are aware of plans which will further paralyse this City and cause us enormous inconvenience. The Society urges you to think again and to ensure that the plans are made known to the citizens of Bristol and their views considered.</p>
Charlotte Street Residents Group	<p>Charlotte Street South and Charlotte Street residents would like to have access to Park Street in the same way buses and taxis will.</p> <p>At the January 2022 consultation it was stated that the philosophy behind the Park Street bus gates is to stop through traffic. However, the two residential streets of Charlotte Street South and Charlotte Street are not “through traffic”. Access is required to Park Street to get home. Stopping normal access to homes will create extra congestion onto already jammed rush hour roads such as Hotwells Road and Anchor Road. (As well as putting traffic onto Frogmore Street which will become a cut-through). Adding to pollution in this ‘clean air zone’.</p> <p>Installing the proposed bus gates at the top and bottom of Park Street to stop through traffic, whilst allowing residents access through these gates to go home, will create a win win. It will reduce through traffic without unnecessarily increasing traffic on already congested roads, and without increasing the unnecessary pollution that comes with unnecessary travel and jams.</p>
Oxfam Shop, Park Street	<p>Oxfam shop is located at 1 Queen's Road, just at the very North end of Park Street and on the corner with Berkeley Avenue. They are concerned that the proposal to pedestrianise and close to traffic Berkeley Avenue could be very detrimental to the business. They have a side door which opens on to Berkeley Avenue, through which we receive most donations, stock deliveries and where our recycling is collected from. There is no viable parking in front of the shop, so it is vital that members of the public, who drive in to deliver their donations, can park temporarily on Berkeley Avenue to unload. If they were not able to do so or forced to park further away and manually carry the items to the side entrance, many donors would be put off by this.</p>

South area groups

Local Stakeholder	Summary of comments
TRESA	<p>TRESA recognises the overall aim of improving bus services along this key route and support the aim and the improved services that may result. They are concerned that the proposals miss key opportunities and suggest several changes which will adversely affect some Totterdown businesses and residents without offering supporting data to justify the proposals.</p> <p>Temple Meads to Three Lamps – disappointed this section of the route is not included this in project.</p>

	<p>Three Lamps Section to Bellevue Road – understand reasons for blocking the junction but be keen to see supporting data as residents will be negatively affected by the closure.</p> <p>Bath Road onto Wells Road light control – support the lights at this junction and suggest that the new controlled crossing should ensure cars are held sufficiently away from the cycle track.</p> <p>Three Lamp section - Footpath widening is welcomed but would like more detail.</p> <p>St Johns Lane – more details about the cycle lane are required and question the need for a controlled crossing on St Johns Lane.</p> <p>Winton Street – object to one way proposal.</p> <p>Bayham Road section - the purpose stated is to make the route more cycle friendly, yet it remains a steep hill with cars parked on both sides and no segregated cycle route. Is there any evidence that cyclists will even use this route when many will still cycle up the Wells Road?</p> <p>Bus Lanes on Wells Road – are 24hr bus lanes really required? Could have negative impact on traders.</p> <p>Missed opportunities include:</p> <ul style="list-style-type: none"> - See more continuous pavements installed along the Wells Road on all side roads. - Improve the direct route which is cycling up Wells Road - The Temple Meads section is not included.
<p>Friends of Redcatch Park</p>	<p>ForRP response noted several concerns with the proposed N-S pathway through the park:</p> <ul style="list-style-type: none"> - This pathway has heavy footfall including many children, elderly people, and dogs. It passes between the children's play area/cafe and the toilets/sports fields. Putting a travel corridor on this path may result in conflict between users - some users felt a park is not an appropriate place for this type of infrastructure which should be provided on the existing main travel corridor - users understand there is a need for safe cycling routes which are also coherent and direct. It is difficult to determine if alternative options through or around the park would be better as the onward route is not shown. In principle routes around the side of the park were preferred - Currently gates are locked at dusk. This measure was due to historic anti-social behaviour, specifically illegal motor cycle use. - If the route is installed on the proposed path, despite the concerns, it should be noted the drainage at the southern corner of the play area is inadequate and the main path is overdue comprehensive repairs or replacement - it is unclear from the design if the parking capacity would be reduced through the addition of a cycle route in that area - there are frequent issues with vehicles parked on the pavement of the access road to the car park. Measures to prevent this will be required if it forms part of the cycle route to maintain safety

4.3.1 Councillor responses

Responses were received from several ward members who had consulted with local constituents and were feeding back on the proposals.

Conservative group formal response (See appendix 1 for full response)

The conservative group have submitted a full response, but general are sympathetic with the broad objectives of aiming to reduce bus journey times, increase reliability and encourage more people to switch to travel by bus. However, believe this choice needs to be a positive one, and not something that is forced upon people by making driving a private vehicle an increasingly difficult and a more miserable experience. They feel a balance must be struck between enabling the public to travel in efficient ways whilst tackling environmental concerns and supporting centrally based businesses.

They feel that there are some aspects of the proposals which fail to strike the right balance between these competing aims, but that are also wrong and more likely to create more problems than purported to solve. They have concerns over the current plans which they believe will see motorists taking short cuts and rat running to avoid newly created bottlenecks. They feel this in turn will make residential neighbourhoods less liveable while not improving the travel experience of bus passengers.

They have submitted comments on each of the sections and conclude that they feel this is an over-engineered and expensive project. They comment that people feel it is anti-motorist rather than promoting travel by bus, people are worried that the travel patterns have not been modelled in a post pandemic world. They feel bus patronage may remain low for a long time as people opt for individual forms of transport and the scheme is about penalising motorists and they don't support 24 hour bus lanes.

Hengrove and Whitchurch Park Councillors (See appendix 2 for full response)

Councillors representing Hengrove and Whitchurch Park have submitted feedback on their local area. They strongly support improvements to walking, cycling and bus facilities and realise that this can involve the need for more dedicated and improved infrastructure. They also carried out their own survey alongside promoting this survey and 350 people replied and most lived in the Hengrove area.

They support the idea of a protected pedestrian crossing at the West Town Lane junction but think the desire line is north of the junction rather than south as this links with bus stops and would allow the left hand turn movement to continue. Suggest a right hand turn ban coming out of Hengrove Lane onto the Wells Road.

Suggest the short 24hr bus lane should be reduced to morning peak only. 72% disagreed or strongly disagreed with the proposals for this junction from their survey and the concern was the effect banned turns would have on neighbouring roads.

Suggest 24hr bus lanes are peak times only or are not needed at all and have a proposal for 2 hour waiting bays on the Wells Road which they would like included in the scheme.

From their survey there was agreement that traffic, congestion, and pollution in the Hengrove area is a problem, and that action should be taken to reduce it. They believe there is a strong case to go back to residents and consult on this in more detail to see if there is a way to reduce congestion and pollution within the community.

They would like the delivery of a park and ride on A37 to be pursued by WECA and the local authorities as a priority and 79% of people agreed or were neutral to this suggestion in the survey.

Knowle Councillors

Councillors in Knowle wrote to residents of Belluton Road after being approached by some residents asking if the road could become one way like Woodbridge Road due to lack of passing places and road rage incidents where cars refused to move. The results were that 21 houses opted for entry via Wells Road to Bayham Road and 15 opted for Bayham Road to Wells Road and 2 are undecided. All have agreed they wish to have a one way road because of the road rage issues. These results have been passed to the project team to consider alongside the consultation responses.

Westbury-on-Trym and Henleaze Councillor

Comments were received by a Westbury councillor who was concerned about the titling of the consultation as it was felt people in the ward would not respond as it would be deemed not relevant to them.

Southmead Road / Henleaze Road – concern about the proposal to remove a lane of traffic from the dual carriageway due to a worry about possible queueing traffic and rat running in local roads. Does not think a pavement is needed by the park and suggests the inbound cycle way could be provided on the other side of the wall between the pavement and the road. Outbound it was felt the proposal would add to journey times and there was no priority space for buses. These was also concern about the closure of Lake Road as traffic that uses that road would now use Southmead Road.

Henleaze Road (Henleaze Gardens to Henley Grove) – suggests leaving Fallodon Way junction alone as it can accommodate a car turning left and right onto Henleaze Road and a car coming, and the change would reduce the capacity and increase queuing traffic. The road is busy as used for a doctors' surgery, playgroup and youth group. The Henley Grove junction proposal was felt appropriate as it is wide but the closure of Holmes Grove for a build out bus stop and the Henleaze Gardens closure was not supported.

North View / Parrings Lane – suggest a community consultation is appropriate for North View to help improve traffic flow. Local suggestions include peak time bus lanes, restricting a right turn into and out of Etloe Road, allowing 2 lanes of traffic to exit the roundabout from Etloe Road would reduce bus delays.

Whiteladies Road / Downs junction – Support the Roman Road and the Parrings Lane closure with the additional path on the Downs. Suggests an extension of the bus lane restrictions that exist on Whiteladies Road rather than a 24 hour bus lane.

Queens Road / Whiteladies junction - understand the benefits of light-controlled crossings at the 3-way junction of Queens Road and Whiteladies road, but the map shows a cycle lane but no bus lane on Queens Road. This will result in 2 solid lanes of inbound traffic being reduced to one. Understand the logic in closing off Park place and Richmond hill, but the same argument also applies outbound. In both cases 2 lanes of traffic are being replaced by one and buses will be caught up in the traffic delays.

Councillor questions

During the consultation period there was also an opportunity for councillor questions and 27 questions were submitted. A few of the questions related directly to the consultation whilst most were asking about the proposals themselves.

Themes	Comments	Responses
Consultation	Some councillors wanted to know if paper copies were available, some asked for more drop in sessions to be held and asked for libraries to be used. Some wanted to know if the booklets were being distributed and if so to how wide an area.	Paper copies were provided and additional drop in sessions were provided following the requests. Libraries were used and letters were sent out to residents affected by the proposals rather than booklets.
Bus lanes	Has a tidal bus lane been considered on the A37?	The amount of infrastructure and new technology required, together with am/pm inconsistencies (some stretches of the Wells Rd would need AM use whilst other would require PM use) made this option unsuitable for this project.
Other schemes	Are other developments being considered e.g., RWA refurbishment with the proposals around the Victoria Rooms?	The Royal West of England Academy will be contacted during the consultation to help shape the proposals moving forward.
Cycling	There were questions about continuous cycling trips along the whole route and how they would join up: Triangle to Whiteladies Road Wells road inbound NCN3 at Manston Close Sturminster Road cycle track	The project does not cover the Whiteladies Road from Queens Road to Tyndall's Park Road as this is covered by a highway maintenance flood alleviation project. Bayham Road alternative cycle route has been proposed and a 24 hour inbound bus lane Parallel zebra crossing will link this section at Manston Close Will investigate the issue further.
Hengrove Lane	Wanted to know more about plans for Hengrove Lane area – queried the idea of a bus gate. Also concerns raised about the Stockwood side of the A37 as the proposed banned turns would create similar rat running issues. What	No proposals for Hengrove Lane which is why we are asking for suggestions. Noted there is a scheme to install traffic calming cushions along Hengrove Lane up to Cadogan Road which is separate to this project. We can monitor any alternative rat running on the Stockwood side of A37 on side roads if necessary.

	modelling has taken place?	
Junctions	Questions about what is a continuous junction for pedestrians and if they will be installed on the A37 between Oakmead Road and St Johns Lane?	An area where the pavement meets a side road and there are various indicators used to inform drivers they must stop and be aware of any pedestrians crossing. These indicators can be in the form of special materials such as differently surfaced areas, contrasting colours and special types of paving blocks. We intend to install and upgrade a lot of the walking infrastructure along this route by reducing the width of junctions, new crossing points and upgrading tactiles etc. Subject to funding and technical considerations we can also consider broadening the rollout of continuous footways.
North View	Question about the monitoring equipment and if there will be further consultation on whatever is proposed for North View.	We are in the process of collecting additional traffic data to inform the appraisal of the scheme and to ensure that our evidence base is as robust as possible as the scheme progresses to outline and full business case stages. Further consultation on any proposals will happen.
LTN1 /20 Compliance	Are proposals on Park Street compliant with the government new standards for cycling LTN1/20? If not, is there a risk that the government funding for this scheme could be in doubt.	The Triangle and Park Street proposes a continuous segregating cycling facility from Queens Road to Park Row. On Park Street we propose to close the road to Through traffic to provide priority for buses and extend the public realm. The proposals seek to balance the benefits for sustainable modes across the Triangle and Park Street sections. LTN1/20 extract: A quicker way of providing safe, low-traffic cycling is to close roads to through traffic, usually with simple point closures, such as retractable bollards, or by camera enforcement. This may be useful where the road is too narrow for a separated cycle lane. The closure would only affect through traffic. Residents, visitors, or delivery drivers needing to reach anywhere along the road would still be able to do so – though they might have to approach from a different direction. To receive Government funding for local highways investment where the main element is not cycling or walking improvements, there will be a presumption that all new schemes will deliver or improve cycling infrastructure to the new standards laid down, unless it can be shown that there is little or no need for cycling in the road scheme.
Park Street access	How do you access College Street car park?	Travelling from the North West of Bristol the College Green Car Park can be accessed via The Triangle>Jacobs Wells Road>St Georges Road under the proposals.
Pedestrian crossings	Can we have a zebra crossing on the bottom of Sturminster Road? Reduce the width of Hazelbury Road junction with a crossing point.	Currently no proposals to install a zebra crossing at the bottom of Sturminster Rd (West Town Lane end). We propose to build out the pavements currently to reduce the width of the junction.

Rat running	Rat running concerns are through Mowbray and all roads off as far up as Whitecross and the left hand turn into Woodleigh to David's if the right hand turn is enforced at Wells Road	If proposals went ahead and we could monitor any issues to consider any mitigations that may be required.
Road width	The proposals to widen the A37 from 3 lamps to St Johns Lane: Will this result in a loss of trees or are they going to be protected? Will this improve overall capacity of this stretch of road so that the rat run from Angers Rd onto the A37 will no longer be needed as a "pressure valve"?	Intend to keep all trees along this section of route and plant more. The overall capacity here will be improved between Three Lamps and St Johns Lane.
Other	Are we working with BANES on the Staunton Lane junction? Who is looking at the removal of advertising hoarding on Bath Bridge	Will contact BANES to see what the plans are. Not within the scope of the project and would need to be considered by the property services team.

4.4 Emails, phone calls and letters

During the consultation process the team offered ways for people to contact the council outside of the survey and this was via email and phone calls. The team received 233 emails, 18 phone calls and 17 letters. Below is a summary of the comments, questions, and issues.

Emails

Number of responses	Geographical area	Comment
86	Entire route	Many asked for the invite to the online meetings held on 20 December 2021 and 6 January 2022 or were following up on the meetings. A few wanted paper copies of the survey, and some had questions relating to the layout of the survey. Some supported the Bristol Cycling Campaign statement and disappointed about the cycle infrastructure in the north and south sections and felt cycle infrastructure is fragmented. Others commented on the bus service itself noting it is too long, needs to change route and can be delayed.
60	North area	Some wanted a paper copy and clarity on the left turn only except buses label on the Southmead Road drawing. Most objected the proposed road closures for Lake Road,

		Holmes Grove and Henleaze Gardens. One wanted to know more about the paths over the Downs and some objected to the plans to close North View which they thought were proposed but are not in the survey.
31	Central area	Many objected to Park Street closure. Some asked for central only paper copies. Questions about how to access Park Street and how loading for deliveries would still work. A few supported Park Street and wanted to know how the bus gates would operate.
56	South area	Comments focused on the 24 hour bus lanes, the banned turns on West Town Lane junction and the Bayham Road cycleway. Most comments objected to these proposals and felt the 24 bus lane was not justified and would cause issues with parking and congestion. The banned turns on West Town Lane would cause issues for smaller residential streets like Hazelbury and Mowbray Roads with rat running. People felt the proposals for Bayham Road cycle route were complicated and not needed. Some felt they would be trapped in their area and forced to use the Wells Road due to new one way restrictions. There was concern specifically about Winton Street and a petition was submitted by residents about the whole area.

Of the 18 phone calls most were asking for paper copies and the others were generally commenting about the bus route or left a message to say they objected to a road closure in the north such as Lake Road, Holmes Grove and Henleaze Gardens.

Of 17 the letters received most were about the south area and these commented on the Bayham Road cycle route and questioned why this was needed and did not support the 24 hour bus lane. One provided details on how to connect NCN cycles routes in the north and another queried the bus improvements provided via the consultation and felt these should be more ambitious.

4.5 Petition

During the consultation a petition was received from residents in south Bristol which asked for the consultation to be revised on the number 2 bus route. The petition stated:

“These plans will result in a range of negative impacts on our community and represent a real danger for residents, particularly for a significant number of young children. Our primary concerns relate to Section 3, and the area between Redcatch Park, Broadwalk Shopping Centre and Perrett Park.

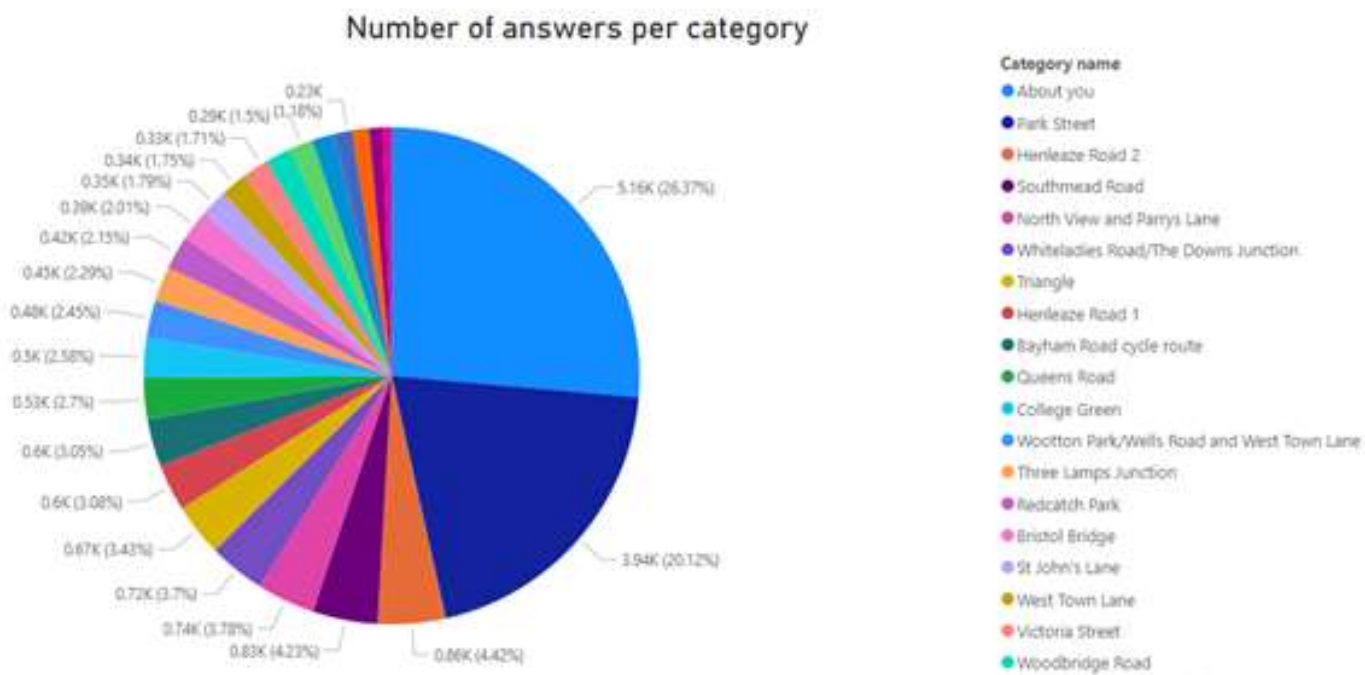
WECA did not sufficiently publicise its Early Consultation, and therefore most residents missed the opportunity to respond. Furthermore, there is no evidence provided by the operator, First Bus, as to how the proposed changes to this stretch of the A37 will help improve the Number 2 bus service. In addition, the name of the current consultation gives no indication that the residential streets surrounding this bus route will be adversely impacted.

We call for a WECA to run a full revised consultation process, which takes into consideration the concerns of the local community, and which includes better quality information; for example, to enable residents to review a single map of the whole local area. Any proposed changes must then (by law) be further consulted upon by Bristol City Council in the form of a Traffic Regulation Order (TRO).”

The petition ran from 19 January 2022 to 28 January 2022 and was signed by 228 people.

5.1 Survey Results

A total of 2206 completed responses have been captured using the Virtual Engage platform over the consultation period. 968 respondents provided an email address and the total number questions answered by all respondents was 19.54k. The most popular topics as the ‘About you’ section was Park Street, Henleaze Road and Southmead Road as shown by the pie chart below:



5.1.1 Booklet 1 of 3: North section

Each booklet covers one of the three sections of the route. Below is a map of the north section running from the Bristol boundary by Station Road to the Whiteladies Road /Queens Road junction by the Victoria Rooms.

Number 2 bus route and A37/A4018: North section



There are 8 sections in the north booklet covering the following locations:

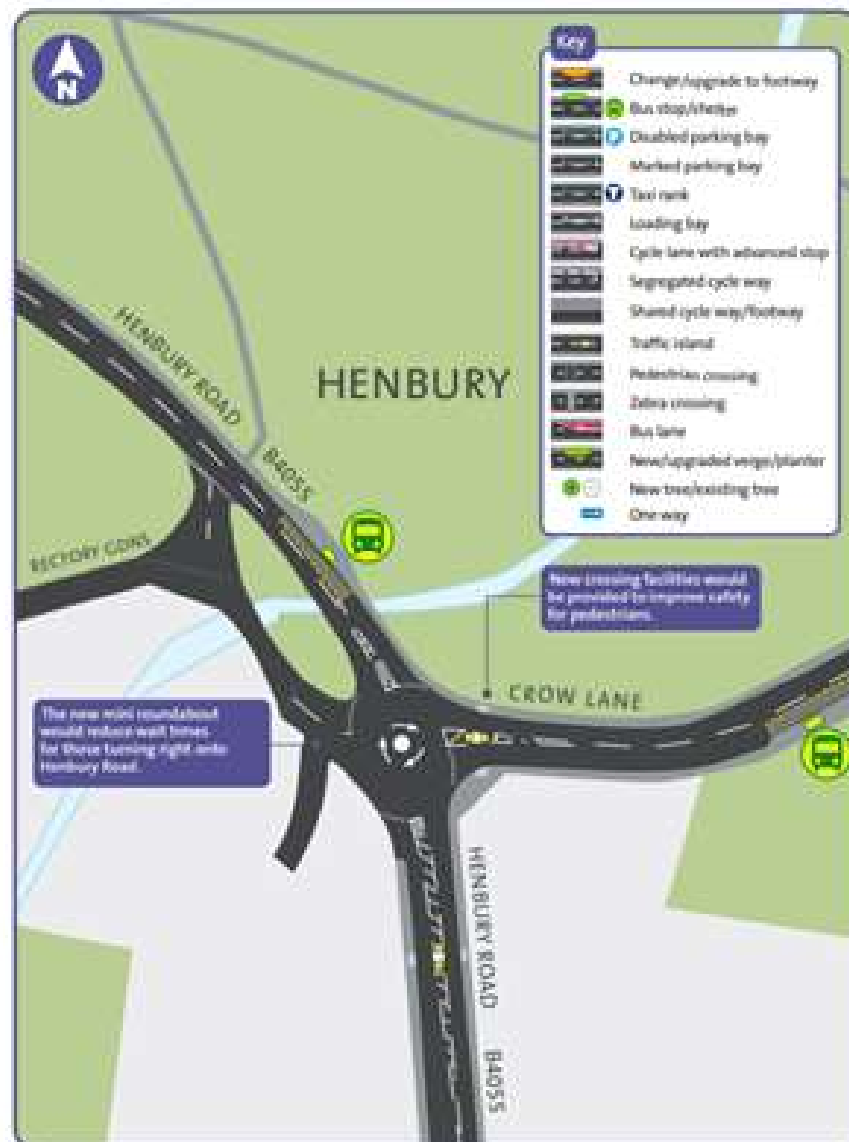
- Crow Lane and Henbury Road junction
- Crow Lane
- Knole Lane /Crow Lane
- Southmead Road
- Henleaze Road (to Eastfield Terrace)
- Henleaze Road (Holmes Grove)
- North View and Parrys Lane
- Whiteladies Road / The Downs junction

5.1.1.1 Crow Lane and Henbury Road junction

The transport proposals for this section comprise of:






- New crossing facilities to improve safety for pedestrians
- A new mini roundabout to reduce waiting times for buses turning right onto Henbury Road and address local concerns regarding speeding traffic on Henbury Road.

Crow Lane and Henbury Road junction – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Crow Lane and Henbury Road junction?

			Response Percent	Response Total
1	Strongly agree		23.19%	32
2	Agree		34.06%	47
3	Neither agree nor disagree		17.39%	24
4	Disagree		13.04%	18
5	Strongly disagree		12.32%	17
			answered	138

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

77 free text comments were received for this section of the route. These were coded into 10 categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Public realm (including trees)
- Mini roundabout
- Other

As one comment can be split over multiple categories there are 146 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	15	Any change would be welcomed. Strongly agree with the introduction of a mini roundabout. Great idea.
Objections	4	Pedestrian crossing in that spot would hinder traffic flow. Stop narrowing junctions, widen them some traffic can filter. Disagree as prioritise private motor vehicles over walking and cycling.
Pedestrians	13	A zebra crossing with parallel cycle crossing is needed near the junction of Henbury Road with Rectory Gardens to enable cyclists and pedestrians from Rectory Gardens (e.g., from Henbury church or The Henbury Arms) to access the footpath and cycleway on the other side of Henbury Road. Dangerous to cross the road at this location. Need pedestrian crossings such as pelicans which properly safeguard

		pedestrians particularly children, disabled and vulnerable adults. This plan has no infrastructure for cyclists and minimal for pedestrians.
Cyclists	30	No improvements for cyclists - please include segregated protected cycle lanes. There's no cycling infrastructure in the current plans. I fully support Bristol Cycling Campaign's consultation response. It needs a segregated cycle way, or at the very least a cycle lane or a shared cycle way. There is no redistribution of road space for active travel. Minimal provision for those walking or cycling. Need segregated cycle facility, esp. on Henbury Road. Rectory gardens should have 2 one way spurs with cycle contraflow. There are no facilities for cyclists. This should be a segregated cycle route. Roundabouts are accident blackspots for cyclists.
Public transport	8	Like the mini roundabout and how you push the bus stops out into the carriageway, as it helps buses move off from the stop once they have loaded. Bus stop will cause havoc. How about not having bus stops in the carriageway? This causes congestion for other road users who do not keep stopping to pick up passengers. Better bus stops and shelters with real time information and bins and seats.
Traffic	16	This junction regularly causes large queues of traffic along crow lane. Vehicles from the Rectory Gardens have great difficulty either turning right or going straight across. So much traffic comes along Crow Lane, especially with plans for the Clifton Rugby Club roundabout area, that it will continue being a queue of vehicles at peak times. What evidence is there to say that a mini roundabout would reduce wait times? It may for some traffic, but a lot of traffic comes from the right, so it may not help for those periods?
Road Safety	15	This will still feel too dangerous to walk/cycle on. Serious traffic calming is needed here. Cars travel at 60+mph in a residential neighbourhood. Needs significantly more to improve safety and quality for pedestrians and cyclists. Strongly agree with putting a new mini roundabout at the Crow lane/Henbury road junction. This will be safer and more efficient for all. Also, addition of new crossing facility is a good idea to make crossing crow lane much safer.
Public Realm (including trees)	2	Who will maintain the trees? The designs do not appear to have considered the potential to realign kerb lines. This offers opportunities to reduce vehicle turning speeds and convert carriageway into footway or planting areas and should be considered.
Mini roundabout	29	It will reduce incidence of road rage at that junction. Crow Lane westbound onto roundabout would benefit from being widened sufficient to allow right and left turn lanes approaching the roundabout. Roundabout sorely needed and is long overdue. The roundabout should make traffic flow more smoothly. This will probably help alleviate queues at the junction.
Other	14	Put in traffic signals. Improve the ford to stop the flooding. Move the crossing further up Crow Lane and make it a zebra crossing. Close Rectory Gardens to traffic. Narrowing roads will encourage pavement parking.

5.1.1.2 Crow Lane






The transport proposals for this section comprise of:

- New trees, benches, and cycle parking by the shops
- Upgrade of crossing points
- Upgrade of existing bus stops
- New one way on connecting road from Ellsworth Road
- Modified junction to prioritise pedestrians at Crow Lane
- A review of waiting and loading restrictions to discourage parking near Blaise Primary School and Nursery
- Widened footpath by the school

Crow Lane – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Crow Lane?			Response Percent	Response Total
1	Strongly agree		15.65%	23
2	Agree		31.29%	46
3	Neither agree nor disagree		19.73%	29
4	Disagree		19.05%	28
5	Strongly disagree		14.29%	21
			answered	138

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

82 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Public realm
- Other

As one comment can be split over multiple categories there are 137 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	17	Generally, agree. Good to see footway being prioritised. Reducing unnecessary car use and parking on this road would seem very sensible. Road narrowing near school is good, must be enforced. As a wheelchair user I'm all for better pedestrian routes with dropped kerbs and tactile paving.
Objections	5	Disagree with narrowing Crow Lane, and the potential for reducing parking times. New one way section on the crow lane slip seems pointless.
Pedestrians	15	Pedestrian crossing could be improved further here by installing additional traffic islands at either end of the bus stop bays. The

		upgraded crossing point at the southern end must be a zebra. The new trees and widening of footpaths are good.
Cyclists	38	Why are there no segregated protected cycle lanes? There is plenty of space which could provide for this. There is a complete lack of safe cycling infrastructure. Cycle 'racks' for locking bikes to will not be secure enough on crow lane. An alternative, more secure method of parking bikes here is needed - maybe lockable cages (with a padlock supplied by the user?). Fully support Bristol Cycling Campaign's consultation response. One way restriction on 'connecting road' should be "except cycles". No cycling provision to enable cycling to school or use of new cycle parking! Segregated cycleways should be provided in both directions along the whole of Crow Lane.
Public Transport	15	As a bus driver using the layby bus stops, find it frustrating cars park next to the bus stop. The whole layby should be a bus only zone and the road painted red. Provide bus lanes by widening into verge. I really don't think it's been useful to re-route the 2 through Henbury. The justification was congestion along the A4018, but a far more useful approach would be to create bus priority along that road
Traffic	4	There needs to be double width heading south towards the Crow Lane & Henbury Road junction to allow right turning of vehicles into Aldi car park without causing tailback of traffic if just a single lane. Also, the proposed changes outside Blaise School will slow the traffic to the new crow lane-Henbury road roundabout.
Road Safety	12	Missed opportunity for a segregated bike lane, so children can get to school safely. The upgraded crossing point at the southern end must be a zebra. Given that many HGVs use Crow Lane and cyclists, narrowing the road is not sensible as it will create conflict. Improved road safety. There is little or no adherence to the 20MPH limit on this wide and naturally fast road.
Parking / waiting restrictions	13	Review of waiting & loading restrictions near school is essential - parents parking on the grass verges doesn't help. I disagree with narrowing Crow Lane, and the potential for reducing parking times. 99% of the parking is the parents, at least nowadays traffic can flow both ways
Public realm	8	Plant more trees in green spaces. Trees benches and bins will be a waste of money and vandalised by the lawless youths in this area. Although I like the idea of more trees being planted - I doubt they will last very long before they get vandalised. More benches sound nice, but again will it just encourage gangs to loiter, and make the area even more problematic. More trees would make the area more pleasant.
Other	10	One way is not required. Please consider what local people want. Side roads should be using continuous footways/tracks

5.1.1.3 Knole Lane/ Crow Lane

The transport proposals for this section comprise of:

- New 24 hour bus lanes to improve bus journey times at the roundabout.

Knole Lane/Crow Lane – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Knole Lane / Crow Lane?

			Response Percent	Response Total
1	Strongly agree		16.07%	27
2	Agree		16.07%	27
3	Neither agree nor disagree		17.86%	30
4	Disagree		17.86%	30
5	Strongly disagree		32.14%	54
			answered	168

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

114 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Other

As one comment can be split over multiple categories there are 215 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	14	Agree with the 24hr bus lanes. Regularly use these bus routes and any improvement would be welcome. Glad to see the placing of a box junction on the roundabout (which I know is often a bottleneck).
Objections	13	Do not agree with the proposals for the bus lanes. Strongly object to the inclusion of 24 hour bus lanes on Knole lane. There is no justification for this blanket measure here. These bus lanes will increase congestion at the roundabout and block road junctions on Knole Lane.
Pedestrians	6	Adding bikes to pavements in an area where children walk to school. Pedestrian and cycle crossing should be installed at each arm of the roundabout. Segregated cycle ways don't look like there will be much space left for pedestrians.
Cyclists	46	Crow Lane roundabout should be a Dutch style cycle roundabout. Provide cycle lane at Knowle Lane by widening into south side verge. Provide space for cycle lanes on Crow Lane by moving east side bus stop into carriageway. Cycling provisions are very limited and do not seem to connect well. Bus lanes are positive but there should also be improvements for cycling. The current cycleways don't connect to safe routes on either side. It needs a segregated cycle way all along the road not just at the roundabout. Join up the cycleways. Isolated sections are not good enough.
Public Transport	65	The road would need to be widened to allow for a bus lane as well as vehicles currently struggle to split into two lanes often. Welcome ideas for improving bus journey times, is there any need for the 24hr bus lane late at night / early in the morning? Good to have 24 hour bus lanes. Object to the inclusion of 24 hour bus lanes on Knole lane. This is an unnecessary and heavy-handed approach to traffic management, when a bus lane with a specific time say, rush hour periods, would suffice. If you want bus lanes, widen the road (3 lanes) so other traffic

		can flow freely. Buses tend to hold up traffic and create more congestion / pollution. There aren't 24 hr buses running and it's a major route to Cribbs and the motorway. 24 hour bus Lane is ridiculous for this road.
Traffic	33	Bus lane outside library may create back up of traffic making access to roundabout more difficult than it already is. Bus lanes come too close to roundabout thus causing huge queues especially for traffic turning right. The traffic along this road is already awful, with or without busses. This would cause immense delays with the current traffic struggles around the entire Cribbs Causeway area. It would be extremely stressful to all drivers using this road. Congestion is not an issue outside of normal daylight hours.
Road Safety	13	The roundabout itself is the problem, cars drive too fast on it. You're adding bikes to pavements in an area where children walk to school. Imagine Voi scooters (and personal ones) plus kids on bikes whizzing around those corners. The pavements aren't wide, and they won't stick to the lanes. Roundabouts are quite scary and dangerous with mixed traffic.
Parking / waiting restrictions	6	Do not stop people parking outside their properties. Where width is limited, there should be little reason to retain parking. Also, many car owners along this road have limited/no space to park their cars off road and must park roadside, this would force them to have to park elsewhere when the road now is sizeable enough for 2 cars to pass without fuss.
Other	19	The road and roundabout works well, as it is and does not need any changes to it. Machin Road junction should be blocked off and traffic pushed back via Standfast Road. Remove roundabout and install traffic light signals. Turn the roundabout into a controlled signal junction as the roundabout is too small and dangerous for a popular route and busy road. Access route to library should be a continuous footway.

5.1.1.4 Southmead Road






The transport proposals for this section comprise of:

- New bus lane on Southmead Road on the approach to the Wellington Hill West junction to improve bus journey times
- Southmead Road would be narrowed to one lane in each direction to allow for widened footways.
- Close Lake Road to through traffic from Southmead Road end to allow for a new parallel zebra crossing
- New shared path and cycle lane would be created so cyclists can reach the crossing to Lake Road.

Southmead Road – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Southmead Road?					
				Response Percent	Response Total
1	Strongly agree			12.28%	55
2	Agree			14.29%	64
3	Neither agree nor disagree			10.04%	45
4	Disagree			16.96%	76
5	Strongly disagree			46.43%	208
				answered	448

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

376 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Public realm
- Lake Road
- Other

As one comment can be split over multiple categories there are 862 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	55	Agree overall. Agree with the zebra crossing at the end of Lake Road, very sensible. Taking traffic to one lane is great. I'd also be supportive of 20mph speed limit. Generally, agree. I believe the zebra crossing cannot come soon enough. Like the dual carriageway being reduced to one lane, the tree planting, and the parallel crossing to lake road. Narrowing the road is sensible. Southbound cycle lane on Henleaze Rd is great. Great scheme. Welcome the idea of a parallel zebra crossing.
Objections	48	Closing Lake Road makes no sense. Disagree with reducing dual carriageway to one lane in each direction. Disagree with bus lane on Southmead Road- just not enough buses anyway! Disagree with the

		proposal to close Lake Road to both incoming & outgoing traffic. Strongly object to the proposal.
Pedestrians	83	Addition of the parallel zebra crossing is helpful for safety at that junction. Having the footway extended alongside the park is good - it means that one does not have to cross the road if you are a pedestrian going north. The Zebra crossing is a good idea but would be better further down the road, meaning people focus is not on the roundabout. Shared pedestrian/cycle way at the Henleaze Rd roundabout will be dangerous for pedestrians. Support pedestrian crossing at Lake Rd but not closure of road. The current road space is fine just put in pedestrian crossings. Side roads should also have continuous footways.
Cyclists	132	Widening the pavement to allow for cyclists seems dangerous for pedestrians. That bit of Henleaze road has 4 lanes, so the road should be able to be given to cyclists instead of the pavement. Lack of LTN 1/20 compliance (Cycling Level of Service Score 70%+, No red turns from Junction Assessment Tool). The fact the DfT won't fund shared paths in Urban Areas. Use the space for cycle lanes on the roadway, not the pavement. Need segregated cycle path along Southmead Road. Excellent opportunity to put in segregated cycle paths in both directions on this section. Lost opportunity to only provide a segregated cycle path on one side of Henleaze Road. The segregated cycleway should be continuous from the crossing to Henleaze Road. Shared cycle lanes are dangerous as most cyclists have no consideration for pedestrians.
Public Transport	87	A bus lane at the end of Southmead Road would be good. More sticking out bus stops are unacceptable. Will the new Southmead Road bus lane be a 24 hour one? Regardless, the justification for it is weak if reducing congestion is the plan. Don't understand the left-turn only except buses bit and how that works on a mini roundabout. Provide westbound bus lane on Southmead Road by removing verge. putting in the bus lanes is not productive. Buses do not get delayed at this junction. It is more likely to increase delays especially with traffic turning left which cuts across the bus lane and vehicles blocking the end of the bus lane.
Traffic	141	Reducing Southmead Road from dual to single carriageway will cause additional congestion. All of this will only increase local traffic around Lake Road, Vintery Leys and other residential areas. This dual carriageway system was designed in the 1930s due to period traffic levels. In 2021 these are considerably higher, yet you are choosing - yet again - to reduce road capacity and increase congestion. Closing lake road to traffic will have a huge effect on the people who live there. As a resident myself this move will make it very difficult to get to my home and increase traffic on surrounding side streets.
Road Safety	61	Narrowing roads creates unsafe situations. Better to have separate bike and walking areas to avoid collisions. The Glenwood Road junction is dangerous due to poor lines of sight around the corner. Instead of reducing the carriageway size why not make these left hand lanes bus lanes to help protect cyclists? The traffic around the lake in the summer is already a problem. Closing the south entrance of lake road (the north is already closed too) will increase the traffic on surrounding

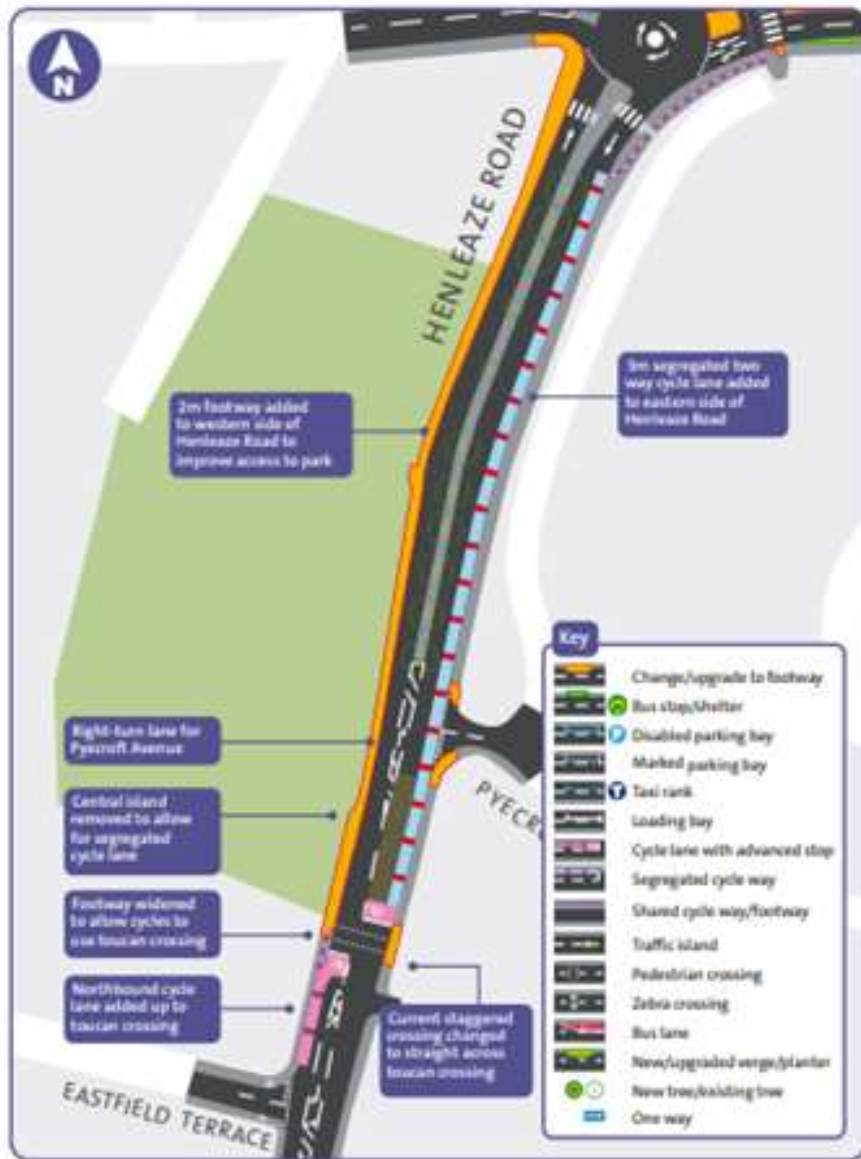
		roads which are often double parked, this will make accidents more likely.
Parking / waiting restrictions	23	Reducing dual carriageway to single line on Southmead Road will only work if there are also double yellow lines along this section, as cars are often parked in the left hand lane, making it unusable. Every day around 10 cars park along that stretch of the road. This includes residents, workers, and customers of local businesses. These people would then be forced to park along side roads that are already congested by staff parking from the local hospitals. If you are narrowing the carriageway, are you going to stop people parking on that east-bound bit of Southmead Road, because there is often only one lane anyway because there are cars parked on the road.
Public realm	37	New trees are a great idea. Trees are much needed in this area. There are already several trees along this section of Southmead Road which are established. If more trees are added, the light into our home could be reduced which I would not support.
Lake Road	110	Closing Lake Road makes no sense. Clover ground and Glenwood and Charis Avenue will all become rat runs to avoid congestion. Have you investigated how disruptive this will be to the residents of this road and visitors? The closure of Lake Road will be dangerous for parents dropping off and collecting their children from the nursery situated on the corner. All seems to make sense. especially blocking off lake road for the zebra crossing which is much needed. Awful idea this is going to cause awful congestion.
Other	85	What reduction in car usage have they built into their plans? What are the assumptions being used? This is a main route out to / in from the M32 / M4 / Parkway for NW Bristol. In snow and icy weather, Vintery Leys can become impassable to Westbound traffic, due to the steep incline, Lake Road is then the main exit from Lake Road, Lakewood Road and Lakewood Crescent. Public money needs to be spent on encouraging local business and facilitating access to these businesses. I am sure that money can be better spent elsewhere.

5.1.1.5 Henleaze Road (to Eastfield Terrace)

The transport proposals for this section comprise of:

- New segregated cycle lane on the eastern side of Henleaze Road
- New footway on the western side
- Change the staggered crossing to a straight across toucan crossing

Henleaze Road – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Henleaze Road?

			Response Percent	Response Total
1	Strongly agree	<div style="width: 24.86%; height: 15px; background-color: red;"></div>	24.86%	89
2	Agree	<div style="width: 24.30%; height: 15px; background-color: yellow;"></div>	24.30%	87
3	Neither agree nor disagree	<div style="width: 9.50%; height: 15px; background-color: blue;"></div>	9.50%	34
4	Disagree	<div style="width: 13.41%; height: 15px; background-color: green;"></div>	13.41%	48
5	Strongly disagree	<div style="width: 27.93%; height: 15px; background-color: orange;"></div>	27.93%	100
			answered	358

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

239 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Public realm
- Other

As one comment can be split over multiple categories there are 425 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	36	Excellent to see improved cycle way. completely agree with the changes. Improved pedestrian access to the park is long overdue. The footway and cycle path is great - really like it. Yes, love the segregated two way cycle lane and the single stage toucan crossing!
Objections	15	This will add unnecessary bottleneck in this area. I strongly disagree with the removal of the central island. Do not agree with cycle lane being two-way on East side. Strongly disagree with proposals
Pedestrians	63	Agree re 2 m footway on west side. Crossing over from west to East going downhill on this road won't work. Footpath on Quarry Park side is great idea and needed for a long time along with a single crossing. The current lack of footpath on the west side of Henleaze Road has always seemed odd as it restricts pedestrian access, so adding this would be a significant improvement
Cyclists	157	Can't see the point of such a short, shared cycle Lane - what's the point to go to such expense for such little gain? Feel cycle lanes are better when they follow the flow of the rest of the traffic, rather than having a two way lane as proposed here. The dedicated cycle lane is ok Southmead to Henleaze but no cyclist cycling from Henleaze to Southmead is going to stop, cross the green man, cycle 200 yds, cross crossing back to other side and carry on. Welcome segregated / protected cycle lane.
Public Transport	10	Do not narrow any existing bus routes, keep all dual carriageways, they are opportunities for bus lanes. Cannot see how that is doing anything to improve the passage of buses through Henleaze. Very supportive as it promotes good space for bus route alongside pedestrians and cyclists.

Traffic	48	These changes are designed to block traffic, unhelpful and lacks coherence. Traffic disruption causing delays and therefore air pollution. No more sticking out bus stops which make traffic flow worse. It is unnecessary to have 2 lanes of traffic either side of the road. The reduction in lanes will lead to increased road traffic.
Road Safety	38	Shared paths only create conflict and injury. Two way cycle lane on one road track seems a bit risky! Asking cyclists to switch from one side on the road to the other and back again is a nonsense. They won't do it; but even if they did, the mixing of pedestrians and cycles at the toucan crossing is dangerous.
Parking / waiting restrictions	7	Parking will be an issue if not managed. It looks like there will be no car parking space at all on Henleaze Rd. Not everyone can ride a bike or carry heavy shopping home!
Public realm	15	The only suggested improvement is that the mature trees on the central island should remain, it's unclear if these are being removed. Removal of trees is never ideal for the environment, but the net cost of a poor transport system is far worse.
Other	36	Total waste of money speeds will inevitably increase. More changes that will further clutter the area which presently benefits from a more open aspect. I feel that the views of residents have not been considered and consultation is useless because there are countless instances of consultation being completely ignored by the powers that be.

5.1.1.6 Henleaze Road (Holmes Grove)

The transport proposals for this section comprise of:

- Close Holmes Grove to accommodate a new bus stop
- Close Henleaze Gardens so that a dropped kerb could be installed

Henleaze Road – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Henleaze Road?				
			Response Percent	Response Total
1	Strongly agree	<div style="width: 12.50%; height: 15px; background-color: red;"></div>	12.50%	60
2	Agree	<div style="width: 12.71%; height: 15px; background-color: yellow;"></div>	12.71%	61
3	Neither agree nor disagree	<div style="width: 10.83%; height: 15px; background-color: blue;"></div>	10.83%	52
4	Disagree	<div style="width: 14.79%; height: 15px; background-color: green;"></div>	14.79%	71
5	Strongly disagree	<div style="width: 49.17%; height: 15px; background-color: orange;"></div>	49.17%	236
			answered	480

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

385 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Public realm
- Road closure
- Other

As one comment can be split over multiple categories there are 372 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	30	Happy with the improvements to the public space. Agree in principle with the proposals. As a resident of Holmes Grove, I am strongly in favour of this proposal for several reasons. Both road closures seem a good idea. Excellent for Holmes Grove as cars use the street as a rat run. Much safer for bus users, pedestrians, and cyclists. Great to have larger areas for community gathering i.e., cafe, street events etc
Objections	30	The proposal to close Henleaze Gardens should be removed. Closing side roads is madness. Do not agree that these changes are well thought out or that they will benefit residents of Henleaze. It seems extremely unfair to shut through roads for the people living there.
Pedestrians	11	New layout would make it much easier to navigate as a pedestrian. It would be great for the other mostly residential streets to have pavement level raised walkways across the end to give priority to walkers. Continuous footways needed.
Cyclists	20	There is a complete lack of cycling infrastructure. Acknowledge road is too narrow for cycle infrastructure. Cycle permeability needed. Zero cycling provision.
Public Transport	61	These all seem very sensible improvements, especially the Holmes Grove bus stop changes. You could move the bus stop to before the zebra crossing where there are loads of pavement space rather than closing an entire side street (Holmes Grove). Is there a possibility of bus gates? Maybe a bus lane on Henleaze Road would help as traffic is often delayed there? The bus stop is far enough from the zebra crossing and have not seen any difficulty for buses to pull into the existing bus stop.
Traffic	41	Blocking road will increase traffic on other roads. Traffic and parking will be adversely impacted for those living here. Fallodon Way is already very busy with cars parking, and this will make it worse (also impacting the medical centre in the same road). Narrowing the

		roadway entrance at Henleaze road would simply cause congestion at this busy turning. Traffic turning into Henleaze Rd from Henley Grove has very restricted visibility, especially if you are turning right.
Road Safety	33	The pedestrian crossing near Holmes Grove is dangerous as cars go too fast and frequently don't notice someone on the crossing. It needs an island & beacons. Junction modifications result in more dangerous manoeuvres from general traffic, thereby increasing the likelihood of accidents. There are families with younger children in the road - would these children be at risk from large reversing vehicles? Making the entry to Fallodon Way smaller would be much safer.
Parking / waiting restrictions	17	Parking on the road is always congested, this will make egress and ingress to properties even more difficult. Solutions would be to put double yellow lines on Henley Grove on the opposite side of the high street parking zone or to move the high street parking zone further down Henley Grove where the road widens.
Public realm	16	The so-called public spaces that will be established at these junction closures will not be useable - they will simply be areas that people move through. Planting trees surrounded by concrete is not creating a public space. Happy with the improvements to the public space, they are going to look nice. The high street is very popular and has a good public space feel, with wide pavements and busy shops.
Road closure	88	Shutting a road like Henleaze Gardens could end up funnelling traffic onto North View, which is already extremely congested. We object to closing the exit of Henleaze Gardens on to Henleaze Road. This will force all traffic to exit/enter via the busy Westbury Road, which is dangerous. Closure of west end of Holmes Grove should be "except cycles" Closure of east end of Henleaze Gardens should be "except cycles". No justification given for closure of Henleaze Gardens. Refuse lorries, deliveries, scaffold lorries etc need drive through access to avoid reversing off or onto A4018 (and then reversing up or down length of Henleaze Gardens). Road entries could also be narrowed to improve pedestrian safety if necessary. Disagree that it is necessary to close the end of Holmes Grove.
Other	25	Cavendish Rd needs improving - it's difficult to cross with the parking spaces and most people must cross here due to where the zebra crossing is. Cavendish Rd is a cut through to Falcondale Rd and to drop kids off at St Ursula's and to get to the Downs. Alienate residents. Elderly demographic who needs their cars and expect simple and easy access to a long residential road. Not on your plans but there is a zebra crossing at the bottom of Henleaze Park Drive which crosses Henleaze Road.

5.1.1.7 North View and Parrys Lane

The transport proposals for this section comprise of:

- New zebra crossing on Parrys Lane
- New path added to Westbury Road shared path
- Footpath widened on North View
- Existing paths between Westbury Road and North View widened and converted to shared cycleways
- Views sought on possible closure of section of Parrys Lane to traffic.

North View and Parrys Lane – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to North View and Parrys Lane?

			Response Percent	Response Total
1	Strongly agree		20.87%	86
2	Agree		25.24%	104
3	Neither agree nor disagree		12.86%	53
4	Disagree		19.90%	82
5	Strongly disagree		21.12%	87
			answered	412

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

326 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Parrys Lane
- Public realm
- Other

As one comment can be split over multiple categories there are 560 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	94	Agree dedicated cycle path will make it safer to cycle down the A4018. All enhancements to cycle paths are welcomed. Happy with parking review to stop poor access. Agree that the Parry's Lane "cut through" from Westbury Road should be closed. Great to have new zebra crossing, and new cycle paths. Like proposal of a new zebra crossing on Parrys lane. Agree with new path parallel to Westbury Road. The idea of closure of Parrys Lane is a good idea.
Objections	76	Do more, the proposals aren't ambitious enough if changes want to be made. Don't close Parry's lane - crazy idea. Not happy about the proposal for shared pathways. Object strongly object to any new paved paths on the Downs. The current shared path is barely used. Do not agree with closure of Parrys Lane. Pointless having two parallel shared paths alongside Westbury Road. This doesn't solve the main issue for buses which is traffic going towards white tree roundabout at peak times.
Pedestrians	64	Why is there no safe crossing for pedestrians near the north view bus stop? Zebra crossing at roundabout is much needed. Better lighting for pedestrians would be great. There is no need to widen the footpath in Northview, it is perfectly adequate. Suggest that paths on should be separated to make one for cycling and one for walking, as they are on Stoke Road. Shared cycleways can be dangerous for pedestrians. Strongly in favour of segregated walking and cycle paths.
Cyclists	105	Suggest paths should be separated to make one for cycling and one for walking like Stoke Road. As it could then be wide enough to make it bi-directional for cycling. Suggest the cycle lane on Westbury Park Road goes all the way along the road and it is clearly signed as one way

		motor with contraflow cycle lane. Agree with the new path on Westbury Road. More segregated cycle paths along North View and Parry's lane. More for cyclists on this roundabout, making it easier to access the cycle paths from all directions. Zebra crossing across parry's lane needs to accommodate cyclists. Shared cycleways between Etloe and Westbury Park Road need to be segregated.
Public Transport	37	How do the proposals make any material difference to bus traffic options? Closure of the cut-through labelled as "Parry's Lane B4054" may add to congestion on the roundabout for buses. More radical plans are needed along North View, the existing congestion causes real issues for bus users. The waiting area around the bus stop itself is not expanded. What options are being considered for the White Tree Roundabout / North View - bus lanes? A bus gate to prevent traffic exiting North View from White Tree roundabout. None of these proposals indicate how there would be any improvement to the delays faced by buses on North View.
Traffic	71	New zebra crossing on Parry's Lane may add to congestion at certain times of the day due to traffic being stopped on the roundabout. This in turn could delay traffic, including buses, coming from the other roads that link onto the roundabout. Closure of the cut-through labelled as "Parry's Lane B4054" may add to congestion on the roundabout for buses and other road users at certain times of the day whereas traffic at present has a means of bypassing the roundabout thereby making journeys quicker for all. North View is an important through road. Any suggestion of restricting its use by cars will force cars onto narrow side roads. Relocating the North View bus stop to a new site away from this narrow part of the road would solve most of congestion issues. Useful slip road for cars travelling down to Stoke Bishop, Stoke Lane, Shirehampton etc. coming along the Downs from Blackboy Hill, which saves having to queue at the White Tree Roundabout to turn left down the main part of Parry's Lane. Closing it would only add to the waiting times for traffic entering White Tree Roundabout from Westbury Road. Reinstate the width from North View to two lanes.
Road Safety	26	Why is there no safe crossing for pedestrians near the north view bus stop? Pedestrians, children, and dogs should not have to share with bicycles as this could be extremely dangerous. Zebra crossings at roundabout exits are somewhat dangerous as a driver has a lot to process and may not notice a pedestrian. It seems that the start/end of shared cycle ways do not have a safe way of merging back into traffic.
Parking / waiting restrictions	23	Could have a bad effect on business parking their vehicles or receiving drop offs. Parry's Lane would not be such an attraction for van dwellers if parking restrictions were adhered too. Do not restrict the parking on North View. This would be catastrophic for residents, who are already severely impacted by being on the edge of the Cotham North RPZ. Congestion on North View could be effectively dealt with by restricting parking to one side of the road.
Parrys Lane	24	I would be for the closure of Parrys lane and returning it to natural land. Close the top one-way section of Parrys Lane as you propose to stop speeding vehicles cutting down here. Do not agree with closure of Parrys Lane. Parrys lane should close as its currently used a car park for

		people living in caravans and motor homes which is an eyesore. Blocking the section of Parrys Lane from Westbury Road to Saville Road or possibly all the way to the main Parrys Lane is unnecessary, it will merely cause further congestion at the White Tree Roundabout. What is the benefit of closing the cut through to Parrys Lane? It helps reduce traffic at White Tree roundabout and you want a zebra crossing here which will slow it down.
Public realm	11	Concerned about impact on mature trees on the idea of footpath widened on North View. Support extra tree planting and enhancing North View would be wonderful - currently it's a traffic bottleneck with poor air quality - any improvement is welcome and very good for local shops and cafes. Too many roads slicing up the downs and it would be a great improvement for walkers, families, and wildlife if this was grassed over.
Other	29	Need traffic modelling for options. Road surfaces urgently need to be repaired between roundabout and Clay Pit Rd. Walking and shopping is not as pleasant as it could be. Pedestrianise North View. Need more information about the proposals and the shared paths. Consider closing the junction of Westbury Park Road onto North View. Complete waste of money. Traffic lights on the roundabout? Colour code shared paths. Issue with flooding on the corner on Westbury Park Road. Remove roundabout altogether. Glad to see the plans for North View are not included. Consider the whole area. Are the shared paths accessible?

5.1.1.8 Whiteladies Road / The Downs junction

The transport proposals for this section comprise of:

- Roman Road would be made into a walking and cycling route as this links to green spaces
- Proposed new 24 hour outbound bus lane on Whiteladies Road between Wellington Park and York Street

Whiteladies Road/The Downs junction – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Whiteladies Road / The Downs junction?

			Response Percent	Response Total
1	Strongly agree		21.93%	93
2	Agree		25.71%	109
3	Neither agree nor disagree		9.80%	39
4	Disagree		14.39%	61
5	Strongly disagree		28.77%	122
			answered	424

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

292 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Public realm
- Other

As one comment can be split over multiple categories there are 445 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	80	Agree with making Roman road a cycling & walking route. Lots of support for closing Roman Road as is a great idea. Bus lane past Willington Park sounds good. Creating a new segregated cycle lane is good. Fully support these changes. Roman Road being shut to cars for parking is a safe and clear route for cyclists and walkers to travel along. Support the idea of a new bus lane for the left hand side at the top of Blackboy Hill. New off-road cycle and walking routes are very welcome on this rather unfriendly gyratory. 24 hr bus lane brilliant idea and love extra cycling lanes.
Objections	84	Not another 24 hour bus lane. Closing Roman Road removes well-used parking spaces for only marginal benefit. Disagree with roman road removal of parking. Not LTN 1/20 compliant. Bus lane will affect local businesses. Object to shared paths. Measures don't go far enough for active travel so object. Short cycle lanes are waste of money. Object to 24hour bus lane – leave as it is.
Pedestrians	22	Agree with making Roman Road a cycling & walking route. Please segregate walkers from cyclists. New off-road cycle and walking routes are very welcome on this rather unfriendly gyratory. A path from new path on Westbury road to bus stop would be useful. No shared paths. For a disabled pedestrian this massive junction is very confusing. Please make it as accessible and easy to understand as possible.
Cyclists	124	No safe provision for cyclists to get from Roman Road to Redland Hill; this is part of National cycle Network for southbound cyclists so should be given priority treatment. Creating a new segregated cycle lane is good, but if it just joins onto the carriageway or onto existing poorly designed shared cycle/foot ways then it is completely pointless and

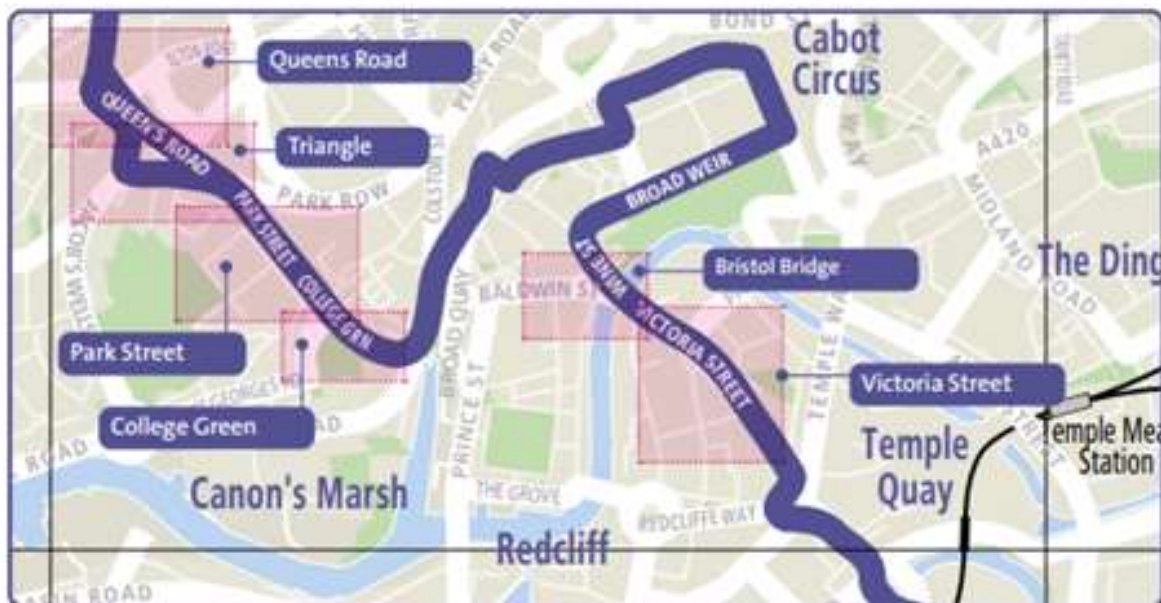
		won't be well used. You need to have more segregated cycle lanes along more of the route! How are cyclists supposed to navigate 3 lanes of traffic uphill at the top of Whiteladies Road? Would suggest an 'early release' in place for cyclists on the traffic lights on the uphill. Suggest that paths should be separated to make one for cycling and one for walking, as they are along Stoke Road (by cafe). As it could then be wide enough to make it bi-directional for cycling. No LTN 1/20 compliance. Where are the CYCLOPS junctions? Cycling Level of Service Score > 70%? No red turns from the Junction Assessment Tool? This has been designed by people who need training in how to deliver national standard cycle infrastructure. The cycle lane is not continuous or segregated. This is great! We need more cycling routes! And the advanced stops are great too.
Public Transport	44	Placing of a bus lane by the shops at the top of Whiteladies Road may harm trade to local businesses. Better to have the bus lane operating at certain times of the day only (i.e., only between 4pm - 7pm evenings, Mondays to Fridays rather than 24/7. Parking bays need removing on Redland Hill to allow buses to get through quickly. Support the idea of a new bus lane for the left hand side at the top of Blackboy Hill. Wants motorcyclists to be able to use bus lanes. Is it possible to continue the bus lane up through the junction, rather than stopping on Whiteladies Road? A bus lane or at least a cycle lane should go all the way to the top of Blackboy Hill as this is the worst part for cyclists, and the spot where buses get stuck behind traffic. If a bus lane went to the top of the hill you would need to make the section of Stoke Road from Roman Road to Upper Belgrave one way northbound, with the removal of the island and the middle lane on Blackboy hill becoming straight ahead only, and the left lane on Stoke Road becoming a continuation of the bus lane. You could then leave Roman Road open for southbound traffic. The closure of it is a minor improvement at best, and nothing compared to a bus/cycle lane going all the way up.
Traffic	27	Closure of Roman Rd will improve traffic flow around the roundabout. Don't think three lanes on the northbound approach from Whiteladies Rd to Stoke Road is appropriate. Entire one way system needs to be drastically altered to avoid cross over of traffic between the A4018 Whiteladies Road and Upper Belgrave Road. Junction design is confusing. High usage of zebra crossings causes traffic heading from Westbury Road and upper Belgrave Road creating tailbacks on busy times. Heading from the downs to the top of Whiteladies Road can't have 2 straight on lanes if there is only one lane to for cars to enter. It is already a problem with people in the right lane thinking they can head straight on down Whiteladies Road. The exit from the narrower Redland Hill will be much more difficult.
Road Safety	17	Dedicated cycle lane between traffic lanes is dangerous. Speeding traffic on Stoke Road is an issue for other road users. Vehicles are often parked in bike lanes at the steepest point on the hill making it dangerous for cyclists. No dropped kerb or easy access onto the shared path at the junction of Roman road and Westbury Road and so cyclists remain on the carriageway which is dangerous and slows traffic. The gyratory system is dangerous for everyone needs a rethink.

Parking / waiting restrictions	30	Loss of parking on Roman Road will have a negative impact on nearby businesses. Remove parking on Redland Hill to allow buses to get through. 24 hour bus lane not needed peak times only so retain parking. Support to reduce parking on Roman Road. Removing parking on Roman Road reduces availability for people accessing the Downs and residents and businesses. Limited parking already.
Public realm	4	What does the Downs committee have to say about removing green space? Existing paths could be upgraded without the need to pave over more of the Downs.
Other	13	One or two errors on the map concerning zebra crossings. Need a major revamp of the entire area and not just tinkering. Will have to redo this in 10 years – needs more effort. This will make the errors of GBBN worse.

5.2.1 Booklet 2 of 3: Central section

Each booklet covers one of the three sections of the route. The following map shows the central section running from the Whiteladies Road /Queens Road junction by the Victoria Rooms to the end of Victoria Street.

Number 2 bus route and A37/A4018: Central section



Within the booklet there are 7 sections covering the following locations:

- Queens Road
- Triangle
- Park Street – main proposal
- Park Street – alternative options
- College Green
- Victoria Street / Bristol Bridge
- Victoria Street

5.2.1.1 Queens Road

For this section the team created visualisations so that people could more clearly understand transport proposals. There were three created. The first is an aerial view looking northwards towards the Victoria Rooms. The second is an aerial view looking towards the Triangle and the third is on street visual looking towards the Victoria Rooms.



The transport proposals for this section comprise of:

- A new three stage traffic signal at the Whiteladies Road / Queens Road junction
- Closing Richmond Hill and Park Place to traffic at the junction with Queens Road to allow for more public spaces and landscaped areas
- A new cycle lane along Queens Road from St Paul's Road, past Queen's Avenue

Queens Road – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Queens Road junction?

			Response Percent	Response Total
1	Strongly agree	<div style="width: 44.54%; height: 15px; background-color: red;"></div>	44.54%	143
2	Agree	<div style="width: 17.44%; height: 15px; background-color: yellow;"></div>	17.44%	56
3	Neither agree nor disagree	<div style="width: 8.41%; height: 15px; background-color: blue;"></div>	8.41%	27
4	Disagree	<div style="width: 7.78%; height: 15px; background-color: green;"></div>	7.78%	25
5	Strongly disagree	<div style="width: 21.80%; height: 15px; background-color: orange;"></div>	21.80%	70
			answered	321

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

203 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Parking / waiting restrictions
- Public realm (including trees)
- Richmond Hill

As one comment can be split over multiple categories there are 383 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	84	Advocate turning the entire route of Queens Road from the Vic Rooms through to the top of Park Street into one continuous Plaza by turning. Like the removal of the second road and roundabout bit by Victoria Rooms. Really like the plans to pedestrianize along Queens Road. Welcome the introduction of clearly separated cycle lanes around the triangle. Good idea to close the through traffic from the side roads. Like the new public realm proposal leading up to Victoria Rooms. Reallocation of road space to public space; new public realm looks brilliant, same for cycle lane provision, new segregated cycle lanes. This is fantastic the city needs more bold changes like this. The reduction in space for cars and new trees are great and will make the area a lot nicer to access.
Objections	43	Reducing the carriageway is an absolutely insane idea - it will not eliminate the large number of vehicles which need to use this route, it will just push them to other areas. If you remove the second traffic lane in Queens Road you are creating more congestion, more pollution and more angry commuters trying to get to work. Disagree with closing Park Place as it limits the access to the area down to a single point. This is a nightmare. Halving the road capacity is going to cause traffic chaos. Don't agree with reducing the road space.
Pedestrians	21	These changes would make walking and cycling far more attractive through the area. Queens road can be a nightmare for pedestrians at rush hour so this would be a great improvement. The proposal would also be beneficial for university students using the space. Need for continued cyclist and pedestrian priority at crossing points - long wait times in cycle infrastructure ruin its utility. Queens Avenue / Queens Road junction. Could this be a continuous footway? On the three-stage

		traffic signal junction, ensure that pedestrians can cross two roads within a single phase.
Cyclists	78	It's good to have a segregated cycle path along this section, but can you ensure that the paving clearly defines the cycleway v's pedestrian area. This is done badly in The Centre and makes conflict more likely. Segregated cycle path required up Whiteladies Road. Segregated cycle lane doesn't look clearly marked or segregated enough. There is much to be welcomed in this proposal, however it is disappointing that there is not a segregated protected cycle lane on the east side of Queens Road. The segregated cycleway on Queens Road - how would southbound cyclists easily cross into this, bearing in mind there is a double mini roundabout just off the map? An alternative could be a cycle gate onto Richmond Hill, providing a cycle shortcut. Big fan of the segregated cycle way but it should have raised tables and right of way where it meets the road.
Public transport	25	Massive reduction in roadspace will not just cause much greater congestion - there are many vehicles particularly service vehicles (HGVs) that use this route. The impact will be adverse on public transport as buses will be affected by the congestion. Suspect buses would get stuck in what becomes a single lane coming up out of the city. Seems a waste not to create a continuous bus lane through this area with all that space available. Buses should be made a priority. The segregated cycle way on Queen's Ave would hinder access to the bus stop.
Traffic	67	Reduction to single lane at the new three stage traffic light will create huge backups of traffic up Whiteladies Road if there is no corresponding reduction in numbers of motorists. The cycle lane doesn't seem to continue north up Whiteladies Road which would lead to cyclists getting stuck as cars and buses don't leave enough space for cyclists to squeeze past. Traffic will get stuck with people turning left to go up Queens Avenue and no way to get past if it is single lane. Short sighted scheme that will kill local business. Closing Richmond Hill and Park Place to traffic will increase traffic on Queens Road, compounding congestion issues and slowing down cars and buses. Signalling the junction by RWA is very welcome. Turning into a T junction probably good. Fantastic! Don't think the roads there need it to be dual carriageway.
Parking /waiting restrictions	9	If you remove parking places, where will those cars be parked subsequently? Limited disabled parking. Loss of residents' parking on Queens Rd will have unacceptable impact on amenity of residents of Westbourne Place. Reduction in parking will lead to reduction in visitors to shops. Also makes no sense whilst future of West End car park in doubt.
Public Realm (including trees)	32	The plans show not enough green space being installed. Looks more like a spacious concrete plaza which could look run down in the future. The "improved public space" has little value to people in the area. Covered (glass roof) seating with integrated shrubbery would provide a much more useful and pleasant communal space. Trees next too or on pedestrian routes need to be planted in pots limiting their growth. The visualization massively helps to see the plan, and it looks amazing. Soft verge is good for the environment; cheaper to build, absorbs water so

		better for SUDS, less carbon footprint to build. Have a bit for social amenity of course but often urban designs have excessive concrete / stone paving. Looks brilliant. Please do stick with plenty of trees, seating, and planting in the pedestrian area.
Richmond Hill	24	Closure of Richmond hill is great. Closing Richmond Hill and Park Place to traffic will increase traffic on Queens Road, compounding congestion issues and slowing down cars and buses. Richmond Road cannot feasibly be viable for two way traffic and parking! It is a frequently used pedestrian route which currently benefits from being relatively quiet and safe. Closure of Richmond Hill is great, but it will be important that there is a significant turning space and passing place provided. Suggest a small roundabout at the end of Richmond Hill.

5.2.1.2 Triangle

The transport proposals for this section comprise of:

- A new cycle lane continuing from Queens Road and joining the junction of Triangle West/ Queens Road to allow cyclists to reach the new cycle lane on the west side of Queens Road at the top of Park Street
- A bus gate at the top of Park Street to redirect the movement of traffic down Park Row. The bus gate would maintain access to Park Street for buses, taxis, motorcyclists, HGVs (over 7.5 tonnes) and cycles only.
- Berkeley Avenue closed to general traffic.
- Proposed new bus stops at the top of Jacobs Wells Road.

Triangle – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to the Triangle?

			Response Percent	Response Total
1	Strongly agree	<div style="width: 34.70%; background-color: red;"></div>	34.70%	135
2	Agree	<div style="width: 17.73%; background-color: yellow;"></div>	17.73%	69
3	Neither agree nor disagree	<div style="width: 6.94%; background-color: blue;"></div>	6.94%	27
4	Disagree	<div style="width: 11.56%; background-color: green;"></div>	11.56%	45
5	Strongly disagree	<div style="width: 29.04%; background-color: orange;"></div>	29.04%	113
			answered	389

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

277 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road safety
- Parking / waiting restrictions
- Public realm (including trees)
- Park Street (closure)

As one comment can be split over multiple categories there are 534 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	88	Hugely positive step for the Triangle road network. Giving cyclists a designated pathway through the traffic is great and like the introduction of advanced lights for cyclists. Queens Road should be pedestrianised in front of Sainsbury's, with the segregated cycle lane proposed built, and all traffic going around the Triangle routed around Triangle W and S. The pavement on Queen's Rd is crowded and the busy road makes shopping and walking through there unpleasant. Removing traffic from Park Street would make it significantly nicer to access for everyone and safer.
Objections	84	Closure of Park St to cars will kill St Georges as the prime music venue in the city. Disagree with closing Park Street it will cause congestion and lengthen journeys into city centre. Do not close park street to private vehicles as business nearby will be affected due limited access and people will 'rat-run' nearby elsewhere. Missed opportunity to remove the one way system and to slow the speed of traffic around the triangle and along Queens Road. Restricted use of Park Street will heavily impact BRI etc emergency vehicles, costing lives. If people find it difficult to get to the city by car, then they will go out of town / local to do shopping and eating and generally spending money. Too many bottlenecks and obstructions creating congestion, displacing traffic to other parts of the city, forcing long detours, and costing the city huge amounts of money in lost time.
Pedestrians	21	Widen pavements in front of Wills Building and Queens Road. Need better pavement outside Sainsbury's. Issue of overly crowded pavements on the north side of Queen's road. The extra width during the lockdowns was useful. Like the closure to traffic on University Rd

		and Berkeley Ave and the proposals for more trees and increased footways.
Cyclists	112	As the northbound segregated cycle path involves 4 road crossings. Good quality modelling ought to be done to allow for a 'green light wave' for cyclists to use this efficiently. Cycle lane needed along Triangle South for cyclists going to Jacob's Wells Road. Not clear if the new cycle lane on Queens Road is two-way or not. This is great - the contraflow cycle lane on Queens Road is really needed. Putting in all these cycle paths when they hardly ever get used. Not everyone is able to cycle to work, sadly people need to use cars. Very glad you will remove the parking to allow for segregated cycleway on Queens Road! Create cycle lane where Jacobs Wells Rd meets the Triangle.
Public transport	26	Brave attempt to give buses and cycles real priority over the private car. There will be enormous opposition to this. Moving the bus stop on to Triangle South is firstly too close to the Triangle West stop and secondly too far from College Green stop there needs to be a provision for one at the top of Park Street. The amount of new bus lane in this plan is very minimal. The bus stop opposite the Bristol Museum is being moved to Triangle South. The current location is outside the Wetherspoons pub and felt safer waiting there late at night alone because there were people in the pub. No point of new bus stops on Jacob Wells Road, the Queens Road west bus stop serves overlapping routes from First Bus and Community group - keep their buses stops together.
Traffic	63	Missed opportunity to remove the one way system and to slow the speed of traffic around the triangle and along Queens Road. Queens Road is a pinch point for traffic. Why not turn the entire length from the Vic Rooms to the top of Park Street on the Museum side into one continuous Plaza by making Queens Road outbound/ The Triangle/ The Triangle W into two way traffic? Closing off access to cars would add an incredible amount of traffic to other roads that have little to no suitability for that volume or direction of travel. It would route yet more cars right past a high-priority route to the BRI hospital and into an already bumper to bumper bear-pit roundabout and station/southbound routes. How would cars access Great George Street for St George's venue or Brandon Park? Having a bus gate at the top of Park Street to redirect cars down Park Row is ridiculous.
Road Safety	5	The road surface around the triangle gets hard ware, but is often full of deep pot holes, which are very hazardous to cyclists. New bus stop on exit to Berkeley square is an accident waiting to happen! likewise closure of park street. Width of pavement needs to be wider by Sainsburys.
Parking /waiting restrictions	40	From the Triangle how do you access the West End car park? Concern over where vehicles are going to park if you are removing most parking bays around the Triangle? Providing disabled parking along University Road is ok, but that is quite a steep slope. The removal of so much parking must be problematic for those traders that remain in this area. Have scooter parking areas been considered?
Public Realm	24	The triangle north side should be pedestrianised, and traffic diverted to the other sides. Love the idea of trees - and more bike parking - on University Road and Berkeley Avenue. Triangle South is not a

(including trees)		particularly nice place to pass through - its ugly and not pedestrian friendly with 4 rows of cars at times (including those parked on side of road). These plans look like it may help this area get more footfall - any possibility of adding some planting into this space though? Clarity needed on "closure" of south end of University Road as assume this does not apply to all vehicles.
Park Street (closure)	71	A bus gate for Park Street? Absolutely not. Park Row is simply not a suitable alternative for the predictably higher volume of traffic this diversion will produce. Furthermore, businesses dependent on passing trade will be horrified by this proposal. PLEASE close Park Street to through traffic! It would be quiet again. Do not remove private vehicle access to Park Street! This will only increase the amount of traffic along Park Row and past the hospital. This will delay emergency vehicles reaching the hospital. Whilst I understand the desire to enable the buses to move more quickly around the city, I do not see how pushing all the traffic down Park Row will be at all helpful in reducing pollution overall. Removing traffic from Park Street would make it significantly nicer to access for everyone and safer.

5.2.1.3 Park Street

The transport proposals for this section comprise of:

- Park Street Avenue closed at both ends to stop rat running between Park Row and Park Street and to provide the opportunity for public space
- A widened footway on the east side of Park Street made possible by the proposed bus gate restricting general traffic to Park Street from the top
- Parking removed to the west side of the street to make conditions safer for cyclists travelling down Park Street
- Visiting and local traffic would still be able to access Park Street, but only from St Georges Road

For the consultation survey there were some maps created showing the direction of traffic flow if the Park Street proposal were to be implemented. The following shows the main proposal alongside the general 'through' traffic restrictions, the diversion routes for local traffic and a visualisation looking northwards up Park Street:

Park Street – main proposal



General (through) traffic: Park Street bus gates



Local traffic





The survey asked the following questions:

Please tell us the extent to which you agree or disagree with the overall proposed transport changes for Park Street?




			Response Percent	Response Total
1	Strongly agree		27.85%	127
2	Agree		17.10%	78
3	Neither agree nor disagree		5.92%	27
4	Disagree		8.99%	41
5	Strongly disagree		40.13%	183
			answered	456

Please tell us how important to you each of the following propose transport changes for Park Street are:




Berkeley Avenue section closure for motorised vehicles and public space improvements

			Response Percent	Response Total
1	High importance		32.25%	139
2	Medium importance		21.81%	94
3	Low importance		45.94%	198
			answered	431




Please tell us how important to you each of the following propose transport changes for Park Street are:
Park Street Avenue closure for motorised vehicles and public space improvements

			Response Percent	Response Total
1	High importance		44.34%	192
2	Medium importance		17.78%	77
3	Low importance		37.88%	164
			answered	433




Please tell us how important to you each of the following propose transport changes for Park Street are:
One way system for Great George and Charlotte Street

			Response Percent	Response Total
1	High importance		31.63%	136
2	Medium importance		28.84%	124
3	Low importance		39.53%	170
			answered	430




Please tell us how important to you each of the following propose transport changes for Park Street are: **Continuous footpaths for pedestrian priority**

			Response Percent	Response Total
1	High importance		47.61%	209
2	Medium importance		18.68%	82
3	Low importance		33.71%	148
			answered	439




Please tell us how important to you each of the following propose transport changes for Park Street are: **Cycle parking at carriageway level**

			Response Percent	Response Total
1	High importance		35.40%	154
2	Medium importance		21.61%	94
3	Low importance		42.99%	187
			answered	435




Please tell us how important to you each of the following propose transport changes for Park Street are:
Footway widened for public space improvements (seating/planters)

			Response Percent	Response Total
1	High importance		41.19%	180
2	Medium importance		19.45%	85
3	Low importance		39.36%	172
			answered	437

Please tell us how important to you each of the following propose transport changes for Park Street are:
Parking moved to uphill side to improve cycle safety

			Response Percent	Response Total
1	High importance		37.53%	161
2	Medium importance		20.51%	88
3	Low importance		41.96%	180
			answered	436

Please tell us how important to you each of the following propose transport changes for Park Street are: Additional tree planting

			Response Percent	Response Total
1	High importance		43.58%	190
2	Medium importance		28.44%	124
3	Low importance		27.98%	122
			answered	436

5.2.1.4 Park Street – alternative options

The transport proposals for this section comprise of 3 alternative options to the main proposal:

- Alternative Option 1 – One way northbound
Install a bus gate only restricting traffic inbound from the north
- Alternative Option 2 – One way southbound
Install a bus gate only restricting traffic outbound from the south
- Alternative Option 3 – Bus Lane southbound from Park Street to Unity Street
Install an inbound bus lane
- Alternative Option 4 – No changes made

Option 1



Pros

- Inbound priority for buses, taxis and cycles only
- Outbound general traffic facility

Cons

- Buses delayed with outbound general traffic
- No improvement for outbound cyclists
- Pedestrian benefits reduced with limited removal of traffic
- Public space benefits reduced with limited reduction in traffic
- Air quality benefits reduced with limited reduction in traffic
- Widened eastern footway compromised due to higher traffic volumes

Option 2



Pros

- Outbound priority for buses, taxis and cycles only
- Inbound general traffic facility

Cons

- Buses delayed with inbound general traffic
- No improvement for inbound cyclists
- Pedestrian benefits reduced with limited reduction of traffic
- Public space benefits reduced with limited reduction in traffic
- Air quality benefits reduced with limited reduction in traffic
- Widened eastern footway compromised due to higher traffic volumes

Option 3



Pros

- Inbound and outbound general traffic facility
- Inbound Bus priority between Park Street Avenue and Unity Street

Cons

- Widened eastern footway not possible
- Inbound buses subject to delay after Unity Street. No bus priority provided for outbound buses
- Car parking resource removed
- No improvement for outbound cyclists
- Pedestrian benefits removed with no reduction of traffic
- Public space benefits removed with no reduction in traffic
- Air quality benefits removed with no reduction in traffic

Please tell us whether you prefer the main proposal to install a bus gate at the top of Park Street or one of the alternative options:

176 free text comments were received for this section of the route. These were coded into the following categories:

- Main proposal
- Option 1
- Option 2
- Option 3
- Option 4
- Pedestrians
- Cyclists
- Traffic
- HGVs
- Other

As one comment can be split over multiple categories there are 203 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Main proposal	53	Bus gates at both ends please. Don't do these alternatives. Be brave for Bristol and remove as much traffic as possible from Park Street only way to enhance walking, cycling & the shopping experience and enable buses to move freely. Do not prefer the alternatives.
Option 1	7	Alternative option 1. Option 1 is preference: understand the cons of this but another con of the outbound bus gate would be increased traffic on Anchor Road. Option 1 or 2 would work better for businesses.
Option 2	10	Alternative option 2 would be preferred for me as a bus user - outbound journeys are more often delayed so priority for buses in this direction makes sense. Option 2 by far. Traffic stacks uphill far worse in rush hour.
Option 3	32	Alternative option 3 would be preferable, with minimum disruption to general traffic as congestion is already an issue. Of the options, prefer option 3 as it would continue to allow access to the City centre from North Bristol. Option 3 is obviously the only viable solution.
Option 4	43	Do not agree with any of these alternatives. Like to leave Park Street as is. Do not agree with any other alternatives and object strongly. Park Street should remain open to all traffic. If not the increased traffic along Park Row passing the hospitals would be intolerable.
Pedestrians	1	Park street is an important and regularly used thoroughfare, the other streets aren't getting any bigger. It's a steep street - who on earth is going to be able to sit on it and enjoy a coffee?
Cyclists	22	Strongly support the closure of Park Street to through motor traffic. The improved public realm will provide a further boost to the already large levels of pedestrian and cycle traffic, which together far outweigh the number of visitors by car. Support the main proposal and believe this will significantly improve Park Street making it both a safer and more pleasant place to not only travel through but stop at

		the businesses. Like the use of continuous footways and more cycle parking and restrictions to traffic. Segregated cycle infrastructure should be included to link the Triangle and College Green.
Traffic	19	What are the current statistics for traffic flowing up and down Whiteladies to the triangle? What are the current traffic statistics for the traffic flowing up and down Park Row, Park Street and Jacob's Hill roads? Blocking general traffic from Park Street will have huge effects on Park Row traffic, which you're already trying to reduce.
HGVs	6	Don't allow HGVs outside certain hours. Agree with the Main Proposal but think it should go further and not allow HGVs along Park Street either.
Other	10	Install a bus and taxis gate only allows local access to shops, museum and concert hall and Cabot tower and park. Please improve the road surface in Park Street, it is dangerous for cyclists: pot holes, trenches, cracks are often unavoidable due to heavy traffic.

5.2.1.5 College Green

The transport proposals for this section comprise of:

- Continuous footway on Unity Street junction
- A bus gate allowing buses, taxis, motorcyclists, HGVs (over 7.5 tonnes) and cycles only up Park Street
- The left turn from Canons Road onto College Green would be removed

College Green – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to College Green?

			Response Percent	Response Total
1	Strongly agree		34.70%	89
2	Agree		17.73%	72
3	Neither agree nor disagree		6.94%	28
4	Disagree		11.56%	29
5	Strongly disagree		29.04%	93
			answered	311

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

191 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Parking / waiting restrictions
- Public realm (including trees)
- Park Street (closure)

As one comment can be split over multiple categories there are 312 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	49	Good for public transport and pedestrians. Applaud improvements at the junction from Canons Road which is narrow & dangerous. Want to see College Green entirely closed to all traffic except cycles and scooters. Supportive of stopping access to through traffic, but there needs to be provision for local businesses to receive deliveries. This area is a high footfall area, and we need less traffic in this area. Park Street should have been pedestrianised long ago, a lot of nuisance drivers / boy racers around College Green making all sorts of noise at night. Love this proposal, excited by it. College Green and Park Street will become much more pleasant with these changes.
Objections	65	Because it will damage business in the area and destroy the vibrant tradition of the area. Blocking Park Street northbound to general traffic will cause huge issues for those of us living and working in the north west of the city. Closing Park Street to traffic lengthens journeys and increases congestion. May harm trade to shops on Park Street and loss of left turn from Anchor Road to Park Street will hamper things for visitors and others not familiar to the area. This will kill off businesses on Park Street. Disagree because the city is already divider going north to south is a nightmare.
Pedestrians	24	Closure of left turn from Canons is good. Increased pedestrian areas are good. Continuous footpath is great. Pedestrians, scooters, and cyclists make up the bulk of travel here so make the roads space suitable and safe for them. Footpath widening and public realm improvements are greatly needed, especially at Canons Rd junction. This removes some traffic from Park St so support it.
Cyclists	61	Add smoother merge from cycle path onto main road by College Green. Either the segregated cycleway here needs to be continued up Park St or it needs to be made far easier to make a right turn into it

		when going down Park St, now this is incredibly difficult to do. Please make the cycle lane go all the way up! Consider improving crossover of pedestrians and cyclists at the crossing into the fountains area. This area isn't wide enough for the number of cyclists and pedestrians and divisions of space are unclear to both groups of users.
Public transport	13	Do not disagree with widening the footway behind the bus shelter. Agree with the widened footway behind shelter, this area is crowded. Like to see improvements to bus stops real time information displays better seating, lighting, CCTV cameras, litter bins.
Traffic	49	Cutting traffic off from this area means there becomes only one way into the centre of Bristol - up and down the A38 - this pushes traffic onto an already busy road. How would anyone access College Green, Park Street and nearby roads and businesses? Motor traffic access should be maintained up to the turning circle in front of the Marriot, to allow for pickups/drop offs and more convenient access to Park Street/College Green. This reflects the existing arrangement with a vehicular access over the segregated cycle approaching College Green.
Parking /waiting restrictions	4	What about disabled drivers to access shops on park Street? What is proposed route for redirected traffic? Reduction of access to Bristol City Centre, without simultaneous provision of Park and Ride facilities at the periphery of each bus route is an oversight that must reduce viability of city centre shops and businesses.
Public Realm (including trees)	4	Footpath widening and public realm improvements are greatly needed, especially at Canons Rd junction. It is an important public space, and the less traffic the better really.
Park Street (closure)	43	Will damage business in the area and destroy the vibrant tradition of the area. Closing Park Street to traffic lengthens journeys and increases congestion. Will increase pollution on Park Row. Closure of left turn from Canons is good. Access to Park Street should continue to be allowed for traffic from College Green. The whole scheme makes it impossible for residents. Bus gate at top of Park Street will cause more problems than it solves.

5.2.1.6 Victoria Street / Bristol Bridge

The transport proposals for this section comprise of:

- The Bristol bridge /Baldwin Street / High Street junction would no longer require traffic signals, although signalised pedestrian crossing would be included between Castle Park and Baldwin Street
- A new cycle lane over Bristol Bridge in addition to the existing bus gates
- Floating bus stops in front of the cycle lane on Victoria Street and pedestrian and cycle priority at Redcliff Street junction
- The right turn into Victoria Street from Counterslip junction would be removed and connection crossings for pedestrians and cyclists provided.

Victoria Street/Bristol Bridge – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Victoria Street / Bristol bridge?

			Response Percent	Response Total
1	Strongly agree		53.10%	137
2	Agree		20.93%	54
3	Neither agree nor disagree		3.48%	9
4	Disagree		5.81%	15
5	Strongly disagree		16.66%	43
			answered	258

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

131 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Other

As one comment can be split over multiple categories there are 213 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	50	Extremely positive. Fully agree with all changes, strong leadership from BCC. Since bus gates are installed on Bristol Bridge, traffic is already significantly reduced. Addition of segregated cycle path is just a waste of money. Great improvement for pedestrians and cyclists. In favour of continuous footways/cycleways at junctions. However, motorists (and cyclists) will probably continue to turn right from Counterslip onto Victoria Street - difficult to see how this banned turn will be enforced. Thank you for simplifying the Baldwin St junction for those on foot and for a segregated cycle route.
Objections	21	Disastrous changes you have made should be reversed and not made even worse, this is not a difficult area to cycle through now and this is totally unnecessary and a waste of money. Disagree with removing right turn into Victoria St. Will this not put even more pressure on St Thomas St E and Three Queens Lane. It is cutting Bristol in half for many making it a much longer therefore more polluting way to cross from one side of Bristol to the other.
Pedestrians	23	Giving more priority to cyclists and pedestrians here is welcome, the junction at Bristol Bridge is a little painful to use, wait times for crossing are long. Generally, looks good. Love it. This area is overdue a modernisation with pedestrian and bike priority. The crossing from Baldwin Street (Brew dog corner) to Castle Park is still very suboptimal. Please make sure there are zebra crossings for pedestrians to use to cross from the floating bus stop, across the cycle lane and onto the inside pavement.
Cyclists	60	All good, particularly segregated route that joins up with the segregated route down Baldwin Street. Counterslip cyclist junction is great. Ensure give way markings are visible on the cycle path junctions at the top of Bristol Bridge. For example, cyclists travelling from Baldwin St to Castle Park should probably have priority over cyclists coming from Victoria Street and High St. Suggest the whole of Victoria St be resurfaced, please. There are so many bumps and holes that it's dangerous, especially when travelling by bicycle and scooter.

Public transport	15	It seems a missed opportunity that the number 2 doesn't make use of Baldwin Street when there are plans for a city circular bus route. It would really improve cross-city travel, which thought was the point of making the changes. Concerned that floating bus stops pose a risk to cyclists and pedestrians. Please also introduce a bus gate in the other direction, going south, across the bridge. Traffic must divert around the centre.
Traffic	33	It is cutting Bristol in half for many making it a much longer therefore more polluting way to cross from one side of Bristol to the other. Removing the traffic lights from the junction feels like cars might turn the corners too quickly endangering cyclists and pedestrians crossing. Taxis should have access from Counterslip to Bristol Bridge. Closure of Bristol Bridge has hugely increased and slowed journey times around the centre, thereby adding to pollution and stress levels for drivers. Unnecessary and already causes congestion
Other	11	Additional planted area would be beneficial. Local resident – how do we get access to property? It seems a missed opportunity that the number 2 doesn't make use of Baldwin Street when there are plans for a city circular bus route. Disappointed that you have not opted for a complete closure of Bristol Bridge.

5.2.1.7 Victoria Street






The transport proposals for this section comprise of:

- A cycle lane, continuous and new widened footways, with loading bays and disabled bays along with west side of Victoria Street.
- New floating bus stops would allow the cycle lane to run behind
- Continuous footways and narrowing of junctions at Temple Street and Church Lane allowing for increased public space.
- Remove existing outbound bus lane to reflect new low traffic street.

Victoria Street – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Victoria Street?			Response Percent	Response Total
1	Strongly agree		58.84%	133
2	Agree		19.46%	44
3	Neither agree nor disagree		5.75%	13
4	Disagree		4.42%	10
5	Strongly disagree		11.50%	26
			answered	226

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

102 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- Road Safety
- Parking / waiting restrictions
- Public realm (including trees)
- Other

As one comment can be split over multiple categories there are 163 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	42	Strongly welcome the dedicated segregated protected cycle lane along Victoria Street. Continuous cycle lane and wider paved areas for cafes and pedestrians are brilliant. Agree with the inclusion of a segregated cycle lane on Victoria Street, it makes a lot of sense. This looks to be a welcome improvement, reallocating space from the road to give better use of the space for cyclists and pedestrians.
Objections	12	Not necessary since there is now so little traffic on Victoria Street it feels much safer any way. pushing vehicles out and causing more pollution due to lack of usable roads by private vehicles. Planners are trying to create a culture which is not sustainable in the UK.

Pedestrians	16	Make sure to clearly mark who has right of way on continuous pavements (pedestrians or cars?) Footpaths across St Thomas St in desperate need of improvement. Great to see continuous footways at junctions.
Cyclists	63	Wider bike lanes are welcome but the divide between the lanes and pedestrians needs to be very clear. Segregated cycle lane on Victoria Street would be lovely, thank you! Fully support Bristol Cycling Campaign's consultation response. Segregated cycle lanes are a great idea, but the observed behaviour is that many pedestrians pay no attention to them and are frequently not used by cyclists as having to cross roads at the end of the lane adds delay and increases hazard for the cyclists.
Public transport	16	New bus lane is only for buses turning left and buses don't frequently turn left onto temple way from this location. The relatively recent removal of the number 2 bus stop from the bottom of the access road to Temple meads station to its new location makes travel to/from that station nearly impossible if travelling with a suitcase, especially for elderly people and visitors to the city. Floating bus stops create a risk of collision between cyclists and pedestrians getting on and off buses. Pedestrians existing buses do not expect to have to immediately look out for fast moving cyclists.
Traffic	7	please leave the area as it is now. We don't need less road access we need more. So much priceless public space is given over to motorists here. These changes, combined with the closure of Bristol bridge and proposed changes to Redcliffe Street will make Bristol Civil Justice Centre on Redcliffe Street extremely difficult to access. This will worsen congestion
Public realm	4	Please ensure that high quality public realm is integrated from the outset. The visuals look encouraging, but the street treatment should not be sacrificed to future value engineering or descoping.
Other	3	Suggest the whole of Victoria St be resurfaced. We don't need more cafes or shops. If there's an interest in shops etc put more effort into Broadmead which looks like a ghost town.

5.3.1 Booklet 3 of 3: South section

Each booklet covers one of the three sections of the route. The following map shows the south section running from Three lamps junction on A37 to Sturminster Road.



Within the booklet there are 7 sections covering the following locations:

- Three Lamps junction
- St John's Lane
- Bayham Road
- Redcatch Park through to Broad Walk
- Woodbridge Road
- Wootton Park / Wells Road and West Town Lane /A37 junctions
- Hengrove Lane
- West Town Lane
- Bus Lanes

5.3.1.1 Three Lamps junction

The transport proposals for this section comprise of:

- Remove Bellevue Road junction to reduce rat running through Totterdown onto the Wells Road
- Signalise access from A4 to A37

Three Lamps junction – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Three Lamps junction?				
			Response Percent	Response Total
1	Strongly agree	<div style="width: 21.40%; height: 15px; background-color: red;"></div>	21.40%	55
2	Agree	<div style="width: 19.84%; height: 15px; background-color: yellow;"></div>	19.84%	51
3	Neither agree nor disagree	<div style="width: 12.45%; height: 15px; background-color: blue;"></div>	12.45%	32
4	Disagree	<div style="width: 17.89%; height: 15px; background-color: green;"></div>	17.89%	46
5	Strongly disagree	<div style="width: 28.40%; height: 15px; background-color: orange;"></div>	28.40%	73
			answered	257

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

189 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- Public Transport
- Traffic (Road closures)
- Parking / waiting restrictions
- Public realm (including trees)
- Traffic signals
- Other

As one comment can be split over multiple categories there are 176 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	19	The segregated cycle section coming south off the three lamps is vital and hugely welcome. Proposals to south of Three Lamps junction are fine. The addition of the greenspace will stop morning rat running along Oxford Street. Signalising the joining traffic from the A4 makes sense provided it is timed to be red when traffic is flowing across the three lamps from the city centre. Welcome bus lanes and bus stop upgrading. Agree with closing Bellevue to motor traffic, but access should remain for cycles.
Objections	4	No need to signalise A4 to A37. When lights are red at Bath Road south, traffic from A4 is already free to access A37. This change would concentrate traffic onto a fewer number of outlets onto Wells Road so would slow traffic and is not welcome.
Pedestrians	10	Shared footpath/cycle lanes are dangerous for pedestrians due to dangerous cycling, especially downhill. This is a bad idea near multiple schools/day care centres. Happy to see segregated cycle paths put in, just a shame the shared use paths aren't being widened, as they are narrow. The cycle lane/footway along bath road going south is massively insufficient and unsafe.
Cyclists	46	Cycling provision should be separated. This section of road from Bath Bridges to Three Lamps is horrible for active travellers and this will not improve it sufficiently. Provide full width segregated cycleway by constructing new path parallel to carriageway and new segregated ped/cycle bridge over the railway. Happy to see segregated cycle paths put in, just a shame the shared use paths aren't being widened. Would you not consider cycle access via Bellevue Road and Oxford Street, rather than routing cyclists over the junction alongside pedestrians? The shared cycle/footway on Bath Road is a major failure. This is a key route into the city and should be fully segregated. Not LTN1/20 compliant. Segregated cycle path uphill is great.

Public transport	8	There is no need for a 24/7 bus lane on the Wells Road. Buses do not operate on the Wells Road 24/7 in either direction. Provide southbound bus lane by widening carriageway into west side verge. Then use released road space from removing pavements to add southbound bus lane. Not clear if there is a proposed 24 hour bus lane inbound to the city, in the area where the current shops are - but if so, this would be very detrimental to the businesses that operate there and would impact the side roads close by - where parking is already problematic on occasions.
Traffic (Road Closures)	58	Closure of the Bellevue Road junction onto Wells Road is a bad idea. Traffic would be tempted to use other nearby roads, such as Oxford Street, which are far too narrow for two-way traffic. Bellevue Road junction - agree for both safety and avoidance of rat running. Living on Bellevue rd, this will have a major impact on being able to easily leave the area. Reducing the exits to only 2 (Windsor Terrace/Oxford St) would mean congestion and more pollution as people attempt to drive round an already challenging area. The bottle necks would just be pushed to the other side of Totterdown. How will delivery drivers, recycling, waste vehicles would be able to get down the roads without main road access? It would also massively affect the ability for emergency vehicles to attend the se roads.
Traffic signals	26	Signals on the A4/A37 junction will probably help, but a yellow box is probably required. Access from A4 to A37 at Three Lanterns doesn't need signals - this will more likely worsen flow than improve it at most times. If it is deemed essential for e.g., peak times or when roadworks further up are causing tailbacks, please consider only employing signals at these times. While this will improve matters, my issues are the time it takes to cross from the east side of A4 to continue up the Wells Road. The traffic lights need to be coordinated and prioritised for cyclists/pedestrians. The traffic lights to control traffic from the Bath Rd. to Wells rd. appear completely pointless as the lights at three lamps naturally control this flow.
Other	5	The 'green space', this will be a grass area next to one of the busiest roads in Bristol. It is unlikely to see much use and will barely enhance the already mediocre offering in this area. Where do you propose diesel cars turn around when they read the CAZ signs? Widen wells road from 3 lanes to 4 (2 all traffic lanes heading towards St. John's Lane junction from three lamps 1 all traffic lane and 1 bus lane heading down towards three lamps junction) to improve traffic at peak times.

5.3.1.2 St Johns Lane

The transport proposals for this section comprise of:

- New 24/7 bus lane and a cycle only right turn for Bayham Road cycle route
- New crossing from St John's Lane to Bushy Park
- New one way on Winton Street
- New cycle lanes and an alternative low traffic route option for cyclists
- New continuous footway and an improved crossing at the Wells Road/ St John's Lane junction

St John's Lane – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to St John's Lane?			Response Percent	Response Total
1	Strongly agree	<div style="width: 21.05%; height: 15px; background-color: red;"></div>	21.05%	44
2	Agree	<div style="width: 20.57%; height: 15px; background-color: yellow;"></div>	20.57%	43
3	Neither agree nor disagree	<div style="width: 11.96%; height: 15px; background-color: blue;"></div>	11.96%	25
4	Disagree	<div style="width: 28.70%; height: 15px; background-color: green;"></div>	28.70%	60
5	Strongly disagree	<div style="width: 17.70%; height: 15px; background-color: orange;"></div>	17.70%	37
			answered	209

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

138 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Pedestrians
- Cyclists
- Public Transport
- Traffic
- One way
- 24 hour bus lane
- Other

As one comment can be split over multiple categories there are 130 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	3	Excellent ideas, all make perfect sense. All of these would make travelling along Wells Road via public transport much easier.
Pedestrians	13	In terms of new crossing from St John's Lane to Bushy Park - this is such a good proposal. It's so dangerous crossing here and so many people do as it's more convenient than the crossing at the top by Tesco. Shame to see that the two-stage pedestrian crossings (three stage for the St Johns Lane arm) are not being amended - best practice junction design for walkers would see these become single stage crossings. People crossing from the East side of the Wells Road must wait for 5 separate green phases to get to their local shops. The small patch of green space at Bushy Park is precious and should not be eroded further by any development. You seem to have moved away from pedestrian priority side road junction as we move away from the city centre?
Cyclists	76	Cycle lane needs to be segregated all the way along and information provided as to how far up the wells road it stretches. At cycle-only right turn make crossing a dual pedestrian/cycle crossing. How do cyclists get across the new cycle only right turn to join Bayham Rd there doesn't seem to be a space across the main road? Would it be possible to put the traffic lights for traffic coming down the Wells Road before the cycle crossing? The cycle only right turn should come off the segregated route like in the proposals for Park Row turning into Lower Park Row. Is the 'pink cycle lane' even permitted any longer under DfT guidance? There should be continuous segregation if you expect people to use it. There is no northbound cycle lane. How are cyclists supposed to safely cycle into town? There is no alternative route from here to the Temple Meads area. Sad to see no segregated cycle lane for St Johns Lane. Cyclists will not use a cycle route with the steep gradients involved in both Winton and Bayham Roads and will continue to use the Wells Road, whether they have a cycle Lane on it or not. One-way restriction from Winton St and at west end of Angers Road

		should be "except cycles". Any amount of new segregated cycling lanes is welcome but why is it on and off all the time? t
Public transport	6	Carriageway widening needed. Buses often cannot get past large vehicles or badly positioned cars. Are two lanes coming north required for traffic? This would be better served giving more space to cyclists and buses. Add southbound bus lane and northbound cycle route (not clear if planned cycle route is 1-way or 2-way). Provide complete northbound bus land through junction to avoid conflicts with general traffic. Bus stops with shelters and seats
Traffic	10	There needs to be a yellow hatched box at the junction with Oxford Street to allow cars to turn right into there without blocking traffic on St Johns Lane, also improvements need to be made to Oxford Street to maintain access with Bellevue Junction being closed. Widen wells road from 3 lanes to 4 (2 all traffic lanes heading towards St. John's Lane junction from three lamps 1 all traffic lane and 1 bus lane heading down towards three lamps junction) to improve traffic at peak times. Preventing the right turn into St John's Lane could force traffic to continue up the A37 to the York Road junction, to get to Bedminster. This will increase traffic in the CAZ, and force cars to pay the cost of entering it, that could otherwise have avoided the charge. Right turn for traffic into St. John's Lane not improved.
One way	15	Don't make Winton Road one way as all those roads around there will be forced into Wells Road to leave their house which will massively add to the already untenable amount of traffic on Wells Road. The proposed one way in Winton Street disadvantages residents in the Knowle/ Lilymead/ Haverstock/ Bayham Roads area by restricting their vehicle access to the Wells Road only. One way on Winton Street is well overdue! Winton Street is very narrow and making it one-way so only south-bound traffic can use it makes sense. Worried about users of the local church and the detour that it will bring and access to emergency services.
24 hour bus lane	5	There is no justification for the 24 hour bus lane. The current timed bus lane manages traffic at the busiest times. 24 hour (or 7 to 7) would destroy access during the day, to the local shops in the rank just south of St Johns Lane. 24 hour bus lane along Wells Road that cyclists can use is a good idea. Removing parking alongside the parade of shops which include takeaway food businesses will have an adverse impact on trade. As delays to the buses by congestion are predominantly in daytime question the need for 24/7 restrictions.
Other	2	The proposed alterations to the junction of Oxford Street and St John's Lane removes a significant area of existing dense planting. Although this may be low quality planting it screens Oxford Street from St John's Lane. Consideration should be given to reconfiguring the proposal to retain the screening impact of the planting. Be good if one of the parking spots at the end of Bushy park could be made a car club space for Co Wheels Car Club.

5.3.1.3 Bayham Road

The transport proposals for this section comprise of:

New one way:

- From Haverstock to Brecknock Road
- On Brecknock Road to Fairfoot Road
- On Fairfoot Road from Brecknock to Haverstock Road
- From Redcatch Road and on Redcatch Road

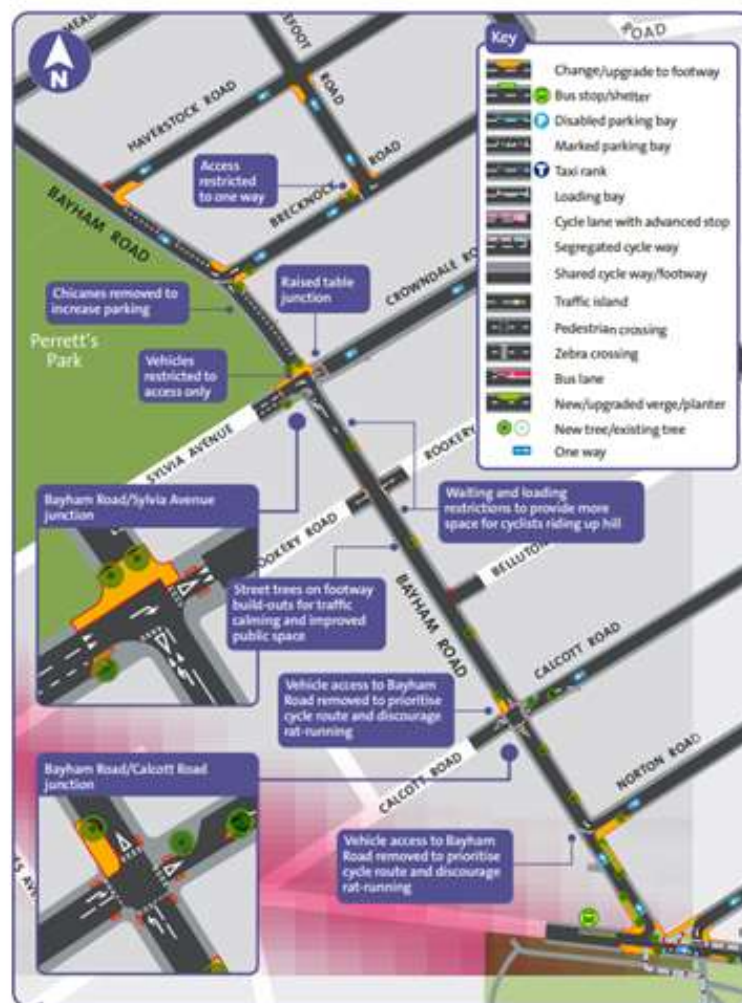
New no entry:

- To Haverstock Road
- From Haverstock to Fairfoot Road
- From Calcott Road
- At Norton Road so traffic cannot continue Bayham Road






New speed table and continuous footway:

- at Bayham Road / Sylvia Avenue junction

Bayham Road – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Bayham Road?			Response Percent	Response Total
1	Strongly agree		10.64%	35
2	Agree		14.29%	47
3	Neither agree nor disagree		10.94%	36
4	Disagree		17.02%	56
5	Strongly disagree		47.11%	155
			answered	329

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

267 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- One way
- Street furniture
- Speeding traffic
- Parking/ waiting restrictions
- Rat running
- Traffic
- Enforcement
- Other

As one comment can be split over multiple categories there are 310 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	14	Some seriously good improvements suggested along this route - makes cycling much easier. This is a great idea!! Do it please. Broadly welcomed - but unclear if cyclists will be allowed to travel opposite direction on one way streets as they are on Frayne Road in Ashton - this should be permitted. Happy to have a quiet route parallel to Wells Road.

Objections	10	Bayham Road and Redcatch Road are a critical thoroughfare for residents. Direct access to Redcatch Road including access to shops, friends and Redcatch Park is a key part of the quality of local life for many of us. Alternative routes for cyclists will create long queues, especially if the main road is blocked by roadworks, accidents, fire etc. Strongly object to these road changes. It's steep, indirect and is not going to encourage cycling. Don't waste money on this.
Pedestrians	1	Strongly support proposals to upgrade footways as we currently have considerable difficulty with parked cars, obstructions, and lack of dropped curbs while using our children's pushchair.
Cyclists	63	As it will still be 2 ways to the Calcott Road junction the narrowing of the road with trees/street furniture will make it potentially more hazardous for cyclists. Bayham Road doesn't appear to have any designated cycle lanes. Approve of creating a quiet cycle route, this route needs to be better linked at the Northern end, to encourage cyclists to use it, the crossings need to be single stage in the northern section. Bayham Road from Sylvia Rd to Calcott Road will attract very few cycles as it's too steep. Cycle routes should not be diverted down side routes and quiet ways - this is against guidance and best practice. As a cyclist travelling up the Bayham Road the built-out footway between Rookery and Belluton Road will mean being in the path of cars coming down the hill. Feels like the priorities of a small number of cyclists are being prioritised over many residents who drive in this local area and park in this vicinity. It seems unlikely to achieve the stated aim.
One way	54	The one way system in Haverstock Road and Brecknock Road is unnecessary. This is also making Norton a very busy road as it will take the brunt of the traffic as it did when Redcatch was closed. The one way at Bayham and Calcott makes no sense at all but in fact gives cars a free stretch to race along since it is only one way. The worst of the traffic is coming up Bayham and not down hence these proposals still don't address this issue. With the addition of more one-way restrictions, will this increase? Could Belluton and Rookery Road be included in the alternating one-way as per Crowndale, Brecknock and Haverstock? Worried about the number of people who will ignore the one way as that happens now. Delighted to see that access to part of Bayham Rd is to be restricted to access only because the current No Entry is ignored by 40% of car drivers going through there. In reference to the Bayham / Brecknock / Fairfoot / Haverstock set of one-ways - fail to see the advantage gained by introducing them.
Street furniture	7	The extra street clutter may restrict access for deliveries or even emergency access. Trees will cut the light and the leaf fall create slippery road and pavement conditions on a relatively steep hill. Additional road planting and traffic calming in such small places is needless and piecemeal, causing increased bad driving, increased pollution through reducing flow of traffic, and requires additional maintenance that councils do not have budget for. Many local planters have been abandoned.
Speeding traffic	15	Does nothing to stop vehicles racing up Bayham Road hill from junction with Sylvia Ave. Too complex and will encourage accidents. The removal of the chicanes adds minimal parking benefit and the

		<p>one way system on the whole works as it is. The removal of the chicanes will just result in more people driving through at speed, often the wrong way. One concern is that it may not be safe for children going into park etc if traffic turns left from Sylvia Ave to rat run on to the Wells Rd. At this time cars illegally use this going the wrong way and have nearly hit many children.</p>
Parking / waiting restrictions	36	<p>Where will all the cars currently parking on this part of Bayham Road go if there are waiting and loading restrictions? Support of a RPZ for the local area. There is currently a requirement/need for parking on the western side of Bayham Road which has not been acknowledged/shown on the plan. The details of the changes to the various footpath at the corners of Brecknock Road, Haverstock Road, Fairfoot Road etc are unclear. Prohibiting on-street car parking will only allow vehicles to travel quicker.</p>
Rat running	63	<p>If there is access to Bayham Road turning left from Sylvia Avenue, it will be used as a rat run to get to Brecknock Road and the Wells Road. The current 'No Entry' at this point is currently ignored and hasn't ever been enforced. Preventing a right turn out of Woodbridge Road looks like it will send a lot of traffic down Calcott Road as the main route to Redcatch Road. Currently a large amount of traffic uses Calcott road and turn left in to Bayham to use Belluton or Rookery Roads to access Wells Road. This traffic is now all going to converge on Norton Road. The best way to resolve this is to make Norton Road one way the other way and keep the traffic to the main roads. This proposal will now see all the traffic going down Norton Road which is too much and will cause more danger to residents. Currently the shared volume of traffic is too high. Has any study been done in to the volume of traffic using these roads as rat-runs? By removing the one way chicane on Bayham Road and changing the flow of traffic so travel is permitted for 'access only' from Sylvia Avenue towards Brecknock Road it seems likely to encourage commuters to ignore the access only signs and use Bayham Road as a rat run to avoid traffic on the A37. Closing Bayham road also does not address the rat running of people using Crowndale Road, Sylvia Avenue and Ravenhill Avenue to cross between Wells Road and Redcatch Road. Creating one giant rat run down Crowndale and Sylvia Avenue.</p>
Traffic	33	<p>The idea of a safer segregated cycle route is to be applauded but the traffic management needs some work to be practical and environmentally improving. Anyone who lives in the "cell" created by closing access to Bayham Road at the Sylvia Ave/Crowndale Ave junction will be inconvenienced by now having to join the queues of cars/ traffic slowly driving south up Wells Rd and will add to the heavy congestion there both morning and evening by this funnelling of all local traffic that way too. It will make life difficult for residents and there is already space on the hill so no need for additional plans. Reconsider the blocking off Bayham Rd at the Sylvia Rd /Crowndale junction. This 'traps' residents who can then only leave via the Wells Rd which is already very congested. These changes are to the detriment of residents and the costs and disruption cannot be justified for the minimal benefit.</p>

Enforcement	3	These one ways and access only and no entry changes will need to be enforced or they will be ignored. It should be enforced with cameras - by keeping the chicane you make it a bit harder to nip through.
Other	11	The current proposals suggest tinkering to little further benefit and unnecessary expense at a time of straitened public finances. Strong change is needed to get people out of cars and discourage private car use. Concerns about the removal of the lollipop person from Wells Road given that the traffic will be increased even more. Please look again and get real residents to discuss the issue in the area.

5.3.1.4 Redcatch Road through to Broad Walk

The transport proposals for this section comprise of:

- New cycle route through Redcatch Park to Broadwalk Shopping Centre
- One way along Redcatch Road linking to Oakmeade Park

Redcatch Park through to Broad Walk – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Redcatch Park through to Broad Walk?				
			Response Percent	Response Total
1	Strongly agree		15.96%	38
2	Agree		18.48%	44
3	Neither agree nor disagree		10.92%	26
4	Disagree		16.80%	40
5	Strongly disagree		37.81%	90
			answered	238

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

180 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- One way
- Speeding traffic
- Parking/ waiting restrictions
- Rat running
- Park and cycle lane comments
- Other

As one comment can be split over multiple categories there are 199 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	7	Like the new segregated cycleways. It's a great idea to make a dedicated cycle lane. Getting from Knowle into town is so dangerous cycling along the A37 with my little lad and all the Lorry's is a nightmare. A great set of cycle lanes, although it is not clear how people cross from Bayham Road into the park. This route will be much more attractive to cyclists as the Wells Rd is extremely busy and not particularly cyclist friendly.
Objections	5	Total nightmare for residents. Making it more and more difficult to access homes and more vulnerable to aggressive and frustrated drivers -utterly disagree. Sledge hammer to crack a nut! The expense incurred will produce little limited use of this cycleway but will cause

		huge inconvenience to residents. There is limited parking, and you will gridlock the whole area. The plan does not make sense and is dangerous.
Pedestrians	5	Locating a bus stop to a 3 way junction at the end of Redcatch will further cause road hazards for this crossing the road outside the park. Really impressed with the Signalised Parallel (Sparrow) crossing over Broad Walk. Really pleased to see the new crossing on Broadwalk onto Redcatch Park and to formalise the route through the park.
Cyclists	32	Consider a contraflow cycle lane link along Woodbridge Road to the proposed crossing. What happens to the Redcatch Road cycle lane at the junction with Oakmeade Park; conflict point and priorities to be considered. Similarly at western extent and exit from Park - no crossing or priority facility? It's unclear here what the segregation is through the park- how much segregation is really required in an off-road space? There is no point in these short stretches of segregation- often they put cyclists at risk when having to re-join carriageways. People already cycle through the park. The path is wide and concrete therefore a good choice. People already use this route. Cycleways may be great for cyclists, but the heavy volume of traffic is again therefore restricted.
One way	39	Redcatch Road is supposed to be one of the city's main routes e.g., Would always be gritted and kept open. This plan seems to reduce it to a byway. Making one way into Redcatch increases run through from Wells Road to avoid Broadwalk traffic lights. This is a fast road on a main school walking route with cars parked either side. The one way system as proposed will force those wanting to go down Redcatch away from wells rd, to circle back around Oakmeade park, to the wells rd, then back down Calcott, this adds unnecessary travel back towards the wells road. Why is no reason given for making Hengrove Road one way? This makes no sense at all. One way restrictions should all be "except cycles". Can't understand how you can make Redcatch one way. Traffic is then forced onto smaller residential streets.
Speeding traffic	6	The creation of several one way roads and sections of roads in Knowle has the potential to invite speeding notwithstanding 20 mph zones. Making Redcatch one way only makes the idiot drivers go even faster! More traffic calming required. The current one way proposal creates a straight run along the length of Redcatch Road, this will mean speeding cars will have no reason to slow down.
Parking / waiting restrictions	8	Removing the parking bays for a cycle lane will only increase this demand for parking which is already limited in the area. Bayham Road is already a difficult road to navigate given the level of residential parking on either side. This does not seem appropriate for the residents or cyclists. If parking is restricted to permit the cycle route, then parking in the surrounding streets will become even more difficult. Any further reduction of on-street parking on Redcatch Road and Bayham Road will make life more difficult for residents.
Rat running	17	By making this part of Redcatch rd one way anyone wanting to go from the Wells Road to Redcatch Hill between St John's Land and Broadwalk will go down Crowndale Road, Sylvia Ave and Ravenhill Ave. This is already a rat run and it will be made much worse.

		Changing the road layouts and direction of traffic will only make drivers go faster especially if they must travel further to get to where they need to. Using road as a rat run and speeding. This limits access to Bayham rd, whereas before northbound traffic could use Redcatch at Broadwalk to depart the wells rd, now there is more north bound traffic continuing Wells Road as all traffic to Bayham is funnelled through Calcott. Why is so much effort being put into removing a small amount of rat running from these quiet streets when Talbot Road gets an atrocious amount of rat running and is equally distant from the bus route and A37.
Park and cycle lane	76	Cycle path through park is not sensible and so many children play freely it is likely to cause accidents or be very slow route for cyclists dodging pedestrians. This park is a well-used community facility and should be kept free of all vehicles. Allowing cycles into the park will pose risk to pedestrians, particularly children and people exercising their dogs. The current gates restrict access for bikes and with these removed there will be increased incidents of riders cycling on pedestrian areas. Think that the cycle route across Redcatch Park is an imposition on park users and a dangerous addition. The cycle route through Redcatch Park seems ill advised; how is the safety of pedestrians going to be assured, particularly children and the elderly, who make up a large proportion of the park users? Although some cyclists will be considerate about speed there is no way of ensuring that safe speeds will be maintained by cyclists in a recreational area. The placement in the park is wrong. That throughway is right next to the children's playground and the community garden. It will cut people in both of those facilities off from the toilet block if that because of through road for cyclists. The park is currently fenced with narrow access gates in the evenings. How will people with nonstandard cycles access this route e.g., disabled person using a trike, or cargo cycle carrying children? A park is for relaxing in, it is not a transport corridor. Reduce traffic on Wells Road and put the cycle lane there.
Other	4	Can I suggest the council use a different contractor to implement these changes? If there is to be a designated 24 hr bus route, why can cycle lane be in bus lane as this would also be the most direct route for cyclists along wells road. Please protect the trees properly, otherwise they die.

5.3.1.5 Woodbridge Road

The transport proposals for this section comprise of:

- New traffic signal crossing on Woodbridge Road junction
- Convert existing bus lanes to 24 hours to improve bus journey times and bus punctuality
- Hengrove Road reduced to one way

Woodbridge Road – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Woodbridge Road?

			Response Percent	Response Total
1	Strongly agree		20.20%	39
2	Agree		23.31%	45
3	Neither agree nor disagree		13.98%	27
4	Disagree		16.58%	32
5	Strongly disagree		25.90%	50
			answered	193

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

139 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- 24hr bus lanes
- One way
- Traffic
- Public realm (trees etc)
- Other

As one comment can be split over multiple categories there are 174 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	2	Great idea- all of these would make travelling along Wells Road via public transport much easier. Fully agree.
Objections	4	This is proposing almost nothing positive - a real lack of vision. This no way improves anything. It doesn't improve the bus travel. The whole area will be gridlocked because it just will not work.
Pedestrians	56	A pedestrian crossing is desperately needed along this section of the Wells Road. Excellent improvement regards the Woodbridge Road crossing. Try widening the pavement on the Cleve House side all the way down to Totterdown shops. lack of improvement on the Wells Road section around the parade of shops including Co-Op and the pedestrian crossing beside Totterdown Baptist Church. This stretch of road is a particularly hostile environment for pedestrians, including children walking to school at Hillcrest Primary. Woodbridge Road: This should include a contra-flow cycle lane towards the proposed signals crossing. Strongly support narrowing of junctions to improve walking. This will support the changed priority from the new highway code rules.
Cyclists	17	Disappointing to see no segregated protected cycle lanes on this section. What are cyclists meant to do safely where the segregated cycle lane ends at Oakmeade Park? It needs to continue down Oakmeade and westbound along Redcatch Road to Oakmeade. Segregated cycleways should be provided in both directions along the whole of Wells Road. Cycle access to and from Broadwalk shopping centre is not catered for. What happens if you live in the section to the right of the Wells Road (part of Totterdown and Upper Knowle)? How do these people access active travel?
24hr bus lanes	50	Bus lane does not need to be 24/7: no buses use the route overnight and there would be less traffic around at quieter times. 24hr bus lane will not help the bus service, only cause more congestion for other vehicles. The way it is now seems to be good - bus lane is clear during

		specific times. 24hr bus lane is good here as parking/loading in the bus lane causes congestion issues. Disagree with 24 hour bus lane as will have significant negative impact on residents and businesses. Concerned about the parking on Wells Rd and surrounding roads due to bus lane. On the 24 hour bus lane, it's worth noting that parents dropping their children off at the school and nurseries do use the bus lane currently. 24 hour bus lane seems a good idea.
One way	23	A good idea to create one way streets. Horrible idea to make Redcatch Road one-way for its entirety. Having alternate one way streets off the wells road makes perfect sense, blocking access through to Redcatch and Bayham is ridiculous and currently will force All traffic up Norton Road. One way streets off the Wells Road, yes, the rest, absolutely no. Why is Hengrove Road one way? For every journey it will mean using the Wells Road adding to congestion. Making Hengrove Road one way will increase traffic on Norton Road. The new one way systems, especially on Redcatch Road will make Calcott Road the main entry point from the Wells Road to this part of Knowle and to the western end of Redcatch Road and beyond. Norton Road will become the main exit point to the Wells Road.
Traffic	14	An improvement to this design would be to allow contraflow cycling on the section of Redcatch Road between Oakmeade Park and the Wells Road. As the CAZ will mean cars must turn off the Wells rd before Three Lamps which only leaves Rockery and Crowndale Rd then onto Sylvia Ave past the park and onto St. John's Lane via Ravenhill. Tackling the traffic on Talbot Road, just off the Wells Rd, must be the priority. These needs addressing far more than any of the interventions here. People/drivers living in Hengrove rd and Woodbridge rd will be going around in circles just to get on to the main rd or Knowle west. Disagree with the building out of pavements at street corner which are costly and do nothing to improve road safety.
Public realm (inc trees)	3	Could this be an opportunity to introduce some greening to this gateway on wider parts of the footway? Tree pits that were recently installed on Redcatch Road (near the egress of Woodbridge Rd) were never planted up. Trees were part of the plans for the previously completed work at the other end of Woodbridge Road, planting sites were left then tarmacked over a few weeks later.
Other	5	Concerns about the removal of the School Crossing patrol for Hillcrest School. Remove the HGV traffic rat turning along this road to the M32. Perhaps a weight limit? Upgrading the bus stops to be fully accessible to all, with a space for wheel chairs is essential. Worried about the loss of local shops if parking is taken away.

5.3.1.6 Wootton Park / Wells Road and West Town Lane /A37 junctions

The transport proposals for this section comprise of:

- Upgrade of pedestrian facilities at the Wootton Park/Wells Road junction
- Improve the junction for pedestrians and cyclists
- Upgrade bus stops
- New 24 hour bus lane on the West side of Wells Road

- Remove left turn from West Town Lane to Wells Road
- Remove right turn to Hengrove Lane from Wells Road
- Remove right turn into West Town Lane from Wells Road

Wootton Park/Wells Road and West Town Lane/A37 junctions – proposed changes



The following plan show the proposed traffic proposals in wider area to help explain the traffic movements if these proposals were to be taken forward:

All traffic



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to Wootton Park/Wells Road and West Town Lane / A37 junctions?

			Response Percent	Response Total
1	Strongly agree	<div style="width: 5.30%; height: 10px; background-color: red;"></div>	5.30%	13
2	Agree	<div style="width: 9.30%; height: 10px; background-color: yellow;"></div>	9.30%	24
3	Neither agree nor disagree	<div style="width: 7.75%; height: 10px; background-color: blue;"></div>	7.75%	20
4	Disagree	<div style="width: 11.62%; height: 10px; background-color: green;"></div>	11.62%	30
5	Strongly disagree	<div style="width: 66.27%; height: 10px; background-color: orange;"></div>	66.27%	171
			answered	258

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

221 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Pedestrians
- Cyclists
- 24hr bus lanes

- Airport Road junction
- West Town Lane junction
- Speeding traffic
- Traffic
- Public realm (trees etc)
- Other

As one comment can be split over multiple categories there are 352 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	2	Strongly agree with the additional no turns in and out of Wells Road.
Objections	11	Strongly object as will cause rat runs and bottlenecks at the junctions. Totally disagree with the proposals to remove the right/left turns at the West Town lane/Hengrove Road junction. Strongly opposed to the decision to remove the right turn from Wells Road onto West Town Lane. Feel so strongly that not allowing people to turn left from Hengrove Lane on to the A37 Wells Road will create so much extra traffic and most importantly pollution on Hengrove Lane and Airport Road and not allowing people to turn from the A37 Wells Road into Hengrove Lane will create much more traffic and pollution on the A37 Wells Road! Nothing wrong with it now – total waste of money
Pedestrians	48	Agree with the crossing facility but all routes should still be available to cars. Good to see single stage ped crossings in place instead of the horrid, staggered crossings. The installation of the signalised pedestrian crossing to get from West Town Lane over the Wells Road is long overdue. Is this the nearest bus stops to the sport centre? If yes, is there a direct pedestrian route from the bus stops to the sports centre entrance. Why can't you install full pedestrian crossings with traffic lights on the West Town Lane, Wells Road junction as installed at the Broad Walk, Wells Road junction which seem to work satisfactorily - instead of removing the left hand turn into Wells Road? Improving pedestrian crossing facilities at both junctions is a great plan.
Cyclists	46	It needs some cycle infrastructure. Wide roads here with 2 lanes. Plenty of opportunity to reduce Lane with and include a cycle lane in both directions. Complete absence of continuous segregated cycle lanes. So much space here. Given the Bayham Road cycle route is meant to connect cyclists to Airport Road to take them to NCN3, it looks like very little works is being done to make that safe and pleasant. The pavements on Airport Road are very narrow and not good for shared use. Support the consultation response by the Bristol Cycling Campaign. Where are the advanced stop lines for cyclists at the junctions?
24hr bus lanes	61	Agree with the proposals, particularly the new 24 hour bus lane on the west side of Wells Road. Agree with principle for bus lane. Why does it stop short of the bus stop? Cars will take this space and delay the bus arrival at the stop; the bus will then delay cars passage through the signals. Bus lane should be extended to the bus stop. This

		<p>is a critical congestion point where buses get delayed. A small bus lane will not resolve this. There needs to be prioritisation measures all the way through the junction. Suggest taking a 5 metre strip from the west perimeter edge next to the A37 of the Bristol Imperial Sports ground to provide an additional lane to expedite No 2 bus only lane turning left into West Town Lane. 24 hour bus lane is laughable, how many buses use this route? Not worth it and will cause tailbacks!! Creating 24 bus lane on this bottom part of Wells rd is madness, the tailback caused by one lane will be all the way back south (towards vets/ Petherton rd junction). Changes are short sighted. The introduction of a very short bus lane seems pointless and will lead to more queuing traffic. If a bus lane is put in below Hengrove Lane junction the A37 will grind to a halt.</p>
Airport Road junction	24	<p>Proposed junction improvements are minimal; no evidence to improve east-west cycle crossing to link the two cycle paths on the northern side of these roads linking to Whitchurch Way cycle path. Forcing general traffic onto Callington Road is a crazy idea. The main pinch point is the turning right onto the Wootton Park section. When cars are stuck on red at the Callington Rd junction cars back up stopping the cars turning right when the lights are green from WTL Rd. The traffic including buses are stuck on the WTL Rd which can be long and slow. Airport Rd. /Wells rd is the crossover of two major routes which is used by a multitude of commercial vehicle as well as cars it currently works reasonably well. Forcing people to use Callington Road, will make a busy congested rd even worse as cars will have nowhere to go. Queueing up the hill towards Bath rd is always busy and can take a frustratingly long time if you are one of the few waiting to turn right into West Town Lane. The no left turn from West Town Lane to Wells Road and the no right turn from Wells Rd to West Town Lane will result in rat runs in roads like Hazelbury and pushing traffic onto Callington Road which is already gridlocked.</p>
West Town Lane junction	125	<p>Banning left-turns out of West Town Lane without any vehicle restrictions on surrounding streets will lead to increased traffic on residential streets including Beryl Grove and Mowbray Road. This is not a suitable outcome. Insufficient evidence is provided to justify the banned turns. The proposed changes to the junction of Wells Road / WTL will put far too much pressure on narrower, residential roads like Hazelbury Rd, Imperial Rd, Mowbray Rd, David's Rd, Kinsale Rd, Beryl Grove, Woodleigh Road, and Whitecross Avenue. This will inevitably cause all traffic through from West Town Lane into surrounding residential roads in a bid to get to Wells Road. People will not use Callington, for many this will involve going back on themselves. This is already a rat run onto Wells Road which would be significantly and dramatically increased with not allowing a right turn from West Town Lane onto Wells Rd. This would massively decrease quality of living for residents and create issues of danger for roads nearby the school. Traffic on West Town Lane and Wells Road is already horrendous. Preventing cars from turning at this junction will mean all side roads will become more cut through than they already are.</p>
Speeding traffic	16	<p>Hazelbury Road - if you effectively block traffic turning in/out of the West Town junction onto the A37, this street will be turned into even</p>

		more of a speeding 'rat run' than it is already. We do not need cars speeding past our schools to get to where they want to do because the most logical route has been blocked. These roads are narrow and residential, and this will increase the risk of accidents and reckless driving.
Traffic	6	There is an important omission from the prohibited turnings which should be added. This is Right turn to Wells Road from Hengrove Lane. There have been accidents with vehicles performing that turn. To enforce the turning prohibitions, a bus gate at the junction of Wells Road with West Town Lane seems to be needed. Force traffic from large dual carriageway onto smaller roads and will increase traffic, noise, pollution, decrease safety. With regards to Imperial Road and West Town Lane junction, there ought to be double yellow lines at the bottom of the road due to the number of vehicles parking there on both sides of the road during busy times in the imperial ground.
Other	13	Inbound bus stop would be better moved to corner of Airport Road/Wells Road where the road is wide enough. You are successfully making the centre of Bristol a no go area for many Bristolians. Maybe a roundabout? Smart lights with queue detection? Widen Airport Road and Callington Way. This appears to have nothing to do with the No.2 bus route which runs ok at this end and problem starts way before it gets to this side of town.

5.3.1.7 Hengrove Lane

In this section we asked for suggestions on how to reduce rat running, speeding traffic and congestion in the area between Airport Road and Wells Road and on and around Hengrove Lane. Some suggested ways this could be achieved include:

- Bus gates
- One way options
- Local access only options

Hengrove Lane – proposed changes



The survey asked the following question:

We are asking for suggestions on how to reduce rat running, speeding traffic and congestion on these residential roads:

109 free text comments were received for this section of the route. These were coded into the following categories:

- Better traffic lights/ crossing points
- Bus gate
- Roundabout
- Road closures
- One way / banned turns
- Widen roads
- Speeding traffic
- Parking / waiting restrictions
- Low traffic neighbourhoods
- Leave it alone / ignoring other side
- Other

As one comment can be split over multiple categories there are 135 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Better traffic lights/ crossing points	8	Suggest you leave the west town lane, Hengrove Lane, wells Rd junction just as it is, but just add a pedestrian crossing. Get the traffic lights in sync and widen roads at the junction to allow traffic to get past each other. The drivers are trying to solve the problem of Wells Road -> Airport Road being a very slow junction. If that was faster, they wouldn't need to head down side streets. Alternatively, just disconnect the side streets at one end or the other from Airport Road.
Bus gate	10	Bus gates - the roads are not large enough to do this. The shops at the straits will suffer if people cannot get to them with locals only or bus gates. Would support bus gates and modal filters all over this area to reduce traffic volumes. Local access only. Strongly against bus gates especially one depriving locals of access at Petherton Rd/Hengrove Lane or onto Wells Rd.
Roundabout	3	Hengrove Lane/West Town Lane junction does need a roundabout - a lot of children walk along West town Lane going to the school there. The junction at the happy landings is dangerous and often has accidents. It would be better to have a different layout (perhaps a roundabout).
Road closures	14	As these areas are only congested some of the time, maybe restricted access to some roads at some times. By closing roads, you're not stopping rat runners you're just moving the problem elsewhere. By stopping traffic using Hengrove lane, you will cause huge tailbacks along west town lane. There is not enough road space for traffic to turn right at the happy landing's junction from west town lane at the moment as the traffic is queued back waiting for the lights to change at the Airport rd/Callington rd junction. Hengrove lane has the only local shops in the area, to restrict drivers from accessing will cause a lot of people to travel further afield to the large supermarket on Callington Road. It would also reduce the amount of people using the shops and would result in the only local shops closing.
One way / banned turns	22	One way access - this could be done on some of the smaller roads where there are 2 parallel, but otherwise would cause more bottlenecks. One way options fundamentally do not resolve or reduce traffic congestion they reroute traffic to other unsuitable roads. One way system on Petherton Road from Hengrove Lane to wells road. One way into Long Eaton Drive from Wells Road. Don't allow through traffic on Beechmount Grove. Make Ravenhead Drive (Southbound only) and Long Eaton Drive (Northbound only) one way traffic and close off access to A37 Wells Road except for cyclists. Make Hengrove Lane one way (Westbound only) to Junction of Petherton Road. Close junctions of Beechmount Grove and Hengrove Ave with A4174. Sign on Westleigh Park "No access to A37".
Widen roads	12	Airport Road is just going to get busier with the new housing developments being built. Ideally have it is a dual carriage way would be best so there is constant flow, taking drivers to the main roads. Focus should be improving traffic flow at the a37/Airport

		Road junction, and the Bath Road/west town lane junction as well to make the main roads the natural choice. Widen Airport Road so it is suitable for future traffic.
Speeding traffic	11	Cadogan Road and Hengrove Lane are horrendous rat runs regularly used. Cars can be more than 40MPH as they turn off airport onto Cadogan and this is continued either way on Hengrove Lane. Add speed restrictions (humps) only. Bring in speed cameras along Hengrove Lane.
Parking / waiting restrictions	5	Wells Road would benefit from no on-street parking as it often takes over one lane. Implementation of allocated parking bays on one side of Cadogan road. Petherton Road - we do have a big traffic problem from the parents of school children who block the road at the start and end of the school day, plus the school/Vet's staff who park on the street all day, rather than use their own car parks.
Low traffic neighbourhoods	17	Create a low traffic neighbourhood. Need to look at a wider area. Liveable neighbourhood would be good here. An area wide approach including bus gates, one way, and local access only options should be taken to deliver a liveable neighbourhood type solution. Improved permeability from the area across Wells Road and Airport Road should be delivered for pedestrians and cyclists. Prevent through motor traffic. Local access as part of low traffic neighbourhood.
Leave alone / ignore other side	21	No issues with road users – leave it as it is. Complete and utter waste of money. Instead help alleviate the traffic on the Wells Road. People will always find another rat runs if you block these off. No such thing as rat running as one person's rat run is another person's route to work. Stop blocking other routes with ill-considered schemes to take lanes out and slow people down.
Other	12	Follow other cities in reducing bus fares and making bus times more reliable and you would solve the volume of cars on the road. More people would be encouraged to use public transport. Consideration needs to be given to how cyclists travel from Callington Way/West Town Lane to the segregated bicycle path on the north side of Airport Road, and how it links to Sturminster Road/Whitchurch Way in the other direction. The easiest, quickest, and cheapest way to avoid rat runs, is not bus gates, one way streets, or local access. It is by reducing bus fares, getting more people on a cheaper, or free bus service, thus freeing up roads and thereby eliminating rat runs.

5.3.1.8 West Town Lane

The transport proposals for this section comprise of:

- New segregated cycle lane on Sturminster Road and West Town Lane. This would connect to the new cycle lane on Sturminster Road linking with the Whitchurch Way cycle path at the mini roundabout

West Town Lane – proposed changes



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to West Town Lane?

			Response Percent	Response Total
1	Strongly agree		23.46%	46
2	Agree		16.83%	33
3	Neither agree nor disagree		9.69%	19
4	Disagree		14.79%	29
5	Strongly disagree		35.20%	69
			answered	196

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

146 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive

- Objections
- Pedestrians
- Cyclists
- Public transport
- Traffic
- Parking /waiting restrictions
- Public realm (trees etc)
- Other

As one comment can be split over multiple categories there are 202 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	5	Broadly support, but please don't narrow Hazelbury Road junction too much. Agree with proposal but would like to see a crossing / island at the bottom of Hazelbury rd to assist the significant number of young children who cross this road twice a day on route to school. Good use of the road system. Strongly support the provision of a segregated cycleway.
Objections	13	The roundabout has just had thousands of pounds spent on it and now you want to change it again to incorporate a cycle path, what an absolute waste of money! Strongly disagree with the proposal to narrow the bottom of Hazelbury Road.
Pedestrians	19	Keep verges. Reducing them would reduce walkway as cars park half on road/pavement especially during football/rugby season causing chaos, introduce double yellow lines, widen pavement other side of the road. The Sturminster Road crossing is welcome. Support two new zebra crossings on West Town Lane.
Cyclists	78	"improvements" are clearly only there to improve cycling. Separate cycle way is good - though it goes the long way round. Make the cars go the long way! This is one of the worst sections of the Whitchurch Way for new or child cyclists, so the segregated lane is very welcome. The junction at Hither Bath Bridge Road should be improved rather than fading out without any clear priority. It's unclear if any crossing to the railway path part of the WW is provided, but something will be needed to cross Sturminster Road at that point. What should people who are cycling do when they reach the end of the segregated cycle way? Why are cycle ways disjointed - it's a huge disincentive to cycle by slowing progress massively?
Public transport	37	Relocating the bus stop in West Town Lane coming out of town to a point east of the junction with Sturminster Road would mean the new stop would no longer be served by the 2 bus as the route turns into Sturminster Road and does not go past the junction? It is very difficult to enter West Town Lane when a bus is parked right at the entrance blocking your view. The bus stop relocation is an excellent idea. The bus stop alteration on Sturminster road is dangerous for pedestrians getting off or on the bus. Where is the shelter, this is essential, and it must be fully accessible with space for a wheelchair undercover? This is also true of the other relocated bus stop. Narrowing the

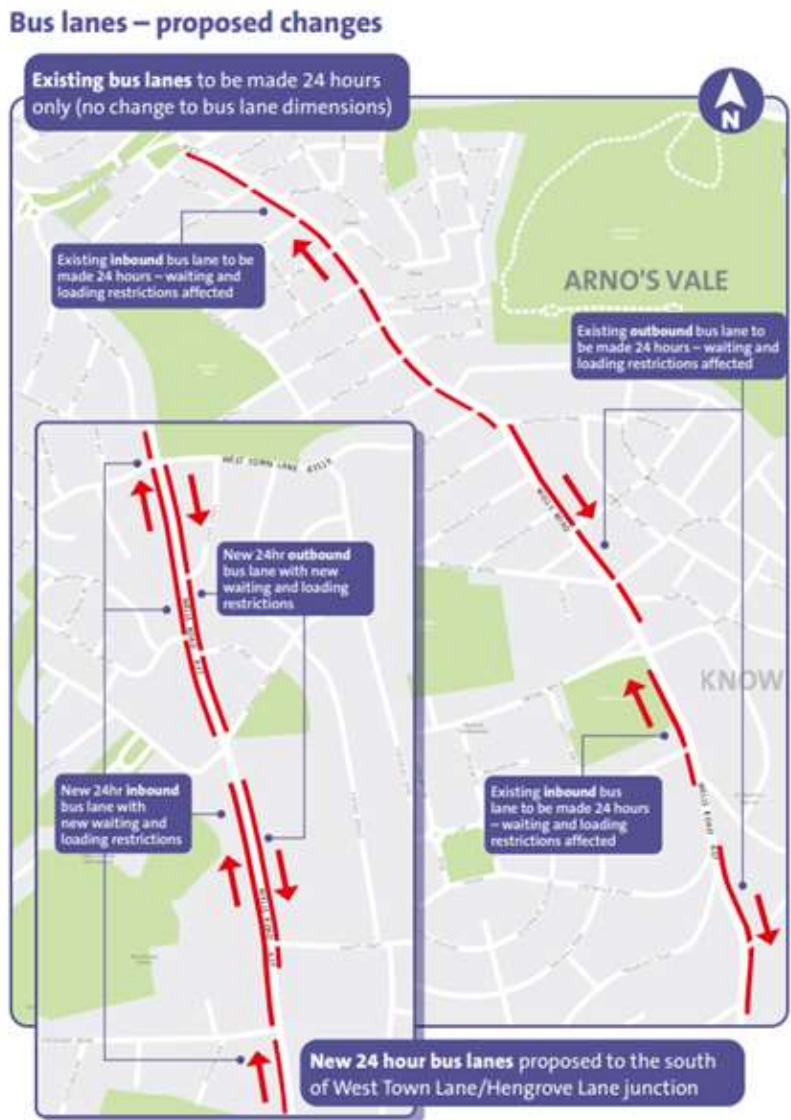
		<p>roundabout is a bad idea as buses already struggle to make the turn. Relocation of bus stop on West Town Lane! At present the bus stop is used by 2/2A services and 96. By relocating this it will only be served by a two hourly number 96 service. Wouldn't it be better to leave this bus stop and remove the one at the bottom of Sturminster Road that you intend to alter to prevent conflict with the cycle lane? Moving the bus stop from an area of road with three lanes and the traffic is relatively unaffected but stopped buses (West Town Lane/Hither Bath Bridge) to an area where traffic cannot pass the bus when stopped would lead to tail backs at the mini roundabout with Sturminster Rd and increased pollution very close to the school.</p>
Traffic	31	<p>Strongly agree with the junction narrowing of Hazelbury road. The bottom of Hazelbury road does not need narrowing down just move the suggested crossing point, i.e., the drop curbs further up. Taking away the left side will slow traffic and cause more congestion and more pollution. If the reason for doing this is about Hither Bath Bridge cyclists and pedestrians it does nothing for Hither Bath Bridge at all. A 'rat run' will be created on Hazelbury Road, Davids Road, Imperial Road, Woodleigh Gardens, Whitcross Avenue, Mowbray Road. The proposed changes will push the traffic from the Wells Road or West Town Lane to the roads as the drivers will not want to join the queues of traffic on Callington Road. Callington Road currently has long queues of traffic and the proposed road changes will only exacerbate it. Narrowing junction at Hazelbury road will cause further congestion when joining west town on an already busy junction. Proposed changes to junction west town lane/wells road (no left turn to wells road) will mean Hazelbury road will be used more frequently by drivers becoming a rat run. Speed limit on this road already isn't adhered to by most users.</p>
Speeding traffic	5	<p>. Include some form of mitigation against the excessive level of speed of some vehicles travelling along Sturminster Road in both directions. Improve Hazelbury junction it's so wide and dangerous cars speed around that junction you must run to get across. The new corner on Hazelbury Road is too sharp. You should include plans to stop rat running down Hazelbury Road as part of this scheme, or at the very least propose physical measures to slow cars down on that road.</p>
Parking / waiting restrictions	6	<p>This seems to miss the use of the field on the right - the entire road is lined with cars at weekends because it is used for competitive sports, if it gets narrowed it will be impassable in those conditions, and there's no traffic wardens on those days to enforce any restrictions added. Parking restrictions needed on west side of Sturminster Road. Where will the cars for houses park and it looks like you're narrowing a road that is already busy, and then you have the football/rugby ground that again also park on the road/pavement where will they go if you are going to stick a cycle lane there? Keep verges. Reducing them would reduce walkway as cars park half on road/pavement especially during football/rugby season causing chaos, introduce double yellow lines, widen pavement other side of the road.</p>
Public realm (inc trees)	5	<p>Adding a tree to the Hazelbury Road junction will mean that drivers won't be able to easily see anything coming down the road to the left. The scheme should also include some greenery / planting and SUDS</p>

		drainage elements. Appreciate there are trees here, these need a very good prune, left too unruly.
Other	3	The traffic flow and ability to navigate this area as a pedestrian or cyclist is significantly affected by the school peaks at West Town Lane. Also, parking from weekend sport events at South Bristol sports centre has a much smaller but still noticeable effect. Worried about the position of crossings by properties – will they affect them?

5.3.1.9 Bus Lanes






The transport proposals for this section comprise of:

- Install 24 hour bus lanes in both directions from the Bristol City Council / Bath and North East Somerset border to the West Town Lane junction
- Change the existing bus lanes into 24 hour bus lanes only along the A37 Wells Road



The survey asked the following questions:

To what extent do you agree or disagree with the proposed transport changes to these bus lanes?

			Response Percent	Response Total
1	Strongly agree		27.58%	48
2	Agree		18.96%	33
3	Neither agree nor disagree		10.34%	18
4	Disagree		8.62%	15
5	Strongly disagree		34.48%	60
			answered	174

If you would like to tell us why you agree or disagree or if you would like to suggest any changes to the proposals, please do so using the textbox below:

119 free text comments were received for this section of the route. These were coded into the following categories:

- Supportive
- Objections
- Effect on traders / residents
- Bus service
- Pollution
- Parking /waiting restrictions
- Congestion
- Other

As one comment can be split over multiple categories there are 161 comments coded below. The tables show a summary of the comments for each category and the number of comments received.

Category	Number	Summary
Supportive	33	Buses must take priority over cars as we must get more people using them. Great news, not only for buses but also for cyclists who feel much safer in the bus lane. It is a good idea to move to 24hr bus lanes as parking in the lanes is a big congestion issue. However, it is important to make bus lanes "soft" so that cars can temporarily move into them to avoid oncoming traffic on the wrong side of the road (due to loading on the other side). Fully support 24hr bus lanes.
Objections	26	The bus lanes are rarely used by drivers anyway as few realise that they're only operational 4-6.30pm so all this change would do is make access to local properties difficult. Don't need 24 hr lanes as buses don't run 24 hrs. Instead, ban parking in bus lanes, that's what causes delay to the buses. Do not feel that the bus lanes need to be 24 hours, the road is not always congested. Residents living on crossways often

		<p>us the bus lane before the junction to access their homes. If this becomes 24/7, recommend this starts after the junction with crossways - outside the care home. There are already bottlenecks at the Wells Rd/Callington Rd/Airport Rd traffic lights and the Wells Rd at Broadwalk. Extending the bus lane times will aggravate this without any specific benefits. There are so few buses (Mended Flyer and Number 2) along this section maybe only 2 or 3 an hour that the case is not made for a 24 hour bus lane. There are no buses and little traffic after 7pm and before 7 am so the 24 hours bus lane is unnecessary. Full time bus lanes make life very difficult for residents and visitors to the area - as short stops on the route would not be possible (e.g., deliveries and pick-ups of children). As there are not 24 hour buses a full time lane is also not required. A better alternative would be to review the duration of the bus lanes and ensure that they cover all the busy road periods while not being in force off peak.</p>
Effect on traders/residents	21	<p>How will deliveries be allowed for residents living on the A37? Introduction of new 24 hour bus lanes would have a significant negative impact on local businesses and residents. By doing this you will stop people parking overnight outside their house (between Crossways Road and the zebra crossing by St Martin's Road. You will also stop the evening parking outside the bowling club which is very important for the members. Making the northbound bus lane on the A37 in Totterdown between Norton Road and St Johns Lane into a 24 hour bus lane is not required and will mean that vehicles are unable to stop outside the businesses between Lilymead Avenue and Knowle Road which will either destroy those businesses which is detrimental to the local residents or will push people who wish to park to use those businesses into parking in the already crowded residential side streets, which will again be detrimental to local residents.</p>
Bus service	20	<p>The current level of bus service does not justify a 24 hour bus lane. In the 1990s there were 5 services - 51, 52, 53, 54 and 55 which all came down the Wells Road from Broad Walk towards Broadmead and the City Centre and beyond. Today we have a much lesser frequency with the 2, 2a and the 92. The bus service is at maximum 2 an hour to Street, plus a couple of local community services. This does not warrant a 24 hour bus lane. Buses do not run overnight. The money would be better spent funding a bus service to serve this area! What we want are lower fares and more frequent buses on a greater number of routes. If you change the West Town Lane junction how will the 515 get to Clive Road bus stop?</p>
Pollution	3	<p>24 hr bus lanes will result in more standing traffic, particularly lorries, causing more pollution during out of rush hour periods. What is the point as there are no problems now and the extra lane can ease congestion at other times? Slower traffic more pollution more frustration with drivers.</p>
Parking / waiting restrictions	19	<p>Resident on the Wells Road will have issues outside of their properties with an operational 24 hour bus lane for deliveries, waiting/loading, and having visitors during the day, evenings, and weekends. There should be no parking on Wells Road at all, the priority should be movement of traffic. People parking outside small businesses can cause massive tailbacks for those heading up Wells Road, and it's</p>

		unsafe for cyclists. Provide more detail on the proposed changes to the waiting and loading restrictions on the Wells rd? Will residents still be able to cross over a bus lane to get access to their properties? This would stop the parents of the schools by Broadwalk parking in the bus lane. This may be an issue for the Vets on the Wells Road and for the old people's home – where will these people park? Massive issue for businesses near Lilymead Road in terms of parking for customers.
Congestion	26	Reducing the two lane traffic on approach to the traffic light junctions would cause significant tailbacks. At the Broadwalk crossroads inbound there needs to be a dedicated left hand lane for traffic wanting to turn into the Broadwalk. With the bus lane in place the traffic builds up much more. This stretch of the A37 from St Johns Lane is quite narrow in places and becomes congested very easily. The congestion for normal traffic will just get worse if the bus lanes are made 24 hours, causing more pollution for the residents of the area. There are many turnings on and of the Wells Road and its already narrow. When driving you frequently must use or partially use the bus lane to all traffic on the other side of the road to pass. If its 24 hours, drivers will stop doing this and there will be continual hold ups. A 24 hour bus lane is not necessary and will cause more problems for traffic flow than the current arrangement. Generally, there are not enough bus services to justify the loss of road space, which will increase traffic congestion in the area.
Other	13	Absence of continuous segregated cycle lanes. The item requires more publicity. Support Bristol Cycling Campaign response.

5.4.1 Survey Demographics and Equalities analysis

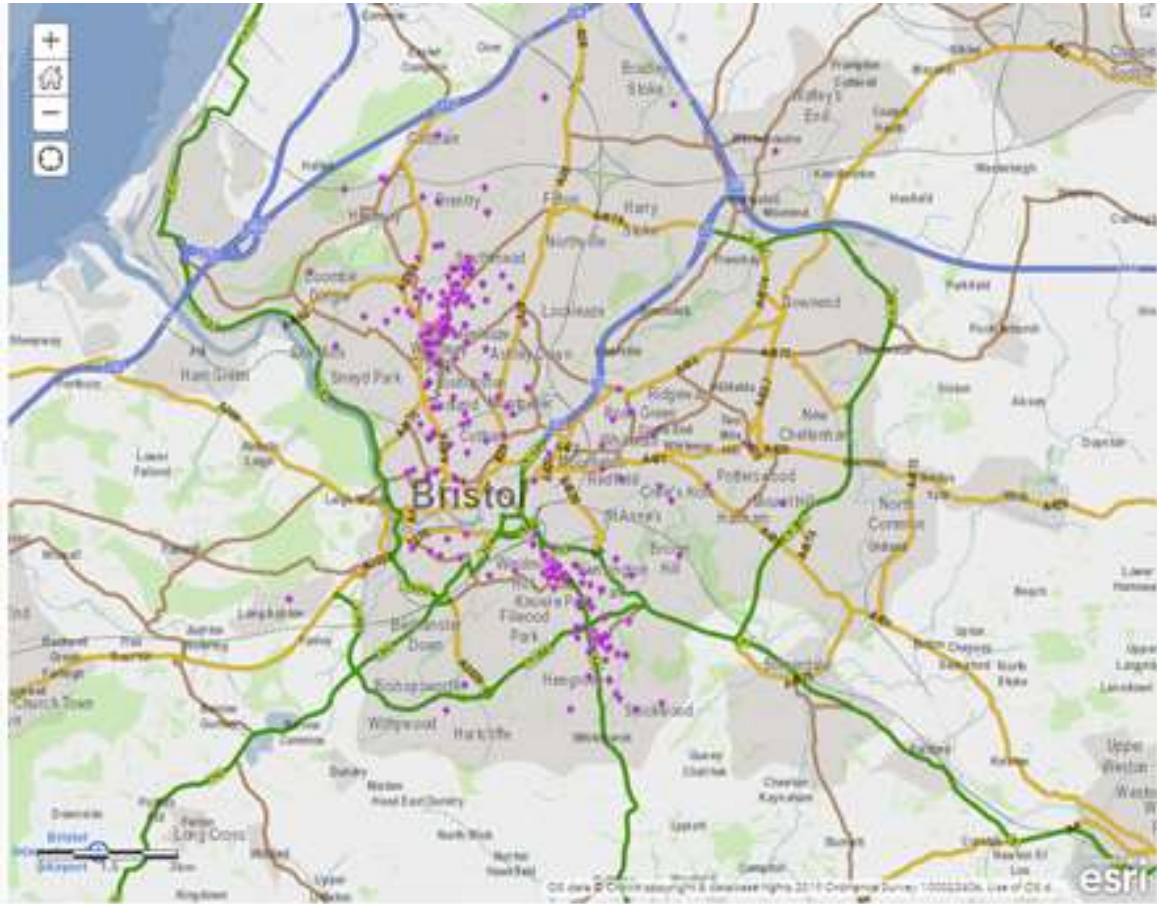
The questions below were asked to help us ensure that the survey has been responded to by a representative sample of the local ward population:

- What is your full postcode?
- What is your age?
- Do you consider yourself to be a disabled person?
- What is your sex?
- Have you gone through any part of a gender reassignment process, or do you intend to?
- What is your ethnic group?
- What is your sexual orientation?
- What is your religion/faith?
- Are you pregnant or have you given birth in the last 26 weeks?
- Are you a refugee or asylum seeker?
- We want to make sure our surveys are as good as possible. Please tell us if you agree or disagree with the following statements:
There is enough information for me to answer the questions
The questions make it easy for me to give my views
The survey meets my accessibility needs

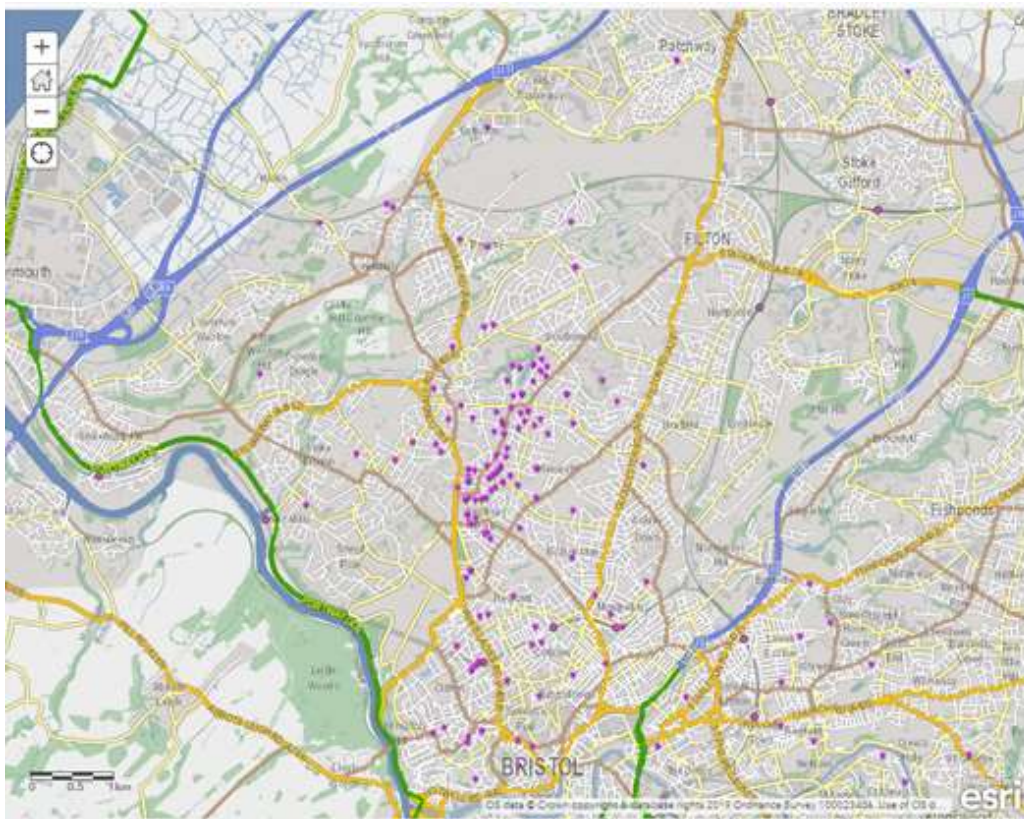
1. What is your full postcode?

		Response Percent	Response Total
1	Open-Ended Question	100.00%	291

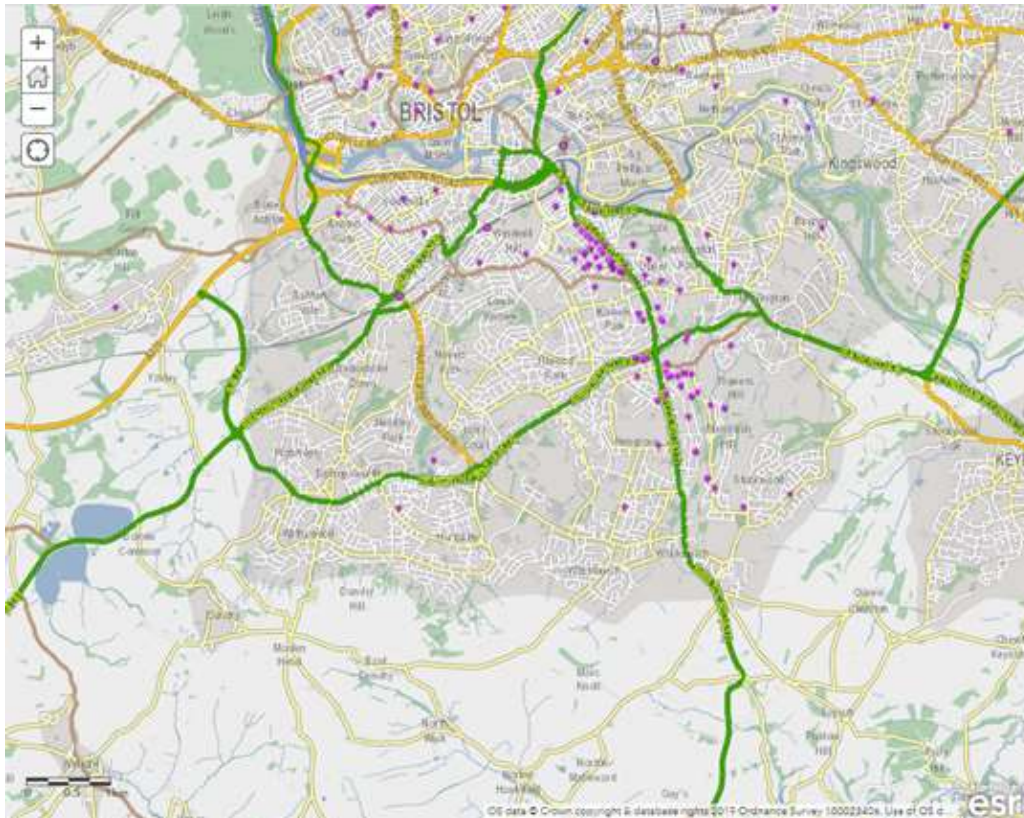
Of the responses, 291 left their postcode. The postcodes have been plotted on a map below to show where the respondents live for the whole route:



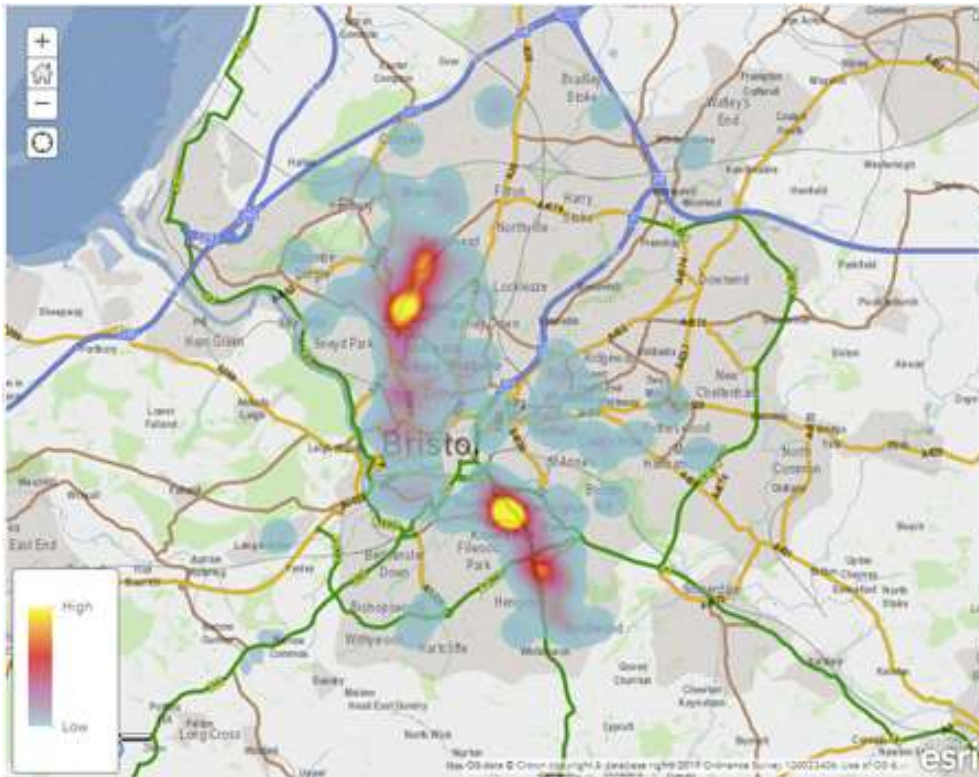
North area



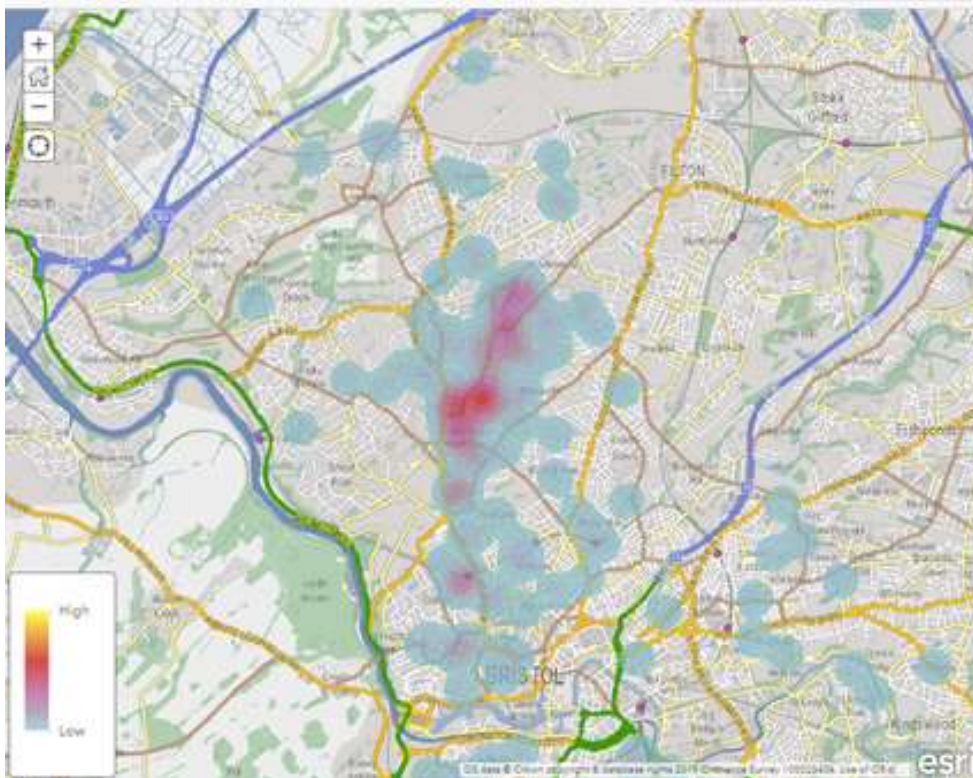
South area



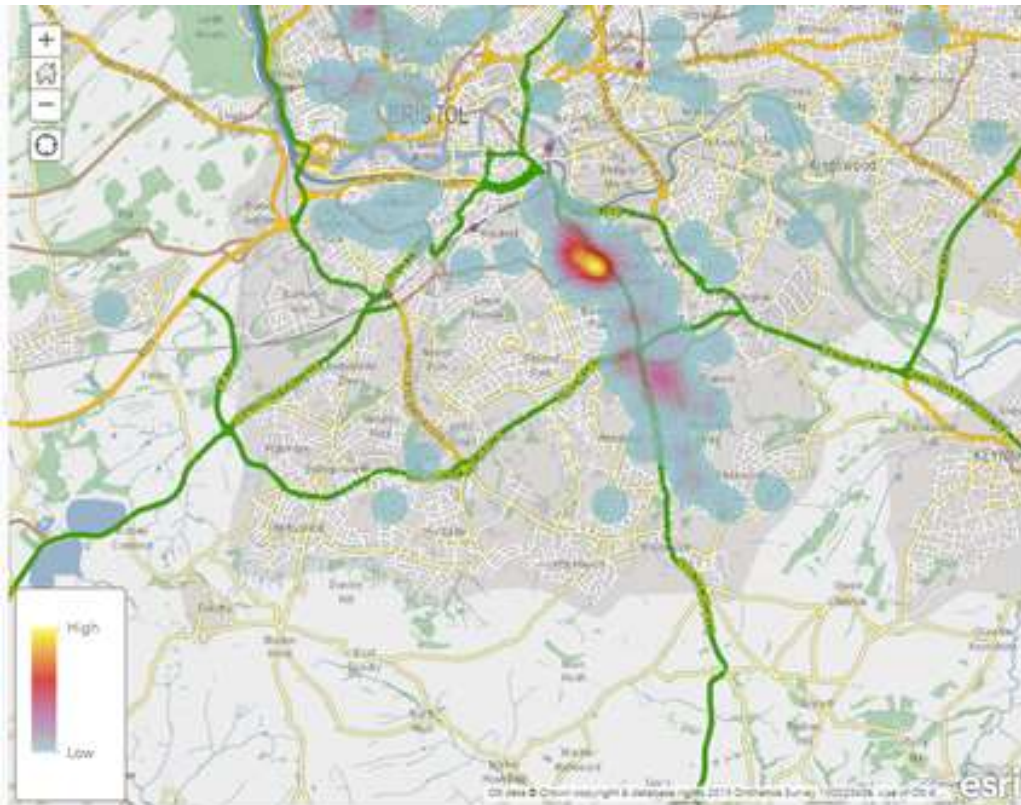
These are heat maps showing that there is a concentration of high responses surrounding the north and south areas.



North area

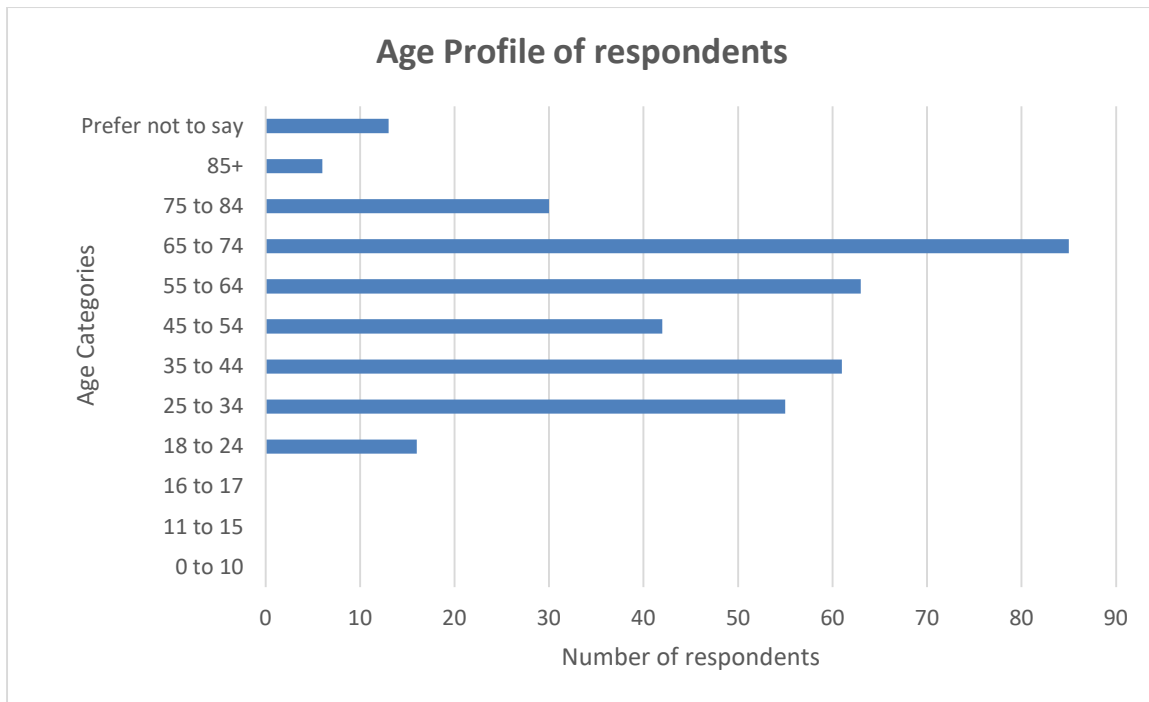


South area



Below are the results for each question:

2. What is your age?			
		Response Percent	Response Total
1	0-10	0%	0
2	11-15	0%	0
3	16-17	0%	0
4	18-24	4.31%	16
5	25-34	14.82%	55
6	35-44	16.44%	61
7	45-54	11.32%	42
8	55-64	16.98%	63
9	65-74	22.91%	85
10	75-84	8.09%	30
11	85 +	1.62%	6
12	Prefer not to say	3.50%	13
		answered	371






The largest response is from those aged 65 to 74 years old with just under 25% of the comments.

3. Do you consider yourself to be a disabled person?			Response Percent	Response Total
1	Yes		9.56%	35
2	No		83.87%	307
3	Prefer not to say		6.55%	24
			answered	366









4. What is your sex?			Response Percent	Response Total
1	Female		46.07%	170
2	Male		46.34%	171
3	Prefer not to say		7.05%	26
4	Other (please describe):		0.54%	2
			answered	1492

The number of respondents identifying as male, and female were nearly the same and made up 46% of the responses each. 2 people ticked the 'other' category and identified as non-binary.

5. Have you gone through any part of a gender reassignment process, or do you intend to?







			Response Percent	Response Total
1	Yes		0.27%	1
2	No		90.19%	331
3	Prefer not to say		9.54%	35
			answered	367

6. What is your ethnic group? (please tick one box only)









			Response Percent	Response Total
1	White British		82.07%	302
2	White Irish		0.54%	2
3	White Other		5.43%	20
4	Black /African / Caribbean / Black British		0.00%	0
5	Asian / Asian British		1.09%	4
6	Mixed / Multi ethnic group		0.82%	3
7	Gypsy / Roma / Irish Traveller		0.27%	1
8	Prefer not to say		9.51%	35
9	Any other ethnic background (please describe):		0.27%	1
			answered	368

Of the respondents 82% were White British and 5% were White other. 35 people ticked the prefer not to say with no respondents ticking the Black/African/Caribbean/ Black British group.




7. What is your sexual orientation?




			Response Percent	Response Total
1	Bisexual		3.60%	13
2	Gay Man		1.94%	7
3	Gay Woman / Lesbian		1.11%	4
4	Heterosexual / Straight		73.41%	265
5	Prefer not to say		19.67%	71
6	Other (please describe):		0.28%	1
			answered	361

Most respondents were heterosexual/ straight the 'other' comment was for asexual.

8. What is your religion/faith?			Response Percent	Response Total
1	No Religion		48.35%	176
2	Buddhist		1.65%	6
3	Christian		34.07%	124
4	Hindu		0.00%	0
5	Jewish		0.27%	1
6	Muslim		0.27%	1
7	Pagan		0.55%	2
8	Sikh	-	0.00%	0
9	Prefer not to say		13.46%	49
10	Other (please describe):		1.37%	5
			answered	364

48% of respondents selected no religion and of the 5 others there was a range from quaker, spiritualist, catholic, unitarian and united reform.

9. Are you pregnant or have you given birth in the last 26 weeks?			Response Percent	Response Total
1	Yes		0.28%	1
2	No		91.74%	333
3	Prefer not to say		8.79%	29
			answered	363

10. Are you a refugee or asylum seeker?			Response Percent	Response Total
1	Yes		0.00%	0
2	No		91.78%	335
3	Prefer not to say		8.22%	30
			answered	365

11. We want to make sure our surveys are as good as possible. Please tell us if you agree or disagree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Response Total
There is enough information for me to answer the questions	16.67% (59)	39.55% (140)	27.12% (96)	12.15% (43)	4.52% (16)	354
The questions make it easy for me to give my views	13.68% (48)	34.76% (122)	31.91% (112)	11.97% (42)	7.69% (27)	351
The survey meets my accessibility needs	20.17% (71)	38.35% (135)	31.25% (110)	5.11% (18)	5.11% (18)	352

6. Appendices

6.1 Conservative group

Conservative Group formal response from Councillor Mark Weston to the “**IMPROVEMENTS TO THE NUMBER 2 BUS ROUTE (A37/A4018)**” Consultation on the proposed designs – **Have Your Say**

I write to convey my group’s considered observations on the latest scheme – one of eight routes - which seeks to develop and enhance bus services in Bristol.

We have some sympathy with the broad objectives of aiming to reduce bus journey times, increase reliability and encourage more people to switch to travel by bus. However, this choice needs to be a positive one, and not something that is simply forced upon them by making driving a private vehicle an increasingly difficult and a more miserable experience.

A balance must be struck between enabling the public to travel in efficient ways (which reflect personal choice depending upon individual circumstances) whilst tackling environmental concerns and supporting centrally based businesses.

It is our contention that there are some aspects of the proposed new A37/A4018 route which not only fail to strike the right balance between these competing aims, but they are also plainly wrong and far more likely to create more problems than purported to solve. We harbour doubts that the huge budget envelope of £30-35m is not going to be money well spent will make travel into and out of the city very much worse. A strategy of narrowing roads and reducing lanes (space for cars) will cause more delays – including for buses – and result in the no.2 bus service taking longer to traverse its route than it ever did before.

We have concerns over the ancillary impact of the current plans which will see motorists taking short cuts and rat running to avoid newly created bottlenecks. This in turn can only make residential neighbourhoods less liveable all the while not improving the travel experience of bus passengers on iota.

NORTH (1)

Crow Lane to Henleaze Road

Like the apocryphal ‘curate’s egg’ story which is used to refer to something which is good in parts, there is at least one aspect included in the design for this part of the major carriageway. The installation of a new mini roundabout at the Crow Lane and Henbury Road junction is a welcome step and represents an improvement which ward councillors and residents have argued for over a very long time.

Conversely, whereas targeted – continuous bus lanes can be beneficial – unfortunately, the planned short stretches at this location will do little to aid traffic flows. Therefore, the two suggested ‘fragmented’ bus lanes at the Crow Lane roundabout should **not** proceed.

I would like to add here specific observations concerning other proposed bus lanes. The suggested moving of the Station Road bus lane to over the railway bridge needs to be either reversed or restricted to operate at peak hours only. This may fall outside of this scheme but is nevertheless a key feature of the local bus routes.

Southmead Road

Regarding possible changes to Southmead Road (between Henleaze Road and Wellington Hill West). Removing the second carriageway in each direction is not a good idea. Now this section of road flows well most of the time but reducing to single lanes each way will inevitably lead to queueing traffic and slow down cars and buses alike. Moreover, we question whether there is any demonstrable local demand for the suggested footway enhancements.

The idea of narrowing this road space just to increase build outs to cater for tree planting is quite frankly ludicrous. We fail to see any transport advantage, benefit, or utility from such a move. Other locations for tree planting are available and we are sure that the community could identify alternative sites at a greatly reduced cost and without the act of transport self-harm.

Lake Road

Closing off Lake Road at its open end is also difficult to follow. All the traffic that currently uses that junction will be forced to travel further than it currently does along Southmead Road, adding to congestion on the bus route, not reducing it.

Henleaze Road

The same comment can be made about the dual carriageway from Southmead Road to Eastfield Terrace. The design envisages removal of carriageway to add pavement. This seems an unusual way of improving traffic flow. This issue has never been raised with us by residents. The removal of the second carriageway in each direction can only result in the (seemingly deliberate) slowing down of all traffic including the buses.

There is no need for a pavement running beside Old Quarry Park. In bound, the cycle way could be provided on the other side of the wall between the pavement and the residential road. Outbound the proposal will add significantly to the journey time and with no priority space for buses will significantly increase journey. The queues here will inevitably lead to rat running along neighbouring residential roads - an unfortunate outcome from proposals designed to improve traffic flow.

The junction modification on Falldon Way is problematic. The road is busy because of the high number of patients visiting the doctor's surgery and parents bringing children to playgroup in the day and youth groups in the evening at the scout hut. Most cars turn and leave the road from the Henleaze road junction. At its current width, the junction can accommodate 2 cars turning left and right out of the road, as well as one car turning into the road.

If the junction is narrowed, cars may not be able to turn in to Falldon Way, because of cars queueing top exit, and will therefore be blocking Henleaze Road. This already happens at busy times but will be made much worse if the junction is altered. The position could be improved by extending the yellow lines by one car length to give more space for passing vehicles, but the current junction works, so would better left as it is.

Other Henleaze Road proposals are equally difficult to fathom. The closure of Henleaze Gardens and Holmes Grove at their junctions with Henleaze Road, will only force traffic to find other circuitous ways to access Henleaze Road.

The proposal to narrow the junctions at Holmes Grove does not appear to have been fully considered. The narrowing will result in traffic turning into those roads having to queue on the main bus route when vehicles coming out of the junction are trying to get out. That will hold up cars and buses alike. Similarly, the build out at Holmes Grove of the new, upgraded bus stop will cause further delays on Henleaze Road. The current bus stop works well and should be left alone.

Therefore, the closure of Holmes Grove Junction to build out a bus stop makes no sense whatsoever.

For reasons unknown the No.2 bus often runs in pairs and the second bus overtakes the first while it is picking up passengers. Currently that passing can happen easily here, but with a build out there will be no opportunity to pass. So, the second bus will be delayed. In addition, the traffic that currently uses the Holmes Grove junction will be forced to travel the short distance to Henley Grove creating more pressure at that already busy junction.

The Henleaze Gardens closure is another proposal that seems to have no logic behind it at all. This will not stop residents using their cars, but it will force them to use the opposite end of the road to exit, forcing more traffic on to the No.1 bus route before it comes down residential roads to get back to Henleaze Road. It simply creates more traffic to delay buses.

The Henley Grove Junction modification could have the same issues, so consideration needs to be given to turning traffic, but the junction is dangerously wide, so the modification seems sensible.

North View and Parry's Lane

North View would appear to be the biggest cause of delays on the Number 2 route through Westbury and Henleaze.

The changes made by the GBBN project are the cause of the current problems and especially the 'pinch point' at the roundabout /junction of North View with the A4018.

The route used to flow well until the Showcase "improvements" which reduced the inbound exit on to Westbury Road, and the outbound exit on too Northumbria Drive, resulting in much longer traffic queues which delay buses. The problem is compounded by the traffic flowing in from Westbury Park which causes further hold ups for buses.

The building out of the footpath will only cause more queuing which is likely to tail back to the roundabout and the A4018.

This is very much a missed opportunity, and it seems pointless spending £millions on this bus route if the North View route is not improved significantly. A community consultation would produce a wide variety of suggestions from residents, that could help improve the traffic flow as well as helping the local retailers to flourish. Some of the possibilities suggested including: -

Rush hour bus lanes would not threaten local traders. Rush hour restrictions on traffic using Westbury Park would help. Restricting right turns into and out of Etloe Road could also be an option.

However, the proposed widened pavement appears to see the island in the middle of the road removed, leaving North View as the only side of the roundabout without a zebra crossing and with no easy place to cross.

Instead of widening the pavement, allowing two lanes to exit at the White Tree roundabout from Etloe Road would reduce bus delay significantly as would widening the exit to Northumbria drive. At present it is not quite wide enough for two vehicles to be parallel one turning left one right. A small increase in road width and removal of a parking space would significantly help traffic movement.

To repeat, the very last thing we need now is for more built out bus stops/pavements. Such a self-defeating policy will slow down ALL traffic (that means buses as well)! So, we object strongly to the ill-thought-out proposals for North View, which are sure to be counterproductive to the smoother running of buses.

As regards the suggestion for a new zebra crossing on Parry's Lane, this has never been supported by the former Neighbourhood Partnership or the current Neighbourhood Forum.

Consequently, ward Members robustly oppose the proposed zebra crossing, which could very possibly give rise to traffic accidents and even fatalities. The present arrangements on Parry's Lane with pedestrian island refuges work well. So, in the words of the old adage, *"If it ain't broke, Don't fix it."*

Conversely, it is conceded that it may be beneficial to alter the current configuration of the Parry's Lane slip road and installing an additional new path on the Downs. There are conceivable advantages in closing Parry's Lane slip road, but only if the Downs parking regulations are tightened and enforced.

Whiteladies Road/The Downs Junction

This area was subject to extensive works carried out by the GBBN showcase or priority lanes. It seems bizarre that more changes are now proposed and the concomitant spending of public money. Public money is a scarce resource!

In particular, the 24-hour bus lane is a complete nonsense. Unlike motorcars and goods vehicles, buses don't run around the clock and there is little congestion challenging them apart from a couple of times a day during the week. The GBBN considered 24-hour bus lanes but recognised - quite rightly - that they were unnecessary, draconian, and potentially detrimental.

The conversion of Roman Road could be supported as this stretch is currently a major contributor to delays on the A4018 coming on to the junction.

A further cause of delay is the short distance between the junction and the crossing point on Redland Hill and hold ups further down Redland Hill which often tail back to block the roundabout.

However, the removal of the crossing that currently allows pedestrians to cross to the top of Blackboy Hill on the inbound side significantly reduces connectivity.

In bound the two lanes from the A4018 converge into one lane until the bus stops. This will result in significant congestion which will catch or block buses as well. We cannot see how that can be a benefit.

Outbound, the need to keep buses moving is understood but, again, a 24-hour bus lane is unnecessary as buses are not delayed outside the rush hour. An extension of the bus lane restrictions that currently exist on the rest of Whiteladies Road would be more than sufficient.

CENTRAL (2)

Queens Road/Whiteladies junction

There could be advantages to light-controlled crossings at the new 3-way signal junction of Queens Road and Whiteladies Road, but the map shows a cycle lane and no bus lane on Queens Road. This will result in two solid lanes of inbound traffic being reduced to one. This assumes the traffic will reduce in volume. Based on such a flawed premise it is difficult to see how these changes will not result in significantly increased congestion.

Whilst there may be some logic in closing off Park Place and Richmond Hill, arguably the same reasoning could be applied to outbound traffic on the main route. In both cases two lanes of traffic are being replaced by one and buses will be caught up in the traffic delays.

Queens Road

The roads in this section worked reasonably well with good traffic flows until the introduction of the Authority's Covid measures which saw the removal of large sections of the highway from car use. This action inevitably resulted in self-inflicted congestion.

Remove or reverse these Covid-inspired road restrictions and the traffic will move freely again. The 'innovations' proffered are a prime example of excessive engineered solutions to a problem of the Council's own making. A monumental waste of taxpayers' money.

The Triangle

The planned road narrowing and carrying capacity reductions for the Triangle by the former Habitat store needs to be scrapped. The same arguments or rational we have used above in respect of Southmead Road equally apply here. Reduced carriageway and improved public space will not facilitate travel into and out of the city.

Park Street – main proposal and stated alternative options

Closing Park Street to cars with a bus gate **would be a disaster**, given this effectively closes one of the main routes from North Bristol into the city centre, including access to Bristol Cathedral, Bristol Marriott Royal Hotel and College Street car park.

As the consultation recognises, there are alternatives and option 3 seems a sensible compromise. The "Bus lane southbound from Park Street Avenue to Unity Street" variation raises some concerns around not materially improving air quality. However, such worries may be overstated as electric vehicles become more accessible and widespread.

Many elderly and disabled residents can't use public transport. They are, however, able to use their own cars and 'blue badges' allow them to park close to their chosen destinations. If they are unable to travel through Park Street into the city centre, we are effectively making the city centre off limits to the elderly and disabled. This makes a mockery of Bristol being a welcoming and inclusive city. This is essentially a policy which discriminates against the old and disabled as well as harming the commercial viability of centrally based businesses.

If Park Street can remain fully open to buses, coaches, taxis, motorcycles, e scooters, bicycles, delivery lorries, then surely it can remain open to cars with blue badge holders. At the time of writing, we have received no such guarantees.

In fact, there is no logical reason for preventing full car access to Park Street and the city centre apart from during peak commuting times. Any 24-hour bus gate is needlessly excessive.

SOUTH (3)

Local Members are pleased to see proposals come forward to improve active travel. But there are concerns around promoting and enhancing the pedestrian/cycle ability to cross the highways.

Wootton Park/Wells Road and West Town Lane/A37 junctions

We do not support the proposed closure of the left-hand turn from West Town Lane into Wells Road nor the ban on the right-hand turn into West Town Lane from the Wells Road. We understand the objective of providing a pedestrian crossing across Wells Road and is supported. However, this objective could be achieved by enabling full access but allowing for a 30 second pedestrian crossing when indicated. The Broadwalk crossing has this process whereby all traffic movement is banned for pedestrian access.

The negative implications of banning turns will put a lot more traffic onto the neighbouring roads (such as Imperial Road, Beryl Grove, Mowbray Road, Hazelbury Road, Kinsale Road, David's Road and Woodleigh Gardens). We were disappointed this was not recognised by the proposals as the roads around Petherton Road appear to have been treated with more consideration, but it is these areas which are likely to be negatively impacted greatly.

THE NEW PROPOSED BUS LANES ON THE WELLS ROAD.

Currently the only buses using the Wells Road (up to Hengrove Lane/West Town Lane) are the no. 376 and no. 515. We do not consider this to be sufficient usage to justify the displacement of many vehicles (and road parking spaces) into the surrounding roads. This proposal will make drop-off and pick up at the local schools significantly more difficult.

West Town Lane

On Stockwood's main roads there are no pedestrian crossings. Not one on Sturminster Road, Craydon Road and Stockwood Lane. The effect of this is to encourage driving as the only practical mode of transport for many to navigate the busy roadways which are also plagued by rat running.

Turning to the proposed changes for the southern section, we would like to see more zebra or pedestrian crossings installed **parallel** to Sturminster Road. Suggestions could include one on Stockwood Road by the bus stops near Linden Close; another across Ladman Road by Ladman Grove and an installation by the pedestrian square on Hollway Road to the Haberfield House accommodation.

At the southern end of Sturminster Road, turning into Craydon Road, there is a real need for a crossing by the new bus stop by Pensford Court, a second by Cowling Road and a third by Longreach Grove.

All the proposed additional crossings for this part of the consultation are positive but doubts remain on the utility of the planned segregated cycle lane for Sturminster Road.

For West Town Lane, local Members do not support the removal of the bus stop by Hither Bath Bridge. This is the nearest bus stop to the Imperial Sports Ground. The Imperial Sports Ground has the highest footfall in the area with up to 2,000 visits per week. There are many visitors who do not drive and for whom a good public transport link is essential. In fact, on many evenings and weekends cars spill onto the local roads due to demand.

CONCLUDING GENERAL OBSERVATIONS

I would like to end by providing some overall points which have been made about this major development.

- (i) It is a massively over-engineered and expensive project.
- (ii) Many residents have stated to ward councillors along this route that they feel it to be more anti-motorist than positively promoting travel by bus. This is hardly conducive to achieving behaviour change. In our view, you are much more likely to attract people to use public transport alternatives *'with honey rather than vinegar'*.
- (iii) The current iteration of this scheme contains/retains some huge deficiencies which will severely hamper, undermine, or negate its strategic objectives.
- (iv) There are concerns that planners have not modelled for travel patterns and demands in a post pandemic world. This is especially important as working and shopping behaviours are unlikely to return to pre-COVID norms. If this is the case, is there not a case to pause and re-evaluate the assumptions which have fed into this schematic?
- (v) Linked to the last point above, it seems possible that bus patronage could remain low for a very long time as people opt for individual forms of transport rather than choosing to sit in proximity with others.
- (vi) There appears to be a fixation that penalising motorists is the only way of improving bus services. Indeed, justifying this approach by referencing the need to improve air quality also is somewhat specious if, as is expected, more and more make the switch to driving electric vehicles.
- (vii) Why are you proposing 24-hour bus lanes and restrictions when these don't run round the clock (and never will) to deal with short periods of congestion at traditional peak commuter travel times in the early morning and late afternoon? Is this not using a metaphorical sledgehammer to crack a nut?

We hope that this extensive public consultation will result in some much need revisions of the scheme. After all, it is in all our interests that any finalised version succeeds in delivering all its stated objectives and represents the very best of human ingenuity. This requires transport planners to make sure that there is no repetition of the mistakes of the past.

COUNCILLOR MARK WESTON

CONSERVATIVE LEADER

6.2 Hengrove and Whitchurch councillors' response

Response from local ward councillors to proposed changes along 2 bus route/A37 and the Hengrove area

As local ward councillors for Hengrove and Whitchurch Park we wanted to respond to your consultation with the following observations.

We have promoted the councils survey as well as carrying out our own one that asked additional questions. 350 people replied to our survey and the results are being sent to you in a spreadsheet. Most respondents lived in the Hengrove area.

Firstly, as councillors we strongly support improvements to walking, cycling, and bus facilities in the city and realise that this can involve the need for more dedicated and improved infrastructure.

We are restricting our comments to issues and proposed changes that have a direct impact within our ward.

A37/Hengrove Lane/West Town Lane junction

We strongly support the desire to provide a protected pedestrian crossing facility here. The current arrangement gives pedestrians no safe crossing time at this junction, is dangerous, and has been highlighted by us and the police as needing improvement for many years.

We believe a more desired position for the pedestrian crossing would be north of the junction rather than south – this would ensure the bus stops are more directly served and the desire lines of pedestrians met. This would also allow a continued left hand to turn out of West Town Lane onto Wells Road which we think should not be banned. Left hand turn bans are rarely enforced and present dangers to pedestrians as drivers often ignore them.

We proposed, on safety grounds, that there should be a right hand turn ban coming out of Hengrove Lane onto the Wells Rd. This involves crossing traffic oncoming from West Town Lane without priority at any time and has led to many accidents at the junction. An exception could be made for buses if necessary. This would also improve the efficiency of the junction. Drivers can use Petherton Road as an alternative to turning right on this junction (most local people already do for safety). We do note though that many respondents to our survey were not supportive of all the turn bans proposed at the junction. There was real concern about increased rat running in the Stockwood and Hengrove communities.

We believe the short 24hr bus lane north of the junction leading to the bus stop probably has more of a negative rather than positive effect. This will remove stacking space at peak time which could have a negative result on the flow of the junction. We think this should be reduced to a morning peak only lane or none at this point.

From our survey 27% of residents strongly agreed, agreed or neither agreed or disagreed with the overall proposal for this junction with 72% disagreeing or strongly disagreeing. We note that there

was a more positive response from the paper based surveys. The major concern raised was about the amount of turn bans and the effects this would have on traffic in neighbouring roads.

Wells Road Bus Lanes in Hengrove/Whitchurch area

We have already commented on the proposed bus lane north of the junction.

We believe a 24hour bus lane south of the Hengrove Lane/West Town lane junction to be excessive. Now nearly all bus lanes along the Wells Rd are peak time only.

We feel that there currently is rarely any traffic to justify any form of bus lane south of the New Fosseway Rd junction on the north bound side. Mostly traffic queuing at peak time occurs up to the Petherton Rd junction. This bus lane provides no positive gain for public transport currently, so we propose this does not proceed.

Between Petherton Rd and New Fosseway Rd the Wells Rd (north bound) rarely sees congestion. There is on-road parking at this point which is often used by commuters during the day. At least one resident has raised the concern of how they open and close their gates to their property if there is a bus lane outside their property. We cannot see justification for a 24hour bus lane at this time at this location. We suggest that either there is no bus lane or a morning peak only bus lane. The southbound side of the road is not in our ward but we do note that there is far less on road parking on that side of the road and that congestion often does occur at this point so a bus lane may provide advantage to buses. We currently have a proposal for 2 hour waiting bays to be introduced on the Wells Road in this area and hope this may be included in this scheme.

Bus lane between Hengrove Lane and Petherton Rd junction. We believe that at this time if the council wishes to bring a bus lane in at this point it should be morning peak only on the north bound side. We are concerned that some residents have little to no off road parking in this area and so need to park on the Wells Rd. There seems to be little gain for a south bound bus lane.

Hengrove Area Safety and Traffic Reduction

The council asked a general question on reducing congestion and rat running in the Hengrove Lane and Petherton Road area. This area suffers from a lot of traffic and congestion at peak time.

We expanded on the council's general question to ask specific questions around certain measures although we were not able to explain these in detail.

On the question "do you agree there is too much traffic in the area and some action should be taken to reduce it" 58% agreed or were neutral and 42% disagreed. There was agreement from the survey that traffic, congestion, and pollution in the Hengrove area is a problem and that action should be taken to reduce it.

What is clear is that one measure alone would not work and that a combination would be needed. We were not able to consult on this. We believe there is a strong case to go back to people in the area and consult on this in more detail to see if there is a way to reduce congestion and pollution within the community.

A37 Park and Ride

The delivery of a new park and ride along the A37 is in the regional transport strategic plan but little progress on delivery of this has been made. We strongly feel this should be one of the first interventions pursued by WECA and the local authorities. Whether one facility at Whitchurch village or two or three smaller ones along the villages on the A37 (our preferred solution), this could deliver real reduction in traffic along this key and congested route. This proposal was the most popular within our survey with 79% agreeing or neutral to just 21% disagreeing. Change along the A37 corridor should also deliver a Park and Ride and we ask Bristol City Council to promote this as a priority scheme.

In conclusion we believe the delivery of safe pedestrian crossing facilities to be the priority change and an acceleration of a park and ride facility along the A37 to be a priority. We would ask the council to rethink some of the proposed bus lanes and the operating hours as well as the impact of some of the turn bans on the Wells Rd/West Town Lane junction. We ask for a further consultation and more detailed plans for traffic reduction in the Hengrove area to be consulted on for the future.

Cllrs Andrew Brown, Sarah Classick and Tim Kent

Consultation on improvements to the number 2 bus route (A37/A4018)

Have your say



Bristol City Council is asking for your views on the proposed improvements along the A37/A4018 following the number 2 bus route.

In 2020 we asked for your suggested improvements to this route. We have considered these and now want your feedback on our proposed designs. Find out more about the proposals and have your say at: www.travelwest.info/A37A4018

Please comment by **28 January 2022**

Why we are making changes

Over the last 10 years we have made changes to the road network to improve bus journey times and to encourage more walking and cycling. With the climate emergency and 2030 carbon neutral targets we need to propose radical changes to the road network that will make real differences to transform bus travel and encourage cycling and walking.

A key focus of this project is to develop and improve bus services for the city. Buses are an essential service getting people to school, college or university, work, sport and leisure activities and they play an important role in connecting people and communities. Through radical changes to bus infrastructure, we aim to achieve shorter journey times and increased reliability on bus travel.

The A37/A4018 route

The route starts in Cribbs Causeway and travels through Henbury, Southmead and Westbury and heads south on the A4018, down Park Street and into Cabot Circus. It passes Temple Meads and travels along the A37 through Windmill Hill, Knowle and Hengrove finishing in Stockwood.

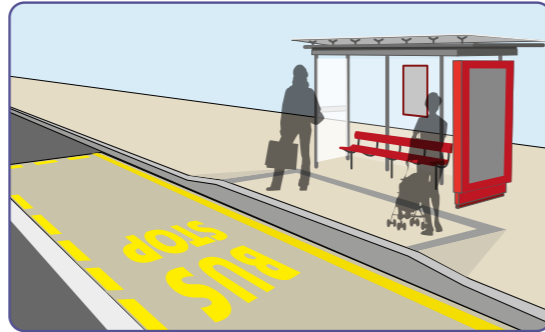
Improvements to this route will also benefit the number 1,3 and 4 bus services that use part of this route.

Proposed transport improvements

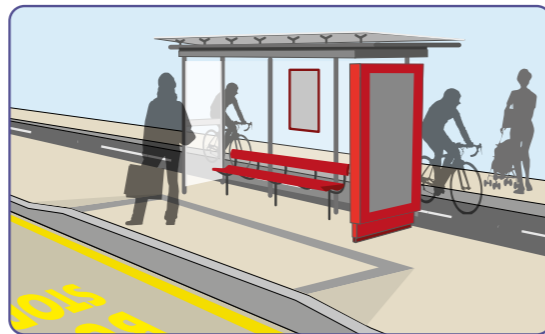
To help you understand our proposals we have divided the route into three areas: **North**, **Central** and **South**. This booklet details the **central section** which starts at the bottom of Whiteladies Road, down Park Street, through Cabot Circus, over Bristol Bridge, along Victoria Street, past Temple Meads and onto Bath Bridges.

This booklet highlights the main areas in the central section using indicative maps where we are proposing to make substantial changes. We are also proposing to make smaller general transport improvements across the entire route. These include:

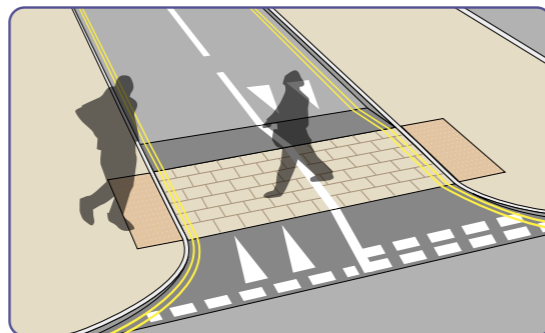
- Upgrade of bus stops



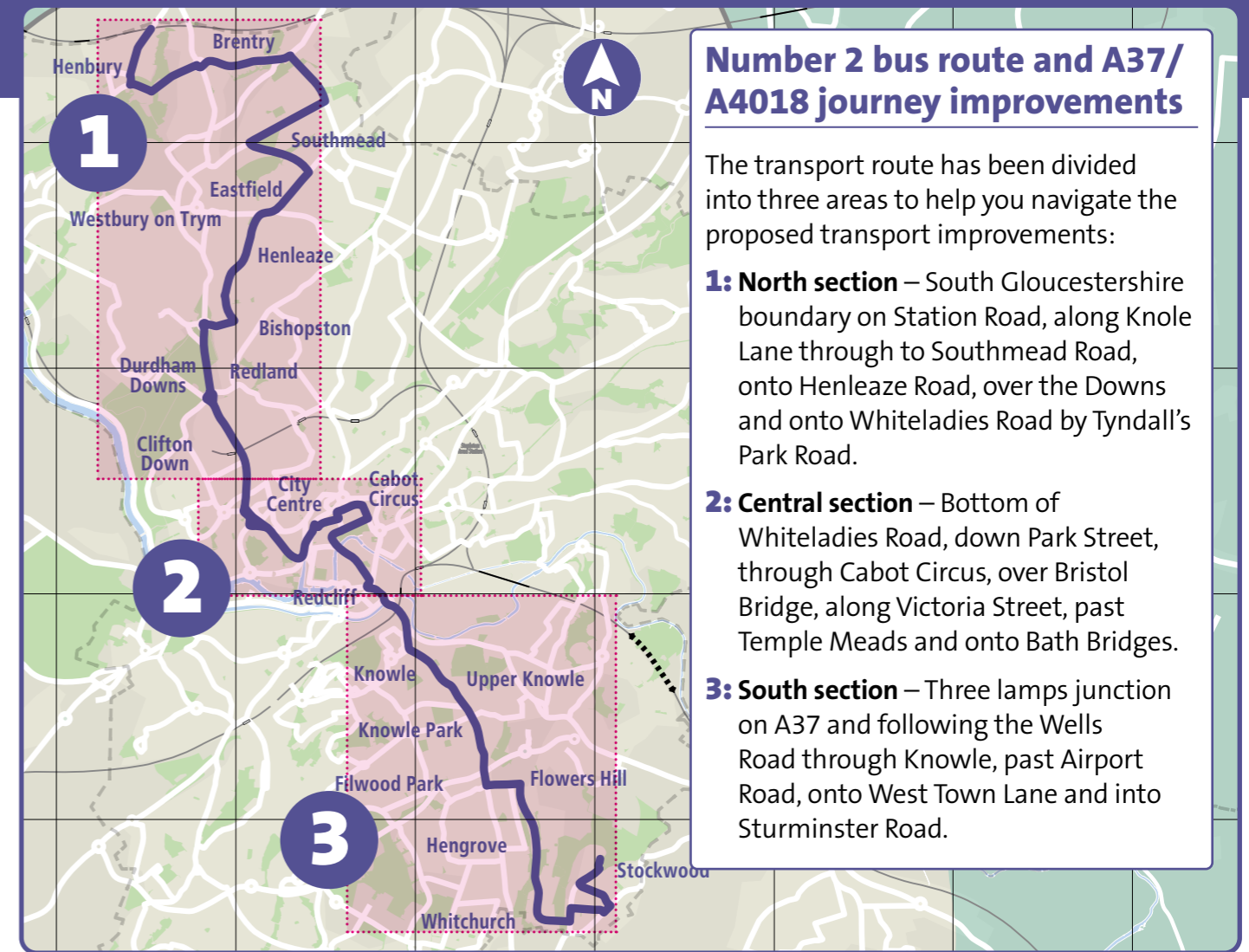
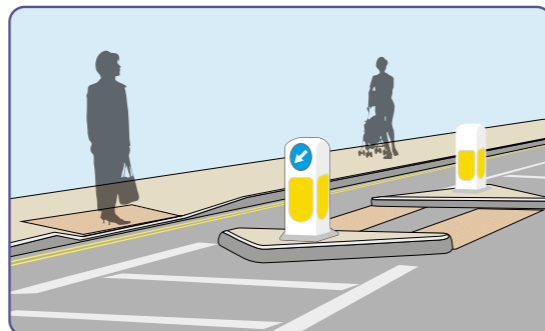
- Floating bus stops



- Continuous footways

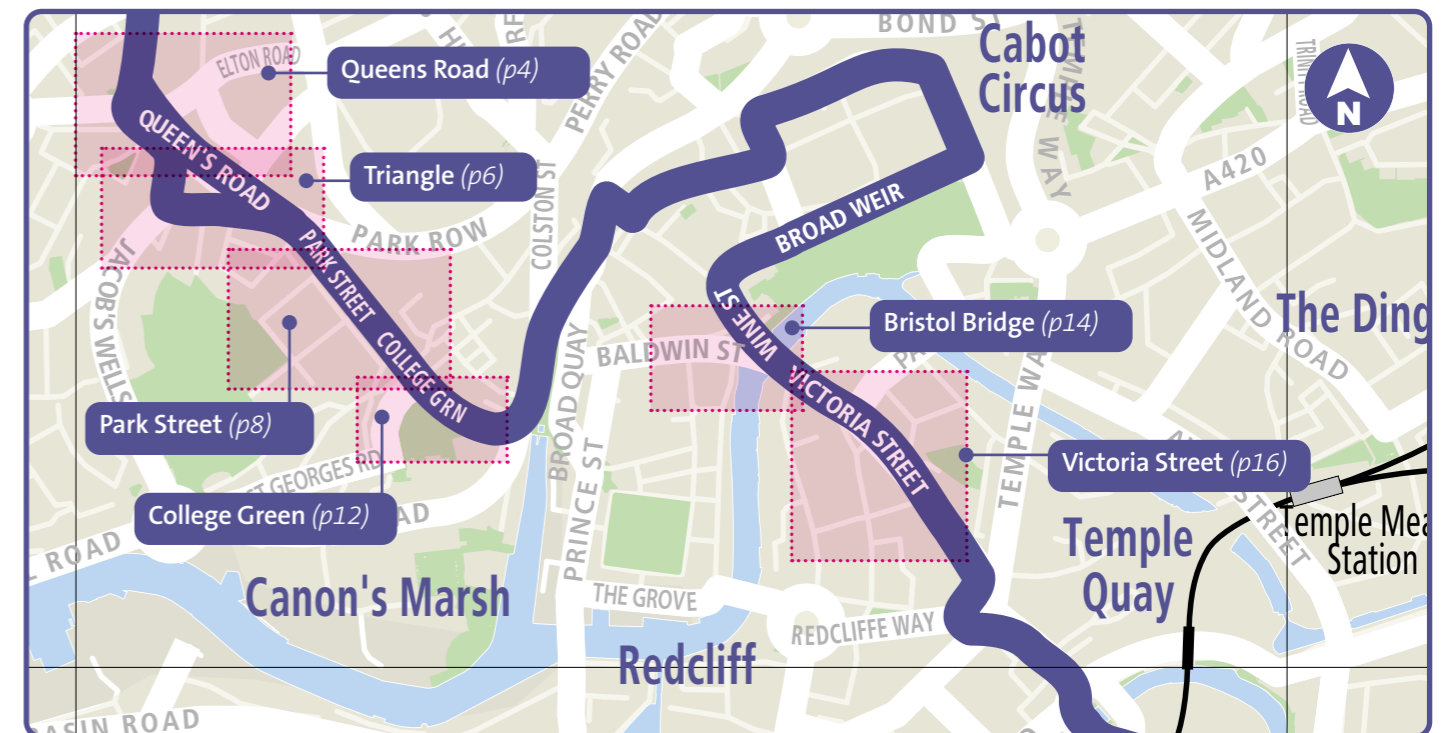


- Improvement of crossings where possible

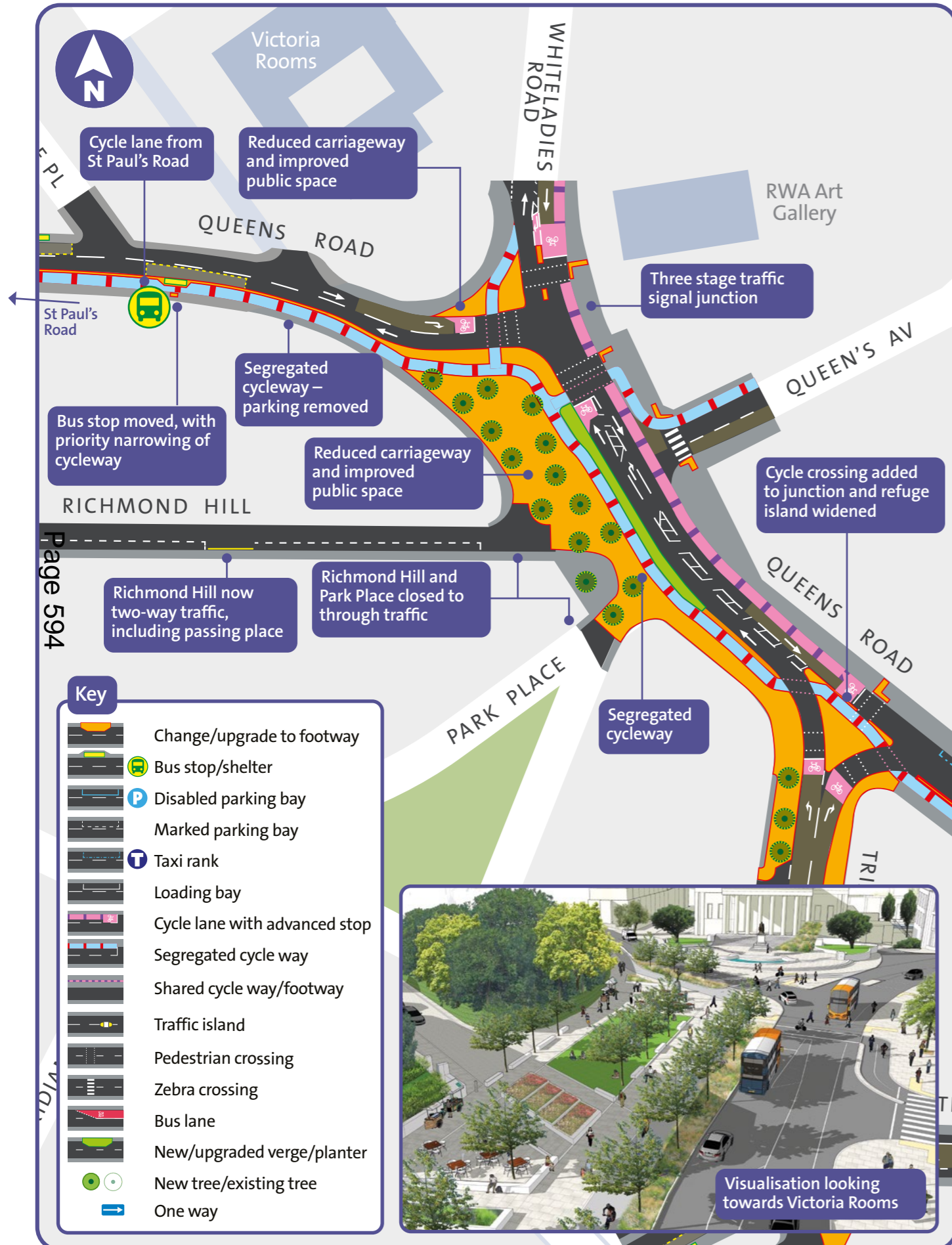


Number 2 bus route and A37/A4018 central section

This booklet includes detailed plans of the areas highlighted below.



Queens Road – proposed changes



Queens Road – proposed main changes*

*Please refer to map to see all the proposed changes for this area

What are we proposing?

- A new three stage traffic signal at the Whiteladies Road/Queens Road junction.
- Closing Richmond Hill and Park Place to traffic at the junction with Queens Road to allow for more public space and landscaped areas.
- A new cycle lane along Queens Road from St Paul's Road, past Queen's Avenue.

Why are we proposing this?

Responses to the previous engagement asked for a segregated cycle lane.

There is also a need to improve bus movement from Queens Road to Whiteladies Road which is currently delayed by a busy zebra crossing and giving way to vehicles circulating the junction. The redesign of the junction would allow a large public space to be created for use by pedestrians.

To what extent do you agree or disagree with the proposed transport changes to Queens Road?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

If you would like to tell us why you agree or disagree, or if you would like to suggest any changes to the proposals, please do so using the textbox below:

Triangle – proposed changes



Triangle – proposed main changes*

*Please refer to map to see all the proposed changes for this area

What are we proposing?

- A new cycle lane continuing from Queens Road and joining the junction of Triangle West/Queens Road to allow cyclists to reach the new cycle lane on the west side of Queens Road at the top of Park Street.
- A bus gate at the top of Park Street to redirect the movement of traffic down Park Row. The bus gate would maintain access to Park Street for buses, taxis, motorcyclists, HGVs (over 7.5 tonnes) and cycles only.
- Berkeley Avenue closed to general traffic.
- Proposed new bus stops at the top of Jacobs Wells Road.

Why are we proposing this?

Responses to the previous engagement asked us to provide a segregated cycle lane. Our proposals would result in a fully segregated cycle lane from Malborough Street (near Broadmead) to Queens Road, joining up with segregated cycleways between Queens Road and Park Row at the Triangle.

We were also asked to consider removing car traffic from Park Street to make it easier for buses and to reduce pollution and enable cyclists and pedestrians to have a more pleasant journey. The bus gate at the top of Park Street would give priority to public transport, giving buses faster and more reliable access from and to the central area.

To what extent do you agree or disagree with the proposed transport changes to the Triangle?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

If you would like to tell us why you agree or disagree, or if you would like to suggest any changes to the proposals, please do so using the textbox below:

Park Street – main proposal



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Park Street – main proposal*

*Please refer to map to see all the proposed changes for this area

What are we proposing?

- Park Street Avenue closed at both ends to stop rat running between Park Row and Park Street and to provide the opportunity for public space.
- A widened footway on the east side of Park Street made possible by the proposed bus gate restricting general traffic to Park Street from the top.
- Parking moved to the west side of the street to make conditions safer for cyclists travelling down Park Street.
- Visiting and local traffic would still be able to access Park Street, but only from St Georges Road.

Why are we proposing this?

The closure of Park Street and College Green to through traffic would result in less traffic, whilst still allowing full access by alternative routes. Less traffic would allow for the narrowing of the road and the widening of the eastern footway to create additional space for pedestrians, planting, and seating areas. The movement of traffic would be made one way in a clockwise direction to reduce collisions at the junctions, on Great George Street and Charlotte Street with Park Street. Footpaths would be widened at specific crossings on Park Street to make it safer and easier to cross the road.

Please tell us the extent to which you agree or disagree with the overall proposed transport changes for Park Street:

- Strongly agree Neither agree nor disagree Strongly disagree
 Agree Disagree

Please tell us how important to you each of the following proposed transport changes for Park Street are:

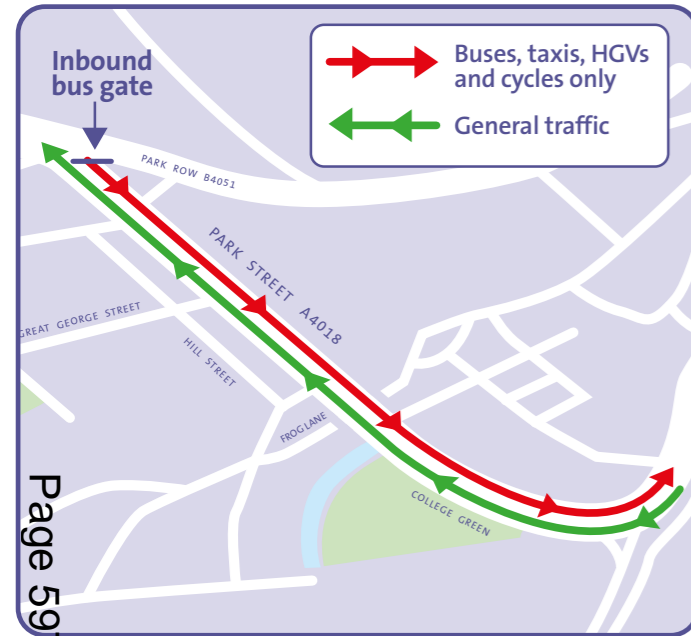
	High importance	Medium importance	Low importance
● Berkeley Avenue section closure for motorised vehicles and public space improvements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Park Street Avenue closure for motorised vehicles and public space improvements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● One way system for Great George and Charlotte Street	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Continuous footpaths for pedestrian priority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Cycle parking at carriageway level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Footway widened for public space improvements (seating/planters)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Parking moved to uphill side to improve cycle safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Additional tree planting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Park Street – alternative options

As Park Street is a pivotal section of the number 2 bus route, we have presented a few alternative options to installing a bus gate at the top of Park Street for your consideration:

Alternative option 1: One way northbound

Rather than a bus gate restricting general traffic in both directions on Park Street, we could install a bus gate only restricting traffic inbound from the north.



Pros

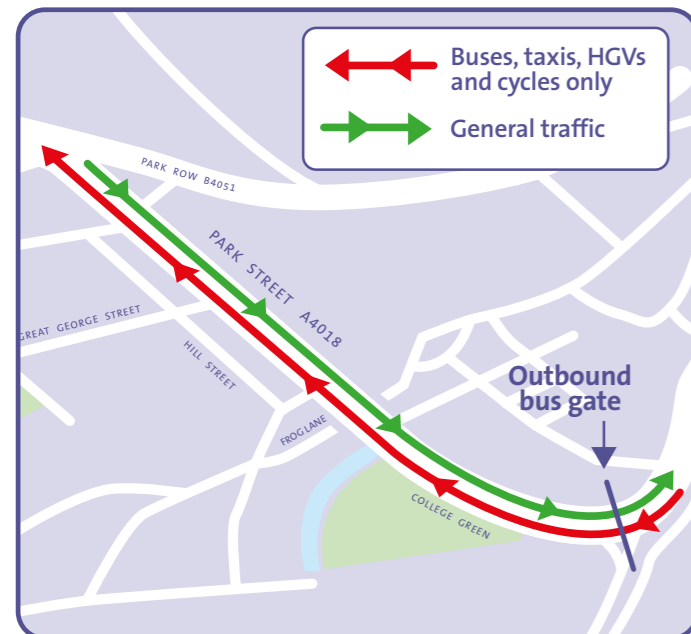
- Inbound priority for buses, taxis and cycles only
- Outbound general traffic facility

Cons

- Buses delayed with outbound general traffic
- No improvement for outbound cyclists
- Pedestrian benefits reduced with limited removal of traffic
- Public space benefits reduced with limited reduction in traffic
- Air quality benefits reduced with limited reduction in traffic
- Widened eastern footway compromised due to higher traffic volumes

Alternative option 2: One way southbound

Rather than a bus gate restricting general traffic in both directions on Park Street, we could install a bus gate only restricting traffic outbound from the south.



Pros

- Outbound priority for buses, taxis and cycles only
- Inbound general traffic facility

Cons

- Buses delayed with inbound general traffic
- No improvement for inbound cyclists
- Pedestrian benefits reduced with limited reduction of traffic
- Public space benefits reduced with limited reduction in traffic
- Air quality benefits reduced with limited reduction in traffic
- Widened eastern footway compromised due to higher traffic volumes

Alternative option 3: Bus lane southbound from Park Street Avenue to Unity Street

Rather than a bus gate restricting general traffic in both directions on Park Street, we could install an inbound bus lane.



Pros

- Inbound and outbound general traffic facility
- Inbound Bus priority between Park Street Avenue and Unity Street

Cons

- Widened eastern footway not possible
- Inbound buses subject to delay after Unity Street. No bus priority provided for outbound buses
- Car parking resource removed
- No improvement for outbound cyclists
- Pedestrian benefits removed with no reduction of traffic
- Public space benefits removed with no reduction in traffic
- Air quality benefits removed with no reduction in traffic

Please tell us whether you prefer the main proposal to install a bus gate at the top of Park Street or one of the alternative options

- **Main Proposal** – to install a bus gate at the top of Park Street (HGVs also allowed)
- **Alternative Option 1** – A bus gate allowing only buses, taxis, motorcyclists, HGVs and cycles access southbound on Park Street. Unrestricted access to northbound general traffic.
- **Alternative Option 2** – A bus gate allowing only buses, taxis, motorcyclists, HGVs and cycles access northbound on Park Street. Unrestricted access to southbound general traffic.
- **Alternative Option 3** – A bus lane with southbound priority between Park Street Avenue and Unity Street.
- **Alternative Option 4** – No changes made

If you prefer one of the alternative options to a bus gate at the top of Park Street, or if you have any other suggestions, please tell us using the text box below:

College Green – proposed changes



College Green – proposed main changes*

*Please refer to map to see all the proposed changes for this area

What are we proposing?

- Continuous footway on Unity Street junction.
- A bus gate allowing buses, taxis, Motorcyclists, HGVs (over 7.5 tonnes) and cycles only up Park Street.
- The left turn from Canons Road onto College Green would be removed.

Less traffic would allow us to expand the public space available on Park Street and help increase its status as a destination within the city.

The College Green/Canons Road/St Augustines Parade junction would be remodelled to account for the left turn from Canons Road being removed.

Responses to the previous engagement asked us to improve pedestrian facilities by reallocating road space at this junction. We are proposing an improved crossing and waiting area as the numbers of pedestrians and cyclists is extremely high.

Why are we proposing this?

The bus gate at the top of Park Street would remove through traffic and prioritise public transport, cycling and walking.

To what extent do you agree or disagree with the proposed transport changes to College Green?

- | | |
|---|--|
| <input type="checkbox"/> Strongly agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Strongly disagree |
| <input type="checkbox"/> Neither agree nor disagree | |

If you would like to tell us why you agree or disagree, or if you would like to suggest any changes to the proposals, please do so using the textbox below:

Victoria Street/Bristol Bridge – proposed changes



Victoria Street/Bristol Bridge – proposed main changes*

*Please refer to map to see all the proposed changes for this area

What are we proposing?

- The Bristol Bridge/Baldwin Street/High Street junction would no longer require traffic signals, although a signalised pedestrian crossing would be included between Castle Park and Baldwin Street.
- A new cycle lane over Bristol Bridge in addition to the existing bus gates.
- Floating bus stops in front of the cycle lane on Victoria Street and pedestrian and cycle priority at Redcliff Street junction.
- The right turn into Victoria Street from Counterslip junction would be removed and connection crossings for pedestrians and cyclists provided.

Why are we proposing this?

In July 2021 the bus gate system in and around Bristol Bridge was made permanent which stopped through traffic travelling along Baldwin Street, High Street and over Bristol Bridge. The proposals for this section build on the space created and make it better for public transport, pedestrians and cyclists. The junction would be de-signalised for motor traffic other than a signalised crossing for pedestrians and cyclists.

Responses to the previous engagement asked us to provide segregated cycle lanes along the route. Our proposals include a segregated cycle lane on the western side of the bridge. The cycle lane is continued along the western side of Victoria Street to connect to the existing cycle lane at Temple Meads.

To what extent do you agree or disagree with the proposed transport changes to Victoria Street/Bristol Bridge?

- | | |
|---|--|
| <input type="checkbox"/> Strongly agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Strongly disagree |
| <input type="checkbox"/> Neither agree nor disagree | |

If you would like to tell us why you agree or disagree, or if you would like to suggest any changes to the proposals, please do so using the textbox below:

Victoria Street – proposed changes



Victoria Street – proposed main changes*

*Please refer to map to see all the proposed changes for this area

What are we proposing?

- A cycle lane, continuous and new widened footways, with loading bays and disabled bays along the west side of Victoria Street.
- New floating bus stops would allow the cycle lane to run behind.
- Continuous footways and narrowing of junctions at Temple Street and Church Lane allowing for increased public space.
- Remove existing outbound bus lane to reflect new low traffic street.

Why are we proposing this?

The removal of traffic from Bristol Bridge allows the cycle lane to be continued. The additional public space will be used to provide seating in an area that has many offices and a busy lunch-time economy.

Widened and continuous footways over junctions make this a safer and more pleasant space, with increased public space opportunity.

To what extent do you agree or disagree with the proposed transport changes to Victoria Street?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

If you would like to tell us why you agree or disagree, or if you would like to suggest any changes to the proposals, please do so using the textbox below:

About you

We would like to receive feedback from people with as wide a variety of views and needs as possible in Bristol.

It would be very helpful if you could complete the following 'About You' questions. This will help us ensure that no-one is discriminated against unlawfully. All questions are optional. You do not have to answer any of them if you prefer not to.

Information provided will be treated in the strictest confidence and in accordance with the General Data Protection Regulation (GDPR). Personal and sensitive information will be used solely for the purpose of equalities monitoring to ensure that everyone is treated fairly.

Our privacy policy, which explains how we will process your personal information, how long we will retain it and your rights as a data subject is available at Bristol.gov.uk/resourcesprivacy.

Please answer the questions below by ticking the boxes that you feel most describes you.

1. What is your full postcode, e.g. BS9 3JZ

If you are responding on behalf of a business or other organisation, please provide the postcode of the organisation's premises in Bristol.

2. What is your age?

- | | | |
|--------------------------------|--------------------------------|--|
| <input type="checkbox"/> 10–10 | <input type="checkbox"/> 25–34 | <input type="checkbox"/> 65–74 |
| <input type="checkbox"/> 11–15 | <input type="checkbox"/> 35–44 | <input type="checkbox"/> 75–84 |
| <input type="checkbox"/> 16–17 | <input type="checkbox"/> 45–54 | <input type="checkbox"/> 85 + |
| <input type="checkbox"/> 18–24 | <input type="checkbox"/> 55–64 | <input type="checkbox"/> Prefer not to say |

3. Do you consider yourself to be a disabled person?

- Yes
 No
 Prefer not to say

4. What is your sex?

- Female Prefer not say
 Male Other (please describe):

5. Have you gone through any part of a gender reassignment process or do you intend to?

- Yes
 No
 Prefer not to say

6. What is your ethnic group? (please tick one box only)

- | | | |
|--|---|---|
| <input type="checkbox"/> White British | <input type="checkbox"/> Asian/Asian British | <input type="checkbox"/> Any other ethnic background (please describe): |
| <input type="checkbox"/> White Irish | <input type="checkbox"/> Mixed/Multi ethnic group | <input type="text"/> |
| <input type="checkbox"/> White Other | <input type="checkbox"/> Gypsy/Roma/Irish Traveller | |
| <input type="checkbox"/> Black/African/Caribbean/Black British | <input type="checkbox"/> Prefer not to say | |

7. What is your sexual orientation?

- | | | |
|--|--|---|
| <input type="checkbox"/> Bisexual | <input type="checkbox"/> Heterosexual/Straight | <input type="checkbox"/> Other (please describe): |
| <input type="checkbox"/> Gay Man | <input type="checkbox"/> Prefer not to say | <input type="text"/> |
| <input type="checkbox"/> Gay Woman/Lesbian | | |

8. What is your religion/faith?

- | | | |
|--------------------------------------|---------------------------------|---|
| <input type="checkbox"/> No Religion | <input type="checkbox"/> Jewish | <input type="checkbox"/> Prefer not to say |
| <input type="checkbox"/> Buddhist | <input type="checkbox"/> Muslim | <input type="checkbox"/> Other (please describe): |
| <input type="checkbox"/> Christian | <input type="checkbox"/> Pagan | <input type="text"/> |
| <input type="checkbox"/> Hindu | <input type="checkbox"/> Sikh | |

9. Are you pregnant or have you given birth in the last 26 weeks?

- Yes
 No
 Prefer not to say

10. Are you a refugee or asylum seeker?

- Yes
 No
 Prefer not to say

11. We want to make sure our surveys are as good as possible. Please tell us if you agree or disagree with the following statements:

There is enough information for me to answer the questions

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

The questions make it easy for me to give my views

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

The survey meets my accessibility needs

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

If you would like to receive updates and more information about this project, please give your email address below

Information you provide will be treated confidentially and in accordance with the Data Protection Act 1998 and General Data Protection Regulation (GDPR) (EU) 2016/679. Your contact details will be used solely for the purpose of keeping you informed about the outcome of this consultation and future transport consultations if you have ticked the box to request this. Our privacy policy explains what we do with your personal information, how long we keep it and your right to withdraw your consent at any time you choose.

I would like to receive updates and more information about this project and I consent to my contact details being used for this purpose as defined in Bristol City Council's privacy policy.

If you would like to be kept informed, please provide your email address:

Email address:

Address:

You can complete this survey online at:
www.travelwest.info/A37A4018

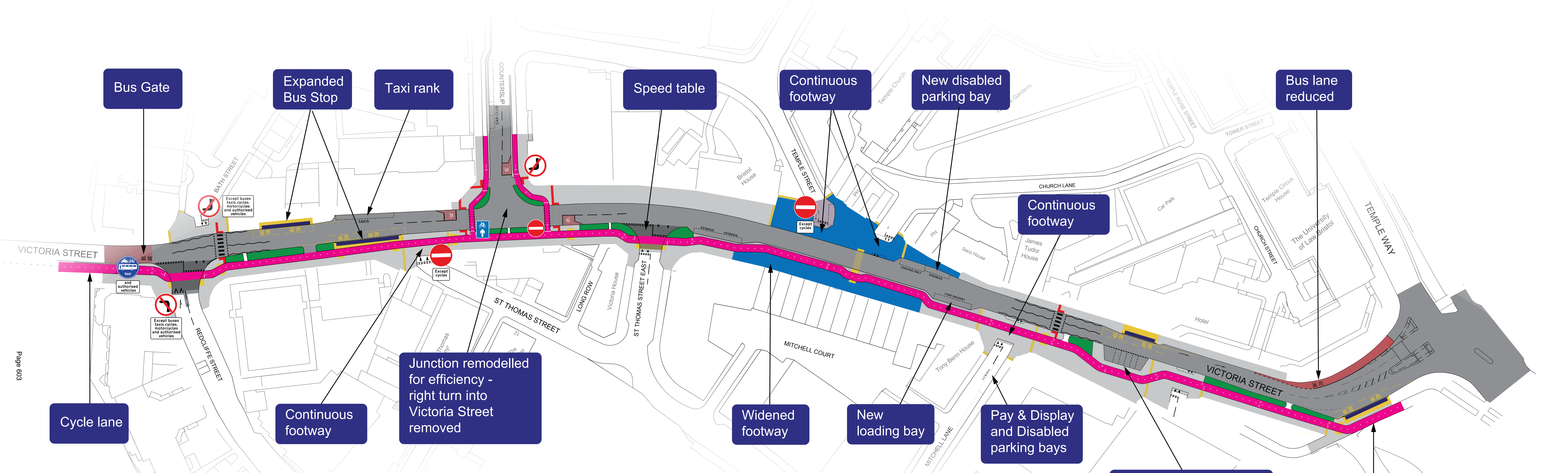
Alternatively please return this booklet in the freepost envelope which accompanies it.

If you have a comment or question please email us on **transport.engagement@bristol.gov.uk** or phone **0117 903 6499** and leave your name and contact details on the answerphone, and we will arrange to call you back.

Please let us have your feedback by
28 January 2022.

If you would like this information in another language, Braille, audio tape, large print, easy English, BSL video or CD rom or plain text please contact us by emailing **transport.engagement@bristol.gov.uk** or calling **0117 903 6499**.





Bus Gate

Expanded Bus Stop

Taxi rank

Speed table

Continuous footway

New disabled parking bay

Bus lane reduced

Cycle lane

Continuous footway

Junction remodelled for efficiency - right turn into Victoria Street removed

Widened footway

New loading bay

Pay & Display and Disabled parking bays

Electric vehicle charging taxi bays and disabled parking

New segregated cycle lane to be joined to existing one

KEY

- Road surface to be resurfaced
- Raised table
- Pavement (natural grey pavers)
- Pavement (stone setts)
- Landscaped areas
- Bus Stop area
- Tactile block paving (red controlled crossings, buff at uncontrolled crossings)
- Grey ribbed cycleway paving
- Cycle path

BD15780

Risk Register	Project Name: A37/A4018 Victoria St & Colston Avenue
	Project Manager: Thor Sever
	Date last updated: 26.04.2023

Key: Type: C (Construction); D (Design); E (Environmental); F (Financial); M (Management); P (Political); O (Operational); T (Technical); U (Utilities);

Probability: 1 (very unlikely); 2 (unlikely); 3 (equally likely/unlikely); 4 (likely); 5 (very likely)

Cost Impact: 1 (cost increase of up to 1% or £10k); 2 (cost increase between 1 and 5% or between £10k and £50k); 3 (cost increase between 6 and 15% or between £50k and £250k); 4 (cost increase between 16 and 25% or between £250k and £500k); 5 (cost increase greater than 25% or over £500k)

Delivery impact: 1 (Delays of up to 3 months); 2 (Delays of between 3 and 6 months); 3 (Delays of between 6 and 9 months); 4 (Delays of between 9 and 12 months); 5 (Delays of greater than 12 months)

Priority: 1- 4 (very low); 5-9 (low); 10-14 (medium); 15-19 (high); 20-24 (very high); 25 (critical)

Response (to risks): Avoid; Reduce; Fallback; Transfer; Accept; Share; or a combination

Response (to opportunities): Share; Exploit; Enhance; Reject; or a combination

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Risk ID	Type	Description	Original				Date Identified	Date Updated	Response (may be more than one)	Mitigation (may be more than one)	Residual				Risk owner	Mitigation owner	Notes	Status	Related Issue ID
			Probability	Cost Impact	Delivery Impact	Priority					Probability	Cost Impact	Delivery Impact	Priority					
R001	F (Financial)	Insufficient funding for current project stage (currently £190k approved by Change request March 2023)	2	2		4	19/09/2022	Reduce	PM to complete Change Request and submit to WECA if necessary to obtain extra funds to complete business case	1	1		1	BCC PM	BCC PM		Closed		
R002	F (Financial)	Insufficient funding for whole project (Currently esitimated below 6 million allocated in CRSTS & Local Contributions)	4	5	2	28	19/09/2022	Reduce	Complete funding requirement will only be known on completion of FBC. Current £6million funding envelope based on 2021 HAWWF costs with significant contingency. Opportunity for WECA to consider increased funding for the project from exisiting corridor budget or programme wide CRSTS budget	3	4	1	15	BCC SRO	BCC PM		Open		
R003	M (Management)	Project programme longer than funding window (Funding is CRSTS 2022 - 2027)	4	4	4	32	19/09/2022	Reduce	At present the construction is targeted to complete in August 2026. 1. To minimise likelihood, strong Schedule adherence techniques to be utilised. 2. to minimise the impact, programme to be kept up to date and WECA informed of overall end dates regularly.	3	2	3	15	BCC PM	BCC PM		Open		
R004	M (Management)	Insufficient capacity in the supply chain for the current project stage	2	2	1	6	19/09/2022	Reduce	The current project stage is already adequately resourced within BCC and via Atkins for FBC production so low risk	1	1	1	2	BCC SRO	BCC PM		Open		
R005	M (Management)	Insufficient capacity in the supply chain for the whole project	3	4	4	24	19/09/2022	Accept	Resource available within the supply chain cannot be confirmed until the civil engineering contract is put out to tender following FBC production. This is one of the first CRSTS projects to reach potetnail delivery stage within the region thereby getting ahead of a potetnail competition for suppliers across the programme later on.	3	3	3	18				Open		
R006	F (Financial)	Project cannot secure assigned funding through the WECA Grant Assurance & Business Case process. This could be for reasons including lack of suitability with the Dft's TAG / WECA's Grant Assurance guidance on appraisal, or the project is not transformational enough to realise clear benefits at BCR ratio of 2:1.	3	3	5	24	19/09/2022	Reduce	The DFT's TAG and WECA's guidance on appraisal is not within the controls of the project. To ensure the project is consistent with these conditions the project team has produced an ASN, which was approved by WECA Grant Assurance in June. There will be ongoing communication between the BCC PM and WECA about the requirements of WECA Grant Assurance. A draft FBC will be submitted to WECA Grant Assurance ahead of BCC Cabinet and WECA Key Decision approvals.	2	3	3	12	BCC SRO	BCC PM		Open		
R007	P (Political)	Political approval process might take longer than allowed for in the programme.	4	3	5	32	19/09/2022	Reduce	A key decision pathway plan has been agreed within BCC setting out key meeting dates. Some slack has been included to allow for delays. Current project plan is targetting BCC February Cabinet, however, going to March BCC Cabinet would still keep within the Dft reported targets	3	3	3	18	BCC PM	BCC PM		Open		
R008	M (Management)	Risk of project duration being extended if BCC decision pathway on OBC and WECA grant assurance process' can not be aligned	4	2	3	20	19/09/2022	Reduce	WECA to consider streamlining approach as part of CRSTS delivery review. BCC PM to communicate with WECA programme manager about the streamlining of processes. BCC PM to seek approval from senior officers to progress BCC key decision pathway simultaneously to the WECA Grant Assurance process	3	1	2	9	WECA PM	BCC PM		Open		
R009	M (Management)	Lack of support on the project proposals from bus operating companies	4	3	4	28	19/09/2022	Avoid	Bus Operators have been consulted and have expressed approval for the proposals	1	1	1	2	BCC PM	BCC PM		Open		

R010	M (Management)	Lack of stakeholder support for proposals (taxi forum, The Disability & Equality Forum etc.) - could impact on the programme of the project through design amendments.	4	3	5	32	19/09/2022	Reduce	Specific consultations will be made with affected stakeholder groups ahead of statutory consultation	3	2	3	15	BCC PM	BCC PM	Open
R011	M (Management)	Internal priority conflicts over transport projects emerges then the A37/A4018 Victoria St and Colston Ave project may become delayed whilst other projects are prioritised. This could cause delay to the programme	3	2	3	15	19/09/2022	Reduce	Work closely with other BCC PM's to ensure a wider understanding of priorities in service area. Utilise internal processes to plan priorities and escalate issues as appropriate. Regularly update the project programme to ensure accurate reporting and flagging of any issues in the Monthly Highlight Report .	2	1	2	6	BCC Programme Manager	BCC PM	Open
R012	C (Construction)	Inadequate Traffic Management during the construction process could lead to reduced road safety, increased highway user complaints, need to implement additional Temporary Traffic Management measures. Risk of officer time being taken up by complaints, and increased cost of TTM	3	3	3	18	19/09/2022	Avoid	BCC PM to hold conversations with with internal BCC network management officers to agree acceptable TTM prior to tender process going live. BCC PM to liaise with BCC Eng Design (or design team if other) to ensure adequate TTM plans have been included as part of the tender, and that TTM plans adhere to relevant legislation. Signalised crossings will be maintained to uphold road user safety.	1	1	2	3	BCC Eng Design	BCC PM	Open
R013	C (Construction)	Utilities: Recent works under the highway on Victoria Street have proved complex due to large volume of utilities present. Unforeseen problems with utilities during construction could cause delay to the programme and increase costs	5	5	5	50	19/09/2022	Reduce	Significant investigations to be carried out through detailed design and the C4 process. This will inform what known utility diversions will be necessary. Given the known complexity of utilities in Victoria Street there is still a chance that there may be unforeseens that could lead to increased costs.	4	4	4	32	BCC Eng Design	BCC PM	Open
R014	C (Construction)	Network Availability. In order to deliver the project major roads within the city centre will suffer disruption. The roadspace required for the project will need to be booked with BCC Network Management as they will need to co-ordinate these works with other events and works that require roadspace within the city centre whilst keeping the overall network running at an acceptable level.	4	3	5	32	19/09/2022	Avoid	Following confirmation of FBC approvals the required road space will be booked ahead of the programme of works and during the otherwise dead-time whilst the procurement process takes place for the civil contract	3	2	2	12	BCC Eng Design	BCC PM	Open
R015	C (Construction)	Adverse Weather. The project delivery programme is likely to take a minimum 10 months and will probably cross over the autumn/winter period. The programme could suffer delay if adverse weather is experienced.	4	3	4	28	19/09/2022	Reduce	Given the presumed length of the construction programme it will be difficult to schedule works exclusively outside of the winter months, however, activities such as resurfacing will be programmed for months when the temperatures are warmer	3	3	3	18	BCC Eng Design	BCC PM	Open
R016	T (Technical)	Benefit realisation: The FBC for the project needs to show enough benefit for users in relation to the base costs of the project. WECA grant assurance will need to approve the draft FBC - if the potential benefits don't produce an adequate BCR the project may not be able to move forward.	4	3	4	28	19/09/2022	Reduce	Benefit realisation has been estimated in line with DfT guidance. WECA Grant Assurance is given time to consider a draft FBC and recommend changes prior to consideration at BCC Cabinet that allows for any necessary amendments to be made.	3	3	3	18	BCC SRO	BCC PM	Open
R017	M (Management)	Restructuring of the BCC Organisation could result in change in project roles, and potentially a need to resource some project roles externally, which would incur a delay and cost to the project	3	3	3	18	19/09/2022	Accept	The structure of the BCC Organisation is beyond the control of those involved with this project, and therefore it is a risk that must be accepted	3	3	3	18	BCC PM		Open
R018	P (Political)	Approval of FBC by Key Decision Makers: The FBC once approved by WECA Grant assurance will need to be approved at BCC Cabinet and then by WECA at either Directors or Committee meeting. Failure to gain this approval at first time of asking would require a resubmission that would delay the programme Statutory Consultation: The moving, waiting & loading restrictions for the scheme are due to be advertised prior to FBC submission. Following the consultation an objection report will need to be prepared and signed off by BCC. The signing off of this report is dependent on objections to the scheme being answered sufficiently. If the objection report is not signed off then it is unlikely that the FBC would be signed off at BCC Cabinet causing significant delay to the project	3	3	5	24	19/09/2022	Reduce	In order to increase the chances of the FBC being approved Key Decision makers and WECA Grant Assurance will be kept abreast of project development allowing for advice to shape the project in the best way to reduce the chance of the FBC not gaining the required approvals	2	2	3	10	BCC SRO	BCC PM	Open
R019	M (Management)		3	3	4	21	19/09/2022	Reduce	The project has been subject to early engagement (2020) Public Consultation (2021/2022) and a project specific information exercise in 2023. Various Meetings have taken place with scheme stakeholders during this time. Information received has shaped the project which reduces the chances of a negative outcome at Statutory Consultation	2	2	2	8	BCC SRO	BCC PM	Open

R020	D (Design)	Road Safety Audit level 2: pending outcome of the audit the designers response will need to be signed off by our Road Safety Team. Failure to do this will delay Quality Assurance Level 4 sign-off which will in turn delay submission of the FBC and delay the whole programme	3	2	5	21	19/09/2022	10-Oct	Avoid	The project designers have been working to industry standards where possible. The project designs have already been subject to several layers of scrutiny through the BCC internal quality assurance process. At QA stage 4 any expected significant road safety concerns should mostly have been identified through previous scrutiny - any remaining concerns can be accepted or discussed with the road safety team to find a workable solution. A design amendment period is programmed between RSA 2 completion QA4 Board submission to provide a facility for dialogue and change. QA4 awarded 03/10/23	1	1	1	2	BCC Eng Design	BCC PM	Risk avoid	Closed	
R021	D (Design)	QA4: The project will need Quality Assurance level 4 approval (detailed design) to allow a design freeze and accurate costings for the final FBC. Delay to QA4 approval will affect the overall delivery programme.	3	2	5	21	19/09/2022	10-Oct	Avoid	Prior to the QA4 Board an RSA2 and internal stakeholder consultation is carried out which draws out potential concerns and conflict allowing for amelioration of potential issues. At QA stage 4 the philosophy of the design has largely been agreed the main concerns surround the choice of materials and any amendments predicated by the C4 utility process. QA4 awarded 03/10/23	2	1	3	8	BCC PM	BCC PM	Risk avoid	Closed	
R022	F (Financial)	Inflation (General): The UK has been subject to significant inflation in recent years that presents a risk to the project budget.	4	5	4	36	19/09/2022		Accept	Contingency funds will be calculated to allow a budget envelope for inflation that will be accounted for within the QRA and separately with an inflationary uplift. The BCC Highways Framework Contract on which the base costs for the project are estimated has recently agreed a 19% uplift (Sept 2023). This allows for a more informed prediction of price prior to the tender stage. The window between costs estimated within the draft FBC and the tender of the contract is forecast to be less than one year. A separate line to account for construction sector based price inflation may be included within the FBC costs.	3	3	3	18					Open
R023	F (Financial)	Inflation (Construction): Further to the generally high rate of inflation being experienced in the UK the construction sector is experiencing a higher rate of inflation that presents a risk to the project budget.	4	5	4	36	19/09/2022		Accept		3	3	3	18	BCC PM	BCC PM		Open	
R024						0								0					
R025						0								0					

VICTORIA STREET BRISTOL CITY COUNCIL

QCRA RESULTS

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8th November 2023
Eleanor Varu

QCRA Results Slides

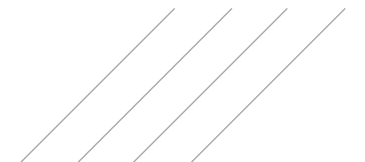
Pre-mitigated and Post-mitigated

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The Quantitative Cost Risk Analysis (QCRA) Process

A Quantitative Cost Risk Analysis is a process which estimates the potential cost impact of the risks already identified in the risk register, by using statistical sampling and (risk) modelling techniques. The process assesses cost certainty of the risks and gives a 'realistic' estimate of the potential cost out-turn. This process is more commonly known as a *Monte Carlo* simulation. This simulation performs Risk Analysis by calculating possible outcomes from the probability and cost impact of each risk in the register. This is performed repeatedly, until 10,000 iterations have been completed.

The simulation then produces a distribution of outcomes values, where a P-value can be drawn. These P-values can be used to give confidence levels of achieving within that cost and can be compared to the project cost (the higher the P-value the more confidence in the figure).



Executive Summary – Current Risks

- A quantitative cost risk analysis was undertaken on the Victoria Street project on 31.10.23. The following results were observed:

Summary outputs from Quantitative Cost Risk Analysis (QCRA)

Project Name: Victoria Street - Current Risks

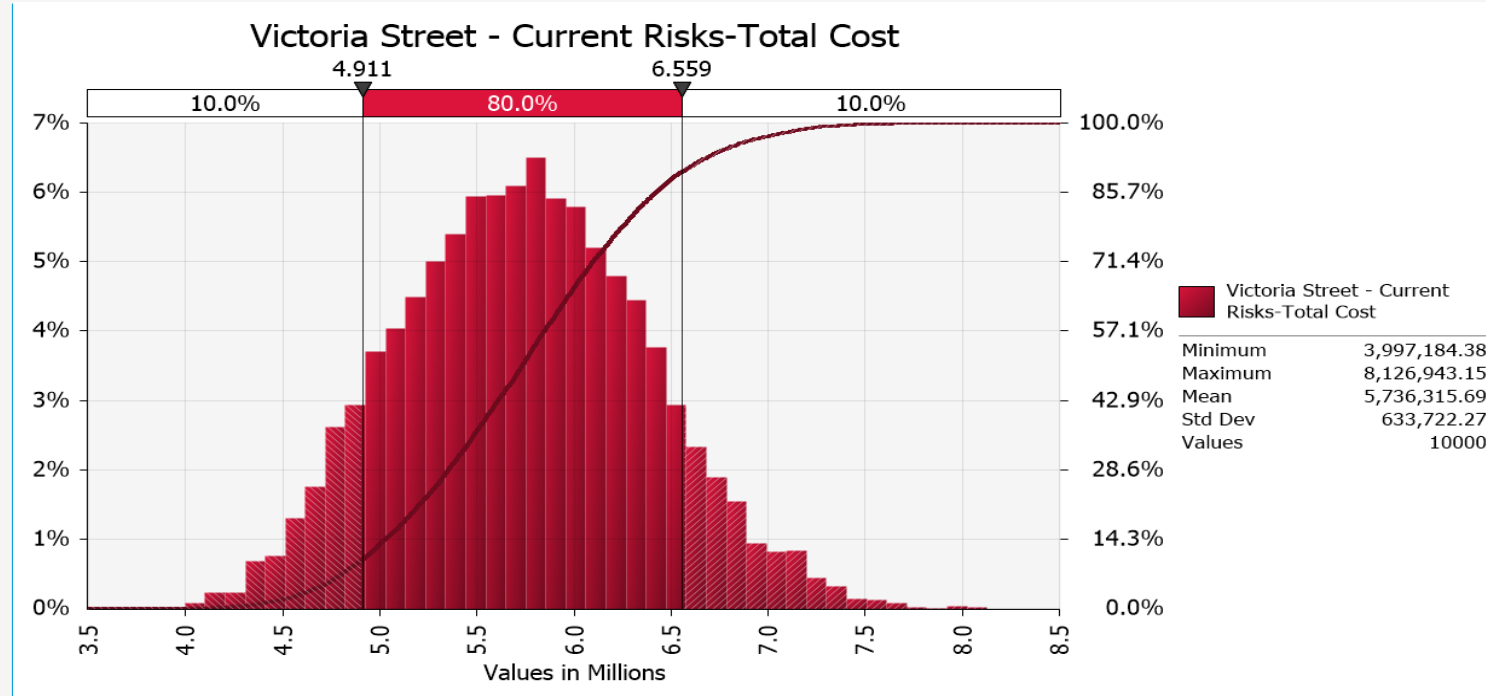


Base Cost	Risk Exposure	Confidence Level					
		Mean	P50*	P80*	P85*	P90*	P95*
	Mean split (EU)	61,043	60,969	79,254	83,328	88,586	96,628
Cost of Work Done (COWD)	Mean split (Discrete Risk)	1,763,232	1,761,102	2,289,256	2,406,938	2,558,808	2,791,093
Costs to Go (CTG)	Mean split (Schedule Delay)	0	0	0	0	0	0
Total Base Cost	Risk - uplift to Base Cost	1,824,275	1,822,071	2,368,510	2,490,266	2,647,394	2,887,721
Probability of achieving within Base Cost	Risk - % of Base Cost	46.6%	46.6%	60.5%	63.7%	67.7%	73.8%
	Risk - % of CTG	48.3%	48.2%	62.7%	65.9%	70.0%	76.4%
	Total AFC	5,736,316	5,734,112	6,280,551	6,402,307	6,559,435	6,799,762

- The forecast AFC at **80%** level of confidence (P80) is **£6.28m**. This includes an uplift of **£2.3m** on the adjusted base cost of **£3.9m** for risk, which represents **60.5%** of base cost.
- The forecast AFC at **50%** level of confidence (P50) is **£5.73m**. This includes an uplift of **£1.8m** on the adjusted base cost of **£3.9m** for risk, which represents **46.6%** of base cost.

Sensitivity Analysis (Tornado Chart) – Current Risk results

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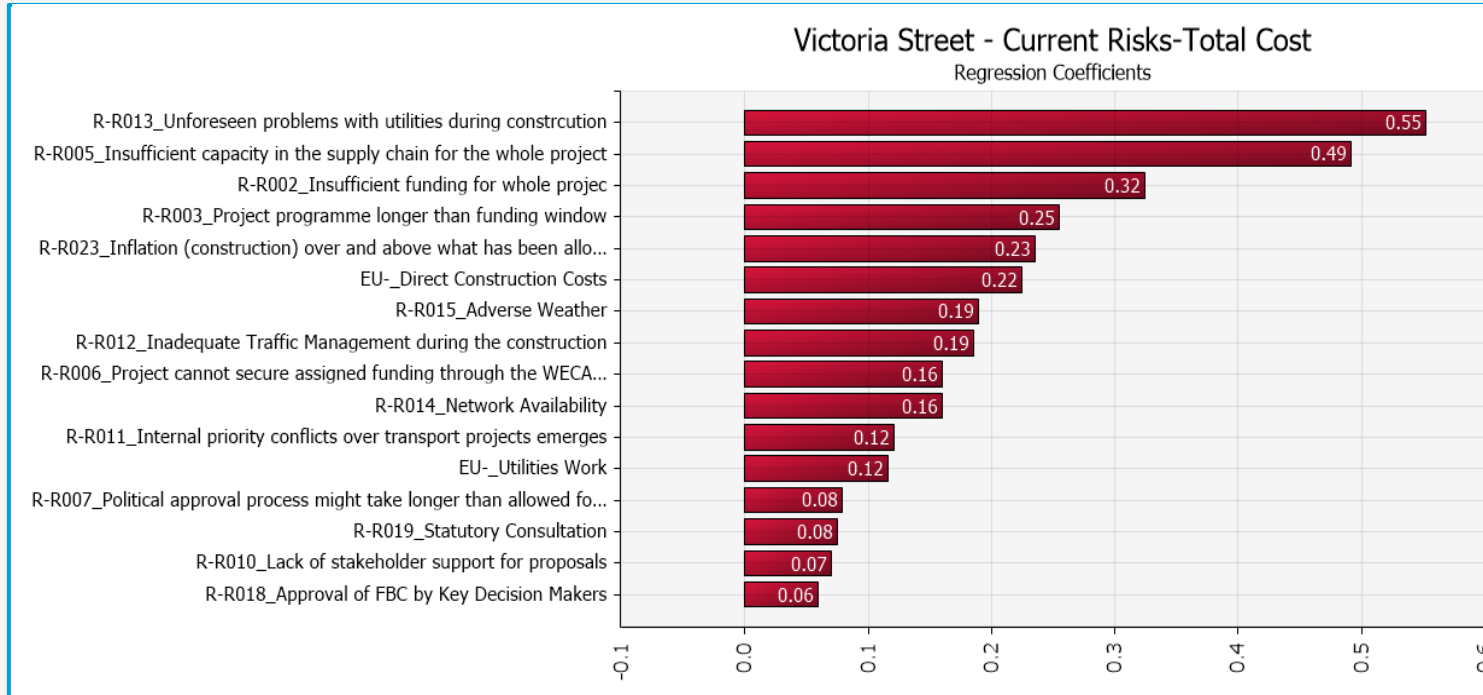
Commentary:

The graph indicates a normally distributed range. This is where the continuous probability distribution is symmetrical on both sides of the mean. Most of the continuous data values in a normal distribution tend to cluster around the mean, and the further a value is from the mean, the less likely it is to occur. Furthermore, the steep s-curve suggests high confidence in the cost risk data.



Sensitivity Analysis (Tornado Chart) – Current Risk results

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Rank	ID	Activity Name / Risk Title
1	R013	Unforeseen problems with utilities during construction
2	R005	Insufficient capacity in the supply chain for the whole project
3	R002	Insufficient funding for the whole project
4	R003	Project programme longer than funding window
5	R023	Inflation (construction) over and above what has been allowed

Commentary:

The Tornado graph identifies which specific variables have the most significant impact on a project's cost outcome.

R013 and R005 are the key driving risks due to their high cost assessments



Key Drivers & Recommendations – Current Risk Results

The key items driving the results are:

- › 1) R013 – Unforeseen problems with utilities during construction
- › 2) R005 – Insufficient capacity in the supply chain for the whole project
- › 3) R002 – Insufficient funding for the whole project

The key recommendation from this study are as follows:

- › 1) For R013, the mitigation actions correctly identify that significant investigations to be carried out through detailed design and the C4 process, as this will inform what known utility diversion will be necessary. It is therefore recommended to review the assessment of this risk once these actions have been completed / addressed and successful, as there will then be a greater understanding and certainty of how this risk will impact the project.
- › 2) For R005, the mitigation actions detail that resource availability within the supply chain cannot be confirmed until the civil engineering contract is put out to tender following FBC production. It is recommended that once the contract is put out to tender, the assessment and mitigation actions should be updated once there is certainty of resource availability.
- › 3) For R002, the mitigation action details that the complete funding requirement will only be known on completion of FBC. It is recommended that once the FBC has been completed and submitted, the assessment and mitigation actions should be revisited and updated.



QCRA Results Slides – Post-Mitigation Risk Results

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Executive Summary – Post-Mitigation Risks

- A quantitative cost risk analysis was undertaken on the Victoria Street project, on 31.10.23. The following results were observed:

Summary outputs from Quantitative Cost Risk Analysis (QCRA)

Project Name: Victoria Street - Post-Mitigation Risks

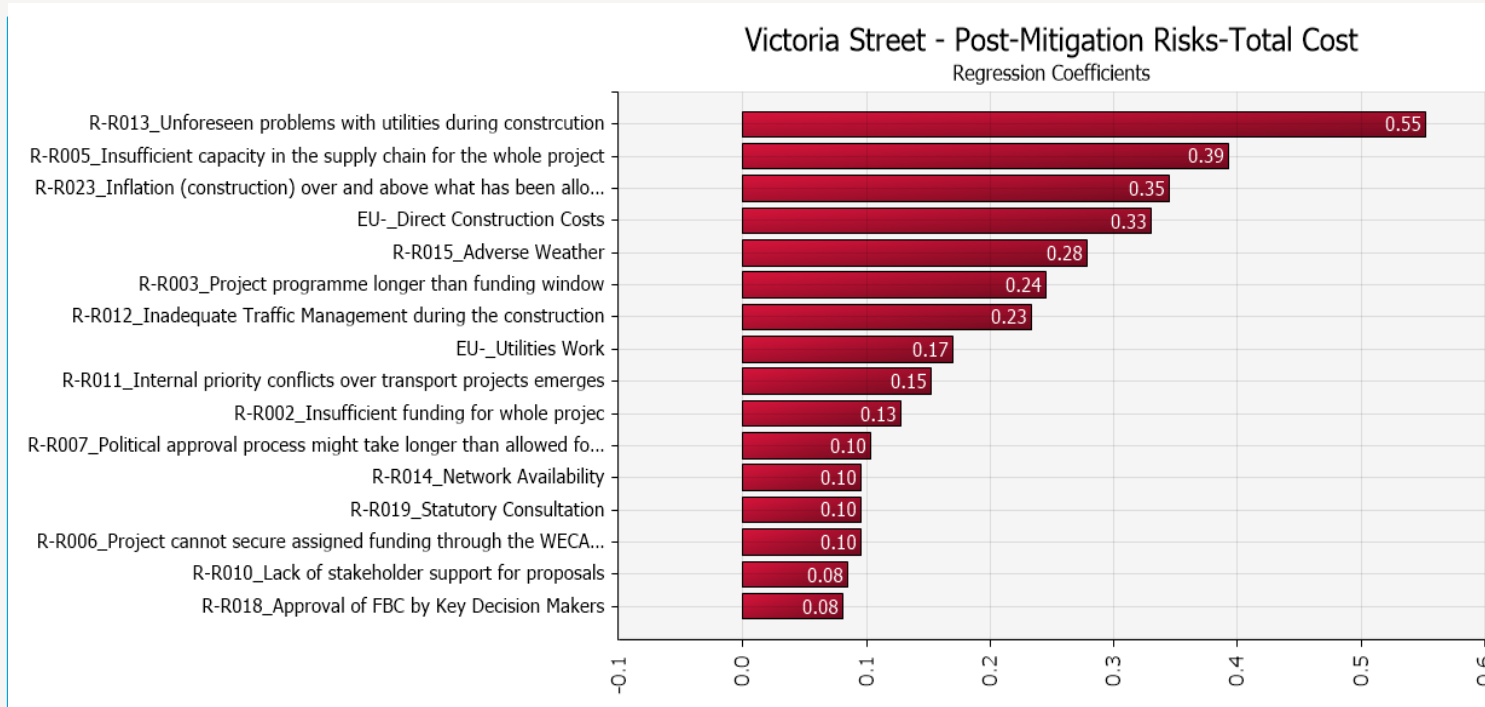


Base Cost	Risk Exposure	Confidence Level						
		Mean	P50*	P80*	P85*	P90*	P95*	
Cost of Work Done (COWD)	131,537	Mean split (EU)	61,043	58,996	84,147	90,086	97,664	109,219
Costs to Go (CTG)	3,780,504	Mean split (Discrete Risk)	897,722	867,617	1,237,491	1,324,838	1,436,276	1,606,215
Total Base Cost	3,912,041	Mean split (Schedule Delay)	0	0	0	0	0	0
Probability of achieving within Base Cost	0.4%	Risk - uplift to Base Cost	958,765	926,613	1,321,638	1,414,924	1,533,940	1,715,435
		Risk - % of Base Cost	24.5%	23.7%	33.8%	36.2%	39.2%	43.9%
		Risk - % of CTG	25.4%	24.5%	35.0%	37.4%	40.6%	45.4%
		Total AFC	4,870,806	4,838,653	5,233,679	5,326,965	5,445,981	5,627,476

- The forecast AFC at **80%** level of confidence (P80) is **£5.2m**. This includes an uplift of **£1.3m** on the adjusted base cost of **£3.9m** for risk, which represents **33.8%** of base cost.
- The forecast AFC at **50%** level of confidence (P50) is **£4.8m**. This includes an uplift of **£926k** on the adjusted base cost of **£3.9m** for risk, which represents **23.7%** of base cost.

Sensitivity Analysis (Tornado Chart) – Post-Mitigation risk results

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Rank	ID	Activity Name / Risk Title
1	R013	Unforeseen problems with utilities during construction
2	R005	Insufficient capacity in the supply chain for the whole project
3	R023	Inflation (construction) over and above what has been allowed
4	EU	Direct Construction costs
5	R015	Adverse Weather

Commentary:

The Tornado graph identifies which specific variables have the most significant impact on a project’s cost outcome. R013 and R005 are still the top 2 driving risks for this project. R023 was the 5th driving risk for the Current position, changing to top 3 post-mitigation. However, R002 has reduced significantly – identifying that, if successful, the mitigation actions in place are appropriate.



Key Drivers & Recommendations – Post-Mitigation Risk Results

The key items driving the results are:

- › 1) R013 – Unforeseen problems with utilities during construction
- › 2) R005 – Insufficient capacity in the supply chain for the whole project
- › 3) R023 – Inflation (construction) over and above what has been allowed

The key recommendation from this study are as follows:

- › 1) R013 and R005 are the main driving risks for the post-mitigated results. As before, it is recommended to review the assessment of this risk once the actions have been completed/ addressed and successful as there will be a greater understanding and certainty of how this risk will impact the project.
- › 2) R023 was the 5th driving risk for the Current position but has changed to the Top 3 post-mitigation. This risk relates to the inflation over and above what has been allowed for. Inflation should be closely monitored throughout the project.
- › 3) Whilst R002 has reduced post-mitigation, it is still a driving risk for this project . It is recommended to review the mitigation actions in place for these risks to ensure the actions are appropriate and robust.



Equality Impact Assessment [version 2.12]



Title: A37/A4018 Victoria Street & Colston Avenue project	
<input type="checkbox"/> Policy <input type="checkbox"/> Strategy <input type="checkbox"/> Function <input type="checkbox"/> Service <input checked="" type="checkbox"/> Other - Project	<input checked="" type="checkbox"/> New <input type="checkbox"/> Already exists / review <input checked="" type="checkbox"/> Changing
Directorate: Growth & Regeneration	Lead Officer name: Thor Sever
Service Area: City Transport	Lead Officer role: Technical Lead – Project Manager

Step 1: What do we want to do?

The purpose of an Equality Impact Assessment is to assist decision makers in understanding the impact of proposals as part of their duties under the Equality Act 2010. Detailed guidance to support completion can be found here [Equality Impact Assessments \(EqIA\) \(sharepoint.com\)](#).

This assessment should be started at the beginning of the process by someone with a good knowledge of the proposal and service area, and sufficient influence over the proposal. It is good practice to take a team approach to completing the equality impact assessment. Please contact the Equality and Inclusion Team early for advice and feedback.

1.1 What are the aims and objectives/purpose of this proposal?

Briefly explain the purpose of the proposal and why it is needed. Describe who it is aimed at and the intended aims / outcomes. Where known also summarise the key actions you plan to undertake. Please use plain English, avoiding jargon and acronyms. Equality Impact Assessments are viewed by a wide range of people including decision-makers and the wider public.

Funding is available via the City Regional Sustainable Transport Settlement (CRSTS), administered by WECA, to make sustainable transport improvements to the A37/A4018 (bus route 2) Stockwood to Cribbs Causeway corridor of which Victoria St and Colston Avenue are part of. A Full Business Case has been produced outlining the costs and benefits of a package of interventions to improve the Victoria St corridor and extend bus priority on Colston Avenue. This EQIA will accompany the FBC, Cabinet Paper and various appendices which explain the project in great detail, however, please find a brief summary of the project beneath:

Following the implementation of the Bristol Bridge Bus Gates in 2020 through traffic can no longer use Victoria Street in a north/south direction which has resulted in a significant reduction in traffic volume along the corridor. This has provided the opportunity for road space allocation where space previously dedicated to general traffic can now be utilised for public transport, active travel and improved public realm. The project proposes to install a segregated cycleway connecting the new segregated cycleway at Bristol Bridge to the existing segregated cycleway at Temple Gate, remodel the Counterslip junction to improve the efficiency of the junction and provide improved pedestrian and cycle crossing, provide new public realm for potential use by local business and to create a destination rather than just a corridor to pass through, the expansion of the existing bus stop infrastructure and the implementation of raised tables and continuous footways to prioritise pedestrians and cyclists at side road junctions.

The changes to Victoria Street form the large part of the project, however, an extension to the inbound Colston Avenue bus lane is also being proposed to connect up a missing part of the bus priority network between the existing end of the bus lane at the War Memorial on The Centre and the bus only section of Colston Avenue that takes buses to Broad Quay. This will remove delay experienced by multiple bus services as they seek to approach Broad Quay from Rupert Street.

The proposals are intended to benefit local residents and businesses as well as all citizens in Bristol and beyond who choose to traverse the corridors in question. As the document explores some groups will experience benefits/disbenefits in a greater or lesser way depending on the situation.

Scheme Objectives and Expected Outcomes

Objective 1 Improvement in bus journeys – Improve journey time, punctuality and reliability of bus services along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.

Outcome: The scheme will improve journey time, punctuality and reliability of bus services along the A37-A4018 corridor. Proposed consolidation and improvement of bus stops along Victoria Street will improve operational efficiency. Removal of the right turn from Counterslip to Victoria Street will improve operational efficiency of the junction, shortening waiting time for buses on Victoria Street. Extension of bus lane on the A38 Colston Avenue is expected to completely remove delay.

Objective 2 Modal Shift – Increase the proportion of trips made by bus, cycling and walking along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.

Outcome: The scheme will increase the proportion of trips made by bus, cycling and walking along the corridor. The proposed continuous footways at junctions and segregated cycleway along Victoria Street from Bristol Bridge to Temple Way/Gate will connect existing cycling paths located along High Street/Baldwin Street/Castle Park, Counterslip and Temple Meads station, forming a network of active travel routes to unlocking significant growth in journeys by walking and cycling to or from Temple Meads, employment clusters and other attractors in the area.

Objective 3 Environment – Reduce levels of air pollution and CO2 emissions along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor.

Outcome: The scheme will improve the efficiency of bus operations and encourage mode shift from private vehicles to public transport and active travel. These changes are expected to reduce levels of air pollution and CO2 emissions along the corridor.

Objective 4 Urban Realm – Enhance streetscape, public spaces and urban environment along the Victoria Street and Colston Avenue sections of the A37-A4018 corridor.

Outcome: The scheme will enhance streetscape, public spaces and urban environment along the A37-A4018 corridor. The bus lane on Victoria Street outbound to Temple Meads will be removed to create space for public realm interventions and improvements for sustainable modes, as there is no longer traffic pressure on this road since the removal of through traffic.

Objective 5 Safety – Improve road safety for active travel mode users along Victoria Street and Colston Avenue.

Outcome: By providing improved cycling and walking infrastructure, the scheme is expected to improve road safety and reduce accidents along on Victoria Street and Colston Avenue for pedestrians and cyclers.

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1.2 Who will the proposal have the potential to affect?

<input checked="" type="checkbox"/> Bristol City Council workforce	<input checked="" type="checkbox"/> Service users	<input checked="" type="checkbox"/> The wider community
<input type="checkbox"/> Commissioned services	<input checked="" type="checkbox"/> City partners / Stakeholder organisations	
Additional comments: The A37/A4018 Victoria Street & Colston Avenue proposal is within the Central Ward of Bristol.		

1.3 Will the proposal have an equality impact?

Could the proposal affect access levels of representation or participation in a service, or does it have the potential to change e.g. quality of life: health, education, or standard of living etc.?

If 'No' explain why you are sure there will be no equality impact, then skip steps 2-4 and request review by Equality and Inclusion Team.

If 'Yes' complete the rest of this assessment, or if you plan to complete the assessment at a later stage please state this clearly here and request review by the Equality and Inclusion Team.

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	[please select]
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Step 2: What information do we have?

2.1 What data or evidence is there which tells us who is, or could be affected?

Please use this section to demonstrate an understanding of who could be affected by the proposal. Include general population data where appropriate, and information about people who will be affected with particular reference to protected and other relevant characteristics: [How we measure equality and diversity \(bristol.gov.uk\)](http://bristol.gov.uk)

Use one row for each evidence source and say which characteristic(s) it relates to. You can include a mix of qualitative and quantitative data e.g. from national or local research, available data or previous consultations and engagement activities.

Outline whether there is any over or under representation of equality groups within relevant services - don't forget to benchmark to the local population where appropriate. Links to available data and reports are here [Data, statistics and intelligence \(sharepoint.com\)](http://sharepoint.com). See also: [Bristol Open Data \(Quality of Life, Census etc.\)](http://bristol.gov.uk); [Joint Strategic Needs Assessment \(JSNA\)](http://bristol.gov.uk); [Ward Statistical Profiles](http://bristol.gov.uk).

For workforce / management of change proposals you will need to look at the diversity of the affected teams using available evidence such as [HR Analytics: Power BI Reports \(sharepoint.com\)](http://sharepoint.com) which shows the diversity profile of council teams and service areas. Identify any over or under-representation compared with Bristol economically active citizens for different characteristics. Additional sources of useful workforce evidence include the [Employee Staff Survey Report](http://bristol.gov.uk) and [Stress Risk Assessment](http://bristol.gov.uk)

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
<p>Children:</p> <p>Source Census 2021 (bristol.gov.uk)</p> <p>Source Dashboards — Open Data Bristol</p> <p>Central Ward has a significantly lower number of children under the age of 15 (6.0%) when compared with the Bristol average which is 16.6%</p> <p>Central Ward has a significantly lower % of households with dependant children (10.4%) than the Bristol average of 26.7%</p>	
<p>Younger people:</p> <p>Source Census 2021 (bristol.gov.uk)</p> <p>Central Ward has a significantly higher number of people between the ages of 16-24 (49.7%) when compared with the Bristol average which is 16.3%.</p> <p>46.9% of central ward is made up of full-time students aged 18 or over, this is compared to the Bristol city average of 9.2%.</p> <p>Source: https://www.gov.uk/government/statistics/national-travel-survey-2021</p>	<p>This group are less likely to own a car and are more likely to rely on public transport and active travel options.</p> <p>Children aged 0 to 16 made the highest proportion of trips using active transport modes such as walking and cycling in 2021 with 38%. Those aged 17 to 49 made 32% to 34% of their trips using active modes. (National Travel Survey 2021)</p> <p>Those aged 17 to 20 made the smallest proportion of their trips using private modes with 47%, however, this age group made the highest proportion of their trips using public transport modes such as bus, London Underground, rail and taxi or minicab with 21%. (National Travel Survey 2021)</p>
<p>Older people:</p> <p>Source Census 2021 (bristol.gov.uk)</p>	<p>This group, however, may be reliant on public transport when travelling into the central area for goods and services. The concessionary bus pass is available</p>

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
<p>Central Ward has a significantly lower number of people between the ages of 60-80 (4.9%) when compared to the Bristol average which is 15.4%</p>	<p>to those of pensionable age within the Bristol City Council area. Those aged 50 to 69 made the smallest proportion of trips using active modes with 29%. The proportion increased slightly to 32% for those aged 70 and over. (National Travel Survey 2021)</p>
<p>Sex (Female):</p> <p>Source Census 2021 (bristol.gov.uk)</p> <p>51.7 % (9,508) of Central Ward is recognised as Female.</p> <p>Crime Rates/Ward Profiles: Central ward profile report (bristol.gov.uk)</p>	<p>Fear of crime and crime rates are relevant to this characteristic. The Central ward reports the highest crime rates in Bristol. This can be attributable to being within a city centre environment.</p>
<p>Sex (Male):</p> <p>Source: Census 2021 (bristol.gov.uk)</p> <p>48.3% (8,882) of Central Ward is recognised as Male</p>	
<p>Disability:</p> <p>Source: Census 2021 (bristol.gov.uk)</p> <p>78.6% of the population in Central Ward have no long term physical or mental health condition, which reflects a similar figure to the Bristol average (75.8%)</p>	<p>Data for 'Older people' also relevant to this characteristic, please see 'Older people' section above.</p>
<p>Race:</p> <p>Source: Census 2021 (bristol.gov.uk)</p> <p>51% of the population in Central Ward are within the White British ethnic group, this is slightly lower in comparison to Bristol which is 71.6%</p> <p>Central Ward has a higher percentage of people who are from Black, Asian and minority ethnic backgrounds (34.3%) compared to the Bristol Average (18.9%)</p> <p>Source: Microsoft Power BI (ward profiles)</p>	<p>51% of the population in Central Ward are within the White British ethnic group, this is slightly lower in comparison to Bristol which is 71.6% Black, Asian and minority ethnic citizens in Bristol</p> <p>experience disparities in public transport inaccessibility and air quality.</p> <p>57.3% of Central ward households do not have van or car ownership within the household.</p>

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
Pregnancy and maternity: Source: Quality of Life Survey Results 2023: Microsoft Power BI Where there are Wards/areas with a higher proportion of children, or with poor air quality, or public transport provision issues, there is likely to be disproportionate impact on Pregnancy and maternity.	
Religion and belief: Census 2021: Central ward profile report (bristol.gov.uk) The Central ward contains a significantly higher proportion of Hindu, Buddhist and Jewish residents compared to the Bristol average but a significantly lower proportion of Christian residents compared to the Bristol average. Those reporting as Muslim, Sikh, No religion or Other religion in the Central Ward were not considered significantly different in proportion to the Bristol average.	
Gender reassignment: Source: Quality of Life Survey Results 2023 - Microsoft Power BI In the Quality-of-Life survey 72.8% of Trans people living in Bristol as a whole said better public transport would encourage them to visit venues and events more at night.	Fear of crime and crime rates are relevant to this characteristic.
Sexual orientation: Source: Quality of Life Survey Results 2023 - Microsoft Power BI In the Quality-of-Life survey 55.5% of LGB+ people living in Bristol as a whole said sexual harassment is an issue in Bristol.	Fear of crime and crime rates are relevant to this characteristic
Poverty and deprivation Central ward profile report (bristol.gov.uk) 2 of the Lower Super Output Areas used to measure deprivation that lie within the central ward (Redcliffe South & Stokes Croft West) are within the most deprived areas within England.	Car ownership, public transport provision, fear of crime, and air quality are all relevant data to this protected characteristic, please see the above sections in this table for any significant data.

Data / Evidence Source [Include a reference where known]	Summary of what this tells us
<p>Crime and Safety:</p> <p>Central ward profile report (bristol.gov.uk)</p> <p>Fear of crime is significantly higher in Central ward when compared to the Bristol average. As indicated in the sections above fear of crime can have a greater effect on some groups than others.</p>	<p>As the Central Ward lies within the central business district of the city it receives a greater throughput of people visiting for work or leisure which can explain why the crime rate would be higher here than in other wards of the city</p>
<p>Marriage and civil partnership:</p> <p>There is no evidence to suggest that this protected characteristic group might experience transport differently today.</p>	
<p>Education, Language and Literacy</p> <p>Census 2021: Microsoft Power BI</p> <p>42.6 % of Central Ward residents with a degree or higher which is close to the Bristol average. 20.8% of Central ward residents responded that their main language is not English which was the second highest ward within Bristol for this metric.</p>	<p>There are a higher percentage of Central Ward residents where English is not their first language.</p>
<p>Additional comments:</p>	

2.2 Do you currently monitor relevant activity by the following protected characteristics?

<input checked="" type="checkbox"/> Age	<input checked="" type="checkbox"/> Disability	<input checked="" type="checkbox"/> Gender Reassignment
<input checked="" type="checkbox"/> Marriage and Civil Partnership	<input checked="" type="checkbox"/> Pregnancy/Maternity	<input checked="" type="checkbox"/> Race
<input checked="" type="checkbox"/> Religion or Belief	<input checked="" type="checkbox"/> Sex	<input checked="" type="checkbox"/> Sexual Orientation

2.3 Are there any gaps in the evidence base?

Where there are gaps in the evidence, or you don't have enough information about some equality groups, include an equality action to find out in section 4.2 below. This doesn't mean that you can't complete the assessment without the information, but you need to follow up the action and if necessary, review the assessment later. If you are unable to fill in the gaps, then state this clearly with a justification.

For workforce related proposals all relevant characteristics may not be included in HR diversity reporting (e.g. pregnancy/maternity). For smaller teams diversity data may be redacted. A high proportion of not known/not disclosed may require an action to address under-reporting.

There are no gaps in the evidence base at this stage of the process, however, we know there are gaps in local diversity data, especially where this has not historically been included in statutory reporting. Census data is currently collected every 10 years. The ONS has also published mid-2020 population estimates. Gaps in data will exist as it becomes out of date or is limited through self-reporting. The assessment will be continuously reviewed throughout the course of the A37/A4018 Victoria Street & Colston Avenue project to ensure that the evidence base is comprehensive and up to date.

2.4 How have you involved communities and groups that could be affected?

You will nearly always need to involve and consult with internal and external stakeholders during your assessment. The extent of the engagement will depend on the nature of the proposal or change. This should usually include individuals and groups representing different relevant protected characteristics. Please include details of any completed engagement and consultation and how representative this had been of Bristol's diverse communities.

Include the main findings of any engagement and consultation in Section 2.1 above.

If you are managing a workforce change process or restructure please refer to [Managing a change process or restructure \(sharepoint.com\)](#) for advice on consulting with employees etc. Relevant stakeholders for engagement about workforce changes may include e.g. staff-led groups and trades unions as well as affected staff.

- **A37/A4018 Route 2 Corridor Early Engagement** (Summer 2020)
- **A37/A4018 Route 2 Corridor Public Consultation** (November 2021 - January 2022)
- **A37/A4018 Victoria Street & Colston Avenue Information Exercise** (June 2023)
- **A37/A4018 Statutory Consultation** (October – November 2023)

The above consultations have been carried out. The early engagement and public consultation involved all communities along the route 2 corridor within the Bristol City council area including the Central ward – please refer to the previous EQIA that this EQIA follows on from. There are reports available (and attached to the Cabinet Paper of which this EQIA is an accompaniment) for both the engagement exercise and public consultation. Specific to this project onsite meetings have been held with members of the Pocklington Trust which is a leading advocate of equality for blind and partially sighted people, this will help ensure the process is as accessible for Disabled people as possible.

2.5 How will engagement with stakeholders continue?

Explain how you will continue to engage with stakeholders throughout the course of planning and delivery. Please describe where more engagement and consultation is required and set out how you intend to undertake it. Include any targeted work to seek the views of under-represented groups. If you do not intend to undertake it, please set out your justification. You can ask the Equality and Inclusion Team for help in targeting particular groups.

- Press release: announcement of successful funding bid (post WECA RDT meeting of February 2024)
- Press release: announcement of works beginning. Post contractor appointment and programme agreement (late 2024)
- Blog/press release: Ongoing during the construction programme
- Press release : announcement of completion of works
- Walk through of scheme with Equalities Public Transport Safety Equalities Group during and once scheme is complete

Step 3: Who might the proposal impact?

Analysis of impacts must be rigorous. Please demonstrate your analysis of any impacts of the proposal in this section, referring to evidence you have gathered above and the characteristics protected by the Equality Act 2010. Also include details of existing issues for particular groups that you are aware of and are seeking to address or mitigate through this proposal. See detailed guidance documents for advice on identifying potential impacts etc. [Equality Impact Assessments \(EqIA\) \(sharepoint.com\)](#)

3.1 Does the proposal have any potentially adverse impacts on people based on their protected or other relevant characteristics?

Consider sub-categories and how people with combined characteristics (e.g. young women) might have particular needs or experience particular kinds of disadvantage.

Where mitigations indicate a follow-on action, include this in the 'Action Plan' Section 4.2 below.

GENERAL COMMENTS (highlight any potential issues that might impact all or many groups)	
Whilst we have not identified any significant negative impacts from the proposal at this stage we are aware of existing issues for local citizens based on their characteristics which we will seek to address and mitigate where possible through project design and delivery.	
PROTECTED CHARACTERISTICS	
Age: Young People	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	The cost of owning and running a car is high, younger people are less likely to be able to afford these costs, therefore they are more reliant on public transport.
Mitigations:	Making improvements to the affordability and accessibility of bus routes, will be of benefit to younger people as they utilise buses to access employment, education, training, and activities. Children aged 0 to 16 made the highest proportion of trips using active transport modes such as walking and cycling in 2021 with 38%. Those aged 17 to 49 made 32% to 34% of their trips using active modes. (National Travel Survey 2021)
Age: Older People	Does your analysis indicate a disproportionate impact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Potential impacts:	There has been research to suggest that an improved provision of active transport could disproportionately benefit older people. Increasing the provision of public transport is likely to increase levels of active travel. Older people (70+) have more limited access to cars and a lower car use than adults aged 30-69. Older people are more likely to be disabled and/or have a long-term health condition which could affect their ability to use transport (inclusive of mobility impairments, hearing loss, sight loss, and memory loss or cognitive impairments). Some older people will require public transport staff to assist them when boarding/disembarking.

	<p>Some older people may struggle with finding accurate and up to date pre-travel information, including timetables, accessible infrastructure, and information about ticketing.</p> <p>Older people in Bristol are less likely to be comfortable using digital services than average and may not use digital tools associated with public transport, such as the iPoints, touch screen ticket machines, smartphones (for travel planning).</p> <p>Ageing is linked with a reduction in car usage. This is because of worsening physical conditions, increased stresses of driving, car costs, and a reduced need to drive.</p>
<p>Mitigations:</p>	<p>The provision of safe walking and cycling opportunities that integrate with the bus network can be beneficial for older people in improving their overall health.</p> <p>Improving bus networks will maintain and improve the accessibility and availability of essential services for this demographic.</p> <p>High quality public transport networks will enhance the opportunities for older people to remain connected and maintain their independence.</p> <p>Bus infrastructure enhancements will improve accessibility for people who are disabled and/or have a long-term health problem.</p> <p>Ticketing infrastructure and information will be made accessible and available in multiple formats to ensure that it can be used by everyone.</p>
<p>Disability</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Those with mobility impairments have more limited car access and lower car use than those without mobility impairments. Many Disabled people are reliant on the use of public transport despite experiencing a range of additional barriers and challenges when doing so – such as a lack of accessible infrastructure at stops, stations and other locations.</p> <p>There are huge variances in a person’s travel patterns depending on their disability and its severity.</p> <p>Around 60% of Disabled people have no access to a car and use the bus around 20% more than their non-disabled counterparts For wheelchair users obstructions such as bins or advertising boards can make the pedestrian environment particularly challenging.</p> <p>The segregated cycle way being installed as part of the project will be adjacent to a large bus stop – this is known as a floating bus stop in design parlance. Floating bus stops can provide a challenge to visually impaired groups.</p> <p>29 pay and display parking bays will be removed as part of this project which may affect this group disproportionately.</p>

<p>Mitigations:</p>	<p>It is essential that bus stops are fully accessible for people within this protected characteristic. Improvements will include raised kerbs and adequate paving space for all users. All information relating to routes and tickets will be accessible and inclusive to make journeys easier and increase perception of safety. Providing paving safe havens at bus stops will help encourage active travel. The proposed improvements will include upgrades to the trip chain/routes in which people take to get to the bus stop, to ensure they are fully accessible.</p> <p>The project has been on site with Bristol based visually impaired groups to discuss the design of floating bus stops following which mitigations such as railings, tactile paving and crossing markings over the cycleway have been added to the designs within the project.</p> <p>The project is installing 5 dedicated Disabled parking only spaces along the corridor.</p>
<p>Sex</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Experiences of public transport are different depending on Sex. It has been found that women are less likely to take longer journeys, they are less likely to travel at night or on weekends due to feeling less safe, which ultimately comes from a lack of transport and transport infrastructure, during these periods. Inadequate public transport creates barriers for women accessing employment and educational opportunities.</p> <p>Younger men between the ages of 16-19 are also more likely to be victims of crime on the public transport network compared to men of all other age groups</p>
<p>Mitigations:</p>	<p>Improving the punctuality, speed, and reliability of buses will be beneficial in providing a better network for multiple journeys in a day.</p> <p>The project will assist in reducing the barriers for women when accessing employment and educational opportunities. By improving infrastructure such as CCTV, RTI, and Lighting at bus stops, we hope citizens including women and girls will feel and be more safe. Providing an integrated public transport connection will help make journeys more reliable and enable women to undertake better connected journeys. Improving safety on the bus and around the stops is also an important consideration for younger men.</p>
<p>Sexual orientation</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Low level of perceived safety on public transport or while waiting for public transport.</p>
<p>Mitigations:</p>	<p>The improvement to bus stop infrastructure to include elements such as CCTV, RTI, and Lighting can help improve the level of perceived safety among all groups when travelling on public transport.</p>
<p>Pregnancy / Maternity</p>	<p>Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>Potential impacts:</p>	<p>Public transport plays an important role in the social inclusion of many parents with young children. Parents with young children have been identified as vulnerable to social isolation. Exposure to poor air quality and pollutants can also affect the foetal development and cause low birth weights, premature births, stillbirths and miscarriages</p>

	(Air Pollution Can Affect Fetal Development, Scientists Say Scientific American) . See also accessibility issues identified above.
Mitigations:	<p>The project will benefit this demographic as it will help improve connectivity and reduce social exclusion.</p> <p>Ensuring bus stops are fully accessible is important for parents with small children, especially where parents may have pushchairs. The project will ensure that stops have enough paving space for pushchairs. The raised kerb improvements will improve accessibility when boarding/departing the bus with a pushchair. The improvements to the infrastructure and surrounding spaces will help to encourage active travel, as part of a wider integrated sustainable transport network. The improvements to the corridor conform with the vision to improve air quality across the city, consequently reducing the impacts of poor air quality on this demographic.</p>
Gender reassignment	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	Perception of safety is currently a concern for trans people
Mitigations:	The A37/A4018 corridor improvements will improve infrastructure at bus stops that will enhance perceptions of safety. These improvements will include CCTV, Lighting and RTI displays.
Race	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	<p>People from Black, Asian, Minority ethnic backgrounds are less likely to have access to a private vehicle, be more reliant on public transport to access employment and live in densely populated areas increasing their exposure to air pollution.</p> <p>Black, Asian and minority ethnic households in Bristol also have disproportionately higher rates of poverty. When it comes to active travel, Black and Asian adults are least likely to cycle. Black, Asian and minority ethnic citizens are more likely to experience hate crime and discrimination when using public transport, thus potentially causing a barrier to the public transport network.</p>
Mitigations:	<p>There is a higher reliance on public transport among Black, Asian and minority ethnic communities to access employment and opportunities. Maintaining and improving bus routes will facilitate better accessibility to employment.</p> <p>The provision of an affordable and available bus network can help reduce exclusion of people from activities, services, and opportunities.</p> <p>The bus network and operational hours can affect the type of employment available to those who are reliant on it for travel.</p> <p>Enhancing safety and security at bus stops and on buses is crucial in the removal of barriers of bus use. Improvements to safety infrastructure will help tackle this barrier.</p>
Religion or Belief	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Potential impacts:	Safety and the perception of safety is particularly important for a number of groups when using the pedestrian environment and public transport. This is inclusive of people from particular religions or faith communities.
Mitigations:	Safety and security both on the bus and at bus stops are key considerations for this group. The improvements to the project will seek to better safety at shelters/stops along the route.
Marriage & civil partnership	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	There is no evidence to suggest that this protected characteristic group might experience transport in a different way.
Mitigations:	None
OTHER RELEVANT CHARACTERISTICS	
Socio-Economic (deprivation)	Does your analysis indicate a disproportionate impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	We have not identified any significant negative impacts on the basis of deprivation / for low income households at this stage
Mitigations:	None
Carers	Does your analysis indicate a disproportionate impact? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>
Potential impacts:	As above re impact for people who may be more depending on private motor vehicles. – carers may be more likely to be trip chaining (grouping together multiple tasks e.g. caring visits for older adults; school and nursery collection and drop-offs; appointment visits; commutes etc. together) and therefore be more dependent own having their own transport. The proposals involve the removal of 29 pay and display parking spaces which could disproportionately affect carers if they are more likely to need a car parking space to carry out their duty.
Mitigations:	The Central ward has a significantly lower than average percentage of older people as residents which should correlate to less need for carers for that group. There will still be parking available in the area for carers at other locations in the area and the conditions to use active travel or public transport will provide an improved alternative to public transport for this group.
Other groups [Please add additional rows below to detail the impact for any other relevant groups as appropriate e.g. asylum seekers and refugees; care experienced; homelessness; armed forces personnel and veterans]	
Potential impacts:	N/A
Mitigations:	N/A

3.2 Does the proposal create any benefits for people based on their protected or other relevant characteristics?

Outline any potential benefits of the proposal and how they can be maximised. Identify how the proposal will support our [Public Sector Equality Duty](#) to:

- ✓ Eliminate unlawful discrimination for a protected group

- ✓ Advance equality of opportunity between people who share a protected characteristic and those who don't
- ✓ Foster good relations between people who share a protected characteristic and those who don't

- Increasing the proportion of journeys made by public transport, walking and cycling will bring about improvements in air quality
- It is hoped that the improvements included in this scheme will encourage bus patronage and reduce the amount of people that use cars, consequently improving the air quality along the route. Better air quality will also benefit the health and wellbeing of residents local to the route.
- Through cycling and walking infrastructure improvements, it is hoped that the scheme will encourage active travel and improve health and wellbeing of all protected characteristic groups. The implementation of continuous footways in particular will prioritise pedestrians crossing side road junctions over vehicles which will help some groups with protected characteristics.
- Improving bus services, making them quicker, more efficient and broadening the network coverage will have beneficial impacts to all groups but particularly groups that are more reliant on buses as their primary mode of transport. This particularly applies to younger people, women, parents/carers with young families and disabled people. A good network will enable all groups to access jobs, education and other services and opportunities.
- Improving the physical accessibility at stops will particularly benefit disabled people and parents/carers with young families.
- The stops will provide access to an affordable mode of public transport, this will be beneficial to people on lower incomes, and protected characteristic groups with limited access to private vehicles.
- CCTV, lighting and the real time information will help to improve the safety and security of passengers waiting at the stop. This will benefit all protected characteristic groups.
- In addition to the benefits outlined above, the improvements will include enhancements to the public realm, improving the look and feel of the area and creating a sense of destination.

Step 4: Impact

4.1 How has the equality impact assessment informed or changed the proposal?

What are the main conclusions of this assessment? Use this section to provide an overview of your findings. This summary can be included in decision pathway reports etc.

If you have identified any significant negative impacts which cannot be mitigated, provide a justification showing how the proposal is proportionate, necessary, and appropriate despite this.

Summary of significant negative impacts and how they can be mitigated or justified:

- Removal of 29 pay and display parking bays. Introduction of 5 dedicated Disabled parking bays.
- Introduction of floating bus stop that can present a challenge to visually impaired groups. Working with visually impaired groups based in Bristol the design of the bus stop has been mitigated by the addition of railings, tactile paving and crossings over the adjacent segregated cycleway

Summary of positive impacts / opportunities to promote the Public Sector Equality Duty:

- Introduction of 5 dedicated disabled parking bays
- Step change in active travel provision via segregated cycleway, continuous footways that prioritise pedestrians and cyclists and improved crossings at the Counterslip junction
- The improvements to the bus stop waiting areas will improve safety for vulnerable groups with the addition of lighting and cctv cameras
- The improvement of the public realm will provide the opportunity to sit and rest within the projects scope which will positively affect those groups who may be physically challenged at times
- The improvement of active travel infrastructure and conditions for improved public transport will help Bristol achieve its targets to reduce air pollution by providing better alternatives to travelling in private vehicles.
- The improvement of active travel infrastructure will help more people to use active travel as a transport option. Increased uptake in active travel helps drive more positive outcomes for the health of citizens in Bristol.

4.2 Action Plan

Use this section to set out any actions you have identified to improve data, mitigate issues, or maximise opportunities etc. If an action is to meet the needs of a particular protected group please specify this.

Improvement / action required	Responsible Officer	Timescale
On scheme completion meet with disabled groups to walk through the scheme and explain how the continuous footways and floating bus stop work	Thor Sever	Scheme completion (2026)
Update EQIA as necessary post funding decision and at scheme completion	Thor Sever	2024 & 2026

4.3 How will the impact of your proposal and actions be measured?

How will you know if you have been successful? Once the activity has been implemented this equality impact assessment should be periodically reviewed to make sure your changes have been effective your approach is still appropriate.

A monitoring and evaluation plan? will be produced before the scheme is implemented so that it is ready to assess the benefits of the work. The plan will be considerate of issues set out in the EqIA and the plan will help to inform updates to the EqIA. There will be monitoring of general bus passenger usage, as well as more specific information from the Quality of Life Survey and the Transport Focus Annual Bus Passenger Survey.


Engagement with First bus and the West of England Combined Authority to monitor the outcomes of the scheme.

Further engagement with the Public Transport Safety and Equalities Group, and the Disabled People and Older People Pavement and Roads advisory group will be sought to further monitor the outcomes of the scheme.

The project intends to install a suite of traffic sensors that record and count vehicle classes on Victoria Street to record a baseline pre scheme and to measure the benefits post scheme. The sensors can also count pedestrians and cyclists which will provide a significant tool to calculate the uptake in active travel along the corridor.

Step 5: Review

The Equality and Inclusion Team need at least five working days to comment and feedback on your EqIA. EqIAs should only be marked as reviewed when they provide sufficient information for decision-makers on the equalities impact of the proposal. Please seek feedback and review from the [Equality and Inclusion Team](#) before requesting sign off from your Director¹.

Equality and Inclusion Team Review: <i>Reviewed by Equality and Inclusion Team</i>	Director Sign-Off: 
Date: 2/1/2024	Date: 8.1.2024

¹ Review by the Equality and Inclusion Team confirms there is sufficient analysis for decision makers to consider the likely equality impacts at this stage. This is not an endorsement or approval of the proposal.



Environmental Impact Assessment [version 1.0]

Proposal title: A37/A4018 – Victoria Street & Colston Avenue		
Project stage and type: <input type="checkbox"/> Initial Idea Mandate <input type="checkbox"/> Outline Business Case <input checked="" type="checkbox"/> Full Business Case		
<input type="checkbox"/> Policy <input type="checkbox"/> Strategy <input type="checkbox"/> Function <input checked="" type="checkbox"/> Service <input type="checkbox"/> Other [please state]	<input checked="" type="checkbox"/> New <input type="checkbox"/> Already exists / review	<input type="checkbox"/> Changing
Directorate: Growth & Regeneration	Lead Officer name: Thor Sever	
Service Area: City Transport	Lead Officer role: Project Manager	

Step 1: What do we want to do?

The purpose of this Environmental Impact Assessment is to help you develop your proposal in a way that is compliant with the council’s policies and supports the council’s strategic objectives under the [One City Climate Strategy](#), the [One City Ecological Emergency Strategy](#) and the latest [Corporate Strategy](#).

This assessment should be started at the beginning of the project proposal process by someone with a good knowledge of the project, the service area that will deliver it, and sufficient influence over the proposal to make changes as needed.

It is good practice to take a team approach to completing the Environmental Impact Assessment. See further [guidance](#) on completing this document. Please email environmental.performance@bristol.gov.uk early for advice and feedback.

1.1 What are the aims and objectives/purpose of this proposal?

Briefly explain the purpose of the proposal and why it is needed. Please use plain English, avoiding jargon and acronyms.

<p>To provide sustainable transport improvements on Victoria Street & Colston Avenue. The project objectives are as follows:</p> <ol style="list-style-type: none"> 1. Improvement in bus journeys – Improve journey time, punctuality and reliability of bus services along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor 2. Modal Shift – Increase the proportion of trips made by bus, cycling and walking along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor. 3. Environment – Reduce levels of air pollution and CO2 emissions along the Victoria Street and Colston Avenue sections of the A37- A4018 corridor. 4. Urban Realm – Enhance streetscape, public spaces and urban environment along the Victoria Street and Colston Avenue sections of the A37-A4018 corridor 5. Safety – Improve road safety for active travel mode users along Victoria Street and Colston Avenue.
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1.2 Will the proposal have an environmental impact?

Could the proposal have either a positive or negative effects for the environment now or in the future? If ‘No’ explain why you are sure there will be no environmental impact, then skip steps 2-3 and request review by sending this form to environmental.performance@bristol.gov.uk

If ‘Yes’ complete the rest of this assessment.

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	[please select]
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1.3 If the proposal is part of an options appraisal, has the environmental impact of each option been assessed and included in the recommendation-making process?

If 'Yes' please ensure that the details of the environmental impacts of each option are made clear in the pros and cons section of the [project management options appraisal document](#).

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not applicable	[please select]
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If 'No' explain why environmental impacts have not been considered as part of the options appraisal process.

Step 2: What kinds of environmental impacts might the project have?

Analysis of impacts must be rigorous. Please demonstrate your analysis of any impacts of the proposal in this section, referring to evidence you have gathered. See detailed [guidance documents](#) for advice on identifying potential impacts.

Does the proposal create any benefits for the environment, or have any adverse impacts?

Outline any potential benefits of the proposal and how they can be maximised. Identify how the proposal will support our corporate environmental objectives and the wider [One City Climate and Ecological Emergency strategies](#).

Consider how the proposal creates environmental impacts in the following categories, both now and in the future.

Reasonable efforts should be made to quantify stated benefit or adverse impacts wherever possible.

Where the proposal is likely to have a beneficial impact, consider what actions would enhance those impacts. Where the proposal is likely to have a harmful impact, consider whether actions would mitigate these impacts.

Enhancements or mitigation actions are only required when there is a likely impact identified. Remember that where enhancements or mitigation actions are listed, they should be assigned to staff and appropriately resourced.

GENERAL COMMENTS (highlight any potential issues that might impact all or many categories)		
The project has positive or negative effects on all 5 categories, however, the focus of the impacts will positively affect emissions and Bristol's resilience to climate change.		
ENV1 Carbon neutral: Emissions of climate changing gases	Benefits	The schemes proposals propose infrastructure that will support transport behaviour change to incentivise the use of walking, cycling, e-scooter or public transport rather than using the private car. Private car use has already reduced on this road, due to the closure of Bristol Bridge to private vehicles a couple of years ago. These proposals therefore won't have much further impact on car use in this street, but the project will be a key part of improving public and active modes of transport at a key point in the route to encourage the greater use of these in the wider area. Transport is one of the biggest causes of climate change, by providing the necessary conditions to choose active travel or public transport over the private car the project is significantly contributing to the city's effort in achieving net zero.
BCC has committed to achieving net zero emissions for its direct activities by 2025, and to support the city in achieving net zero by 2030.		
Will the proposal involve transport, or the use of energy in buildings? Will the proposal involve the		

<p>purchase of goods or services? If the answer is yes to either of these questions, there will be a carbon impact.</p> <p>Consider the scale and timeframe of the impact, particularly if the proposal will lead to ongoing emissions beyond the 2025 and 2030 target dates.</p> <p>Further guidance</p> <p><input type="checkbox"/> No impact</p>	<p>Enhancing actions</p>	<p>Once the scheme is delivered (estimated early 2026) we will carry out engagement with stakeholders to make them aware of the new infrastructure so that organisations' travel plans can take account of the opportunity to travel more sustainably whilst improving health through active travel.</p>
	<p>Persistence of effects: <input type="checkbox"/> 1 year or less <input type="checkbox"/> 1 – 5 years <input checked="" type="checkbox"/> 5+ years</p>	
	<p>Adverse impacts</p>	<p>The construction of the scheme will carry inherent adverse impacts. The materials used to deliver the proposals will carry a negative environmental impact both in the material in of itself (reduction of resource) and the process by which the material is formed. The delivery of the material on site and its construction thereof will carry a further adverse impact in addition to the road network diversions that will be necessary to deliver the scheme.</p>
	<p>Mitigating actions</p>	<p>The procurement of the scheme will take place following the funding award. As part of the tender process we will ask contractors to estimate and measure the carbon impact of the project and engage with us to minimise the impacts through material selection, construction techniques, minimised impacts on traffic flows, etc Where possible we will work to reduce those impacts with construction methodology.</p>
<p>Persistence of effects: <input type="checkbox"/> 1 year or less <input checked="" type="checkbox"/> 1 – 5 years <input type="checkbox"/> 5+ years</p>		
<p>ENV2 Ecological recovery: Wildlife and habitats</p> <p>BCC has committed to 30% of its land being managed for nature and to halve its use of pesticides by 2030.</p> <p>Consider how your proposal can support increased space for nature, reduced use of pesticides, reduce pollution to waterways, and reduce consumption of products that undermine ecosystems around the world.</p> <p>If your proposal will directly lead to a reduction in habitat within Bristol, then consider how your proposed mitigation can lead to a biodiversity net gain. Be sure to refer to quantifiable changes wherever possible.</p> <p>Further guidance</p> <p><input type="checkbox"/> No impact</p>	<p>Benefits</p>	<p>As part of the scheme 4 additional trees will be planted. In areas separating the cycleway from the highway there will be significant areas of SUDS/rain garden planting. The addition of the SUDS/rain gardens will present a positive impact for wildlife and habitats.</p>
	<p>Enhancing actions</p>	<p>There remains further opportunity for planters within the corridor that may be supplied by external stakeholders (such as the BiD).</p> <p>There is a possibility that living roof bus shelters could be procured from the bus shelter contractor – this will be explored during procurement.</p>
	<p>Persistence of effects: <input type="checkbox"/> 1 year or less <input type="checkbox"/> 1 – 5 years <input checked="" type="checkbox"/> 5+ years</p>	
	<p>Adverse impacts</p>	<p>None. There are 27 trees in situ within the project boundary. No trees or planting is being removed as part of this scheme.</p>
	<p>Mitigating actions</p>	<p>N/A</p>
<p>Persistence of effects: <input type="checkbox"/> 1 year or less <input type="checkbox"/> 1 – 5 years <input type="checkbox"/> 5+ years</p>		

<p>ENV3 A cleaner, low-waste city: Consumption of resources and generation of waste</p> <p>Consider what resources will be used as a result of the proposal, how they can be minimised or swapped for less impactful ones, where they will be sourced from, and what will happen to any waste generated</p> <p>Further guidance</p> <p><input type="checkbox"/> No impact</p>	<p>Benefits</p>	<p>The scheme benefits will feature uptake in Active Travel and Sustainable Transport. Indirectly this will result in less fuel/material being used driving private vehicles.</p>
	<p>Enhancing actions</p>	<p>Once the scheme is delivered (estimated early 2026) we will carry out engagement with stakeholders to make them aware of the new infrastructure so that organisations' travel plans can take account of the opportunity to travel more sustainably whilst improving health through active travel.</p>
	<p>Persistence of effects: <input type="checkbox"/> 1 year or less <input type="checkbox"/> 1 – 5 years <input checked="" type="checkbox"/> 5+ years</p>	
	<p>Adverse impacts</p>	<p>The construction of the scheme will carry inherent adverse impacts. The materials used to deliver the proposals will carry a negative environmental impact both in the material in of itself (reduction of resource) and the process by which the material is formed. The delivery of the material on site and its construction thereof will carry a further adverse impact in addition to the road network diversions that will be necessary to deliver the scheme.</p>
	<p>Mitigating actions</p>	<p>The procurement of the scheme will take place following the funding award. As part of the tender process we will ask contractors to gauge the impact of the projects construction and include carbon impact figures. Where possible we will work to reduce those impacts with construction methodology. How construction waste is managed and disposed of will also feature as part of the tender process.</p>
<p>Persistence of effects: <input type="checkbox"/> 1 year or less <input checked="" type="checkbox"/> 1 – 5 years <input type="checkbox"/> 5+ years</p>		
<p>ENV4 Climate resilience: Bristol's resilience to the effects of climate change</p> <p>Bristol's climate is already changing, and increasingly frequent instances of extreme weather will become more likely over time.</p> <p>Consider how the proposal will perform during periods of extreme weather (particularly heat and flooding).</p> <p>Consider if the proposal will reduce or increase risk to people and assets during extreme weather events.</p> <p>Further guidance</p> <p><input type="checkbox"/> No impact</p>	<p>Benefits</p>	<p>As part of the scheme 4 additional trees will be planted. In areas separating the cycleway from the highway there will be significant areas of SUDS/rain garden planting. The addition of the SUDS/rain gardens will provide additional natural drainage along the Victoria Street corridor and reduce the impact on the gully system.</p> <p>Additional gullies are being included within the Victoria Street system that will provide further resilience.</p>
	<p>Enhancing actions</p>	<p>Regular Maintenance of the gully system will protect the capacity of the street to handle flooding events.</p>
	<p>Persistence of effects: <input type="checkbox"/> 1 year or less <input type="checkbox"/> 1 – 5 years <input checked="" type="checkbox"/> 5+ years</p>	
	<p>Adverse impacts</p>	<p>During construction the current capacity of the drainage system may be compromised as the scheme is built in different areas.</p>
	<p>Mitigating actions</p>	<p>Careful planning of the construction programme will mitigate against reduced effectiveness of highway drainage whilst the scheme is being built.</p>

		Persistence of effects: <input type="checkbox"/> 1 year or less <input checked="" type="checkbox"/> 1 – 5 years <input type="checkbox"/> 5+ years			
<p>Statutory duty: Prevention of Pollution to air, water, or land</p> <p>Consider how the proposal will change the likelihood of pollution occurring to air, water, or land and what steps will be taken to prevent pollution occurring.</p> <p>Further guidance</p> <p><input type="checkbox"/> No impact</p>	Benefits	The schemes proposals propose infrastructure that will support transport behaviour change to incentivise the use of walking, cycling, e-scooter or public transport rather than using the private car. Transport is a big cause of pollution, by providing the necessary conditions to choose active travel or public transport over the private car the project is significantly contributing to the reduction of pollution. Additional street trees and other planting may also help with removing particulate pollution and SuDS measures may help clean pollutants from runoff.			
	Enhancing actions				
			Persistence of effects: <input type="checkbox"/> 1 year or less <input type="checkbox"/> 1 – 5 years <input checked="" type="checkbox"/> 5+ years		
	Adverse impacts	The construction of the scheme itself may cause some pollution into air and land and also water given the proximity to the floating harbour as well as highway drainage systems.			
	Mitigating actions	The construction programme will be carefully managed to reduce the impact of pollution.			
		Persistence of effects: <input type="checkbox"/> 1 year or less <input checked="" type="checkbox"/> 1 – 5 years <input type="checkbox"/> 5+ years			

Step 3: Action Plan

Use this section summarise and assign responsibility for any actions you have identified to improve data, enhance beneficial, or mitigate negative impacts. Actions identified in section two can be grouped together if named responsibility is under the same person.

This action plan should be updated at each stage of the project. Please be aware that the Sustainable City and Climate Change Service may use this action plan as an audit checklist during the project's implementation or operation.

Enhancing / mitigating action required	Responsible Officer	Timescale
The procurement of the scheme will take place following the funding award. As part of the tender process we will ask contractors to gauge the impact of the projects construction and include carbon impact figures. Where possible we will work to reduce those impacts with construction methodology.	Thor Sever	2024
The procurement of the scheme will take place following the funding award. As part of the tender process we will ask contractors to gauge the impact of the projects construction and include carbon impact figures. Where possible we will work to reduce those impacts with construction methodology. How construction waste is managed and disposed of will also feature as part of the tender process	Thor Sever	2024
Careful planning of the construction programme will mitigate against reduced effectiveness of highway drainage whilst the scheme is being built.	Thor Sever	2024
The construction programme will be carefully managed to reduce the impact of pollution.	Thor Sever	2024-2026
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Enhancing / mitigating action required	Responsible Officer	Timescale

Step 4: Review

The Sustainable City and Climate Change Service need at least five working days to comment and feedback on your impact assessment. Assessments should only be marked as reviewed when they provide sufficient information for decision-makers on the environmental impact of the proposal.

Please seek feedback and review by emailing environmental.performance@bristol.gov.uk before final submission of your decision pathway documentation¹.

Where impacts identified in this assessment are deemed significant, they will be summarised here by the Sustainable City and Climate Change Service and must be included in the 'evidence base' section of the decision pathway cover sheet.

Summary of significant beneficial impacts and opportunities to support the Climate, Ecological and Corporate Strategies (ENV1,2,3,4):
Summary of significant adverse impacts and how they can be mitigated:

Environmental Performance Team Reviewer: Giles Liddell, Environmental Performance Co-ordinator	Submitting author: Thor Sever, Project Manager
Date: 17/11/2023	Date: 17/11/2023

¹ Review by the Sustainable City and Climate Change Service confirms there is sufficient analysis for decision makers to consider the likely environmental impacts at this stage and does not constitute an endorsement or approval of the proposal.

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A
of the Local Government Act 1972.

Document is Restricted