

**Temple Way**

**Full Business Case**

**Section A:**

**Strategic and Economic  
Dimensions**

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# 1. Strategic Dimension

## 1.1 Introduction

This strategic dimension makes the case for investment in a series of complementing bus and cycle improvements along Temple Way in Bristol City Centre, with the strategic goal of facilitating sustainable travel into and through the city and, in the long-term, enabling future provision of a rapid transit system.

The scheme, being taken forward by Bristol City Council (BCC) forms part of the Bristol City Centre project which is made up of three themes. The themes are a new public transport service, bus routing changes and infrastructure changes. The bus re-routing and infrastructure changes are needed to facilitate the new service. The infrastructure changes are split across five geographic areas.

A project wide OAR covered the assessment of options for the bus routing changes to facilitate the new public transport service. It also sets out the required infrastructure changes. Of the five areas of infrastructure changes, there is:

1. Union St Area – will have an OBC & FBC. These business cases will also include the appraisal of the new public transport service, bus routing changes.
2. Bond Street – going straight to FBC via the LRTS route
3. Temple Way – going straight to FBC via the LRTS route
4. Redcliffe Roundabout – going straight to FBC via the LRTS route
5. Bedminster Bridges - will have an OBC & FBC.

For the last four (2-5), there is a case for change regardless of the new public transport service and bus routing changes, as such this business case ignores the new public transport service and bus routing changes and focuses on benefits to existing services and users associated with the scheme.

The scheme is seeking funding from the West of England Combined Authority (Combined Authority) via the City Region Sustainable Transport Settlement (CRSTS).

The study area stretches approximately 800m along Temple Way between Bond Street South and Temple Gate (the A4044). The study boundary encompasses Old Market Roundabout and Temple Way Underpass below the roundabout.

The scheme will introduce inbound and outbound bus priority along Temple Way. The bus interventions will contribute to a near complete anti-clockwise loop of bus priority around the city centre delivered as part of the city centre programme, of which the scheme forms part. As part of this prioritisation, the northbound bus lane will be widened adjacent to bus stops to allow stationary buses to be overtaken.

The proposals also include active travel improvements, with a two-way cycle route proposed along Temple Way parallel to the southbound carriageway. The cycle

infrastructure will offer a segregated cycle route which will complement and connect to existing segregated cycled lanes along Temple Way, Victoria Street, the Bristol to Bath Cycle Path and Concorde Way. Figure 1-1 summarises the existing and proposed cycle and bus alignments in the area.

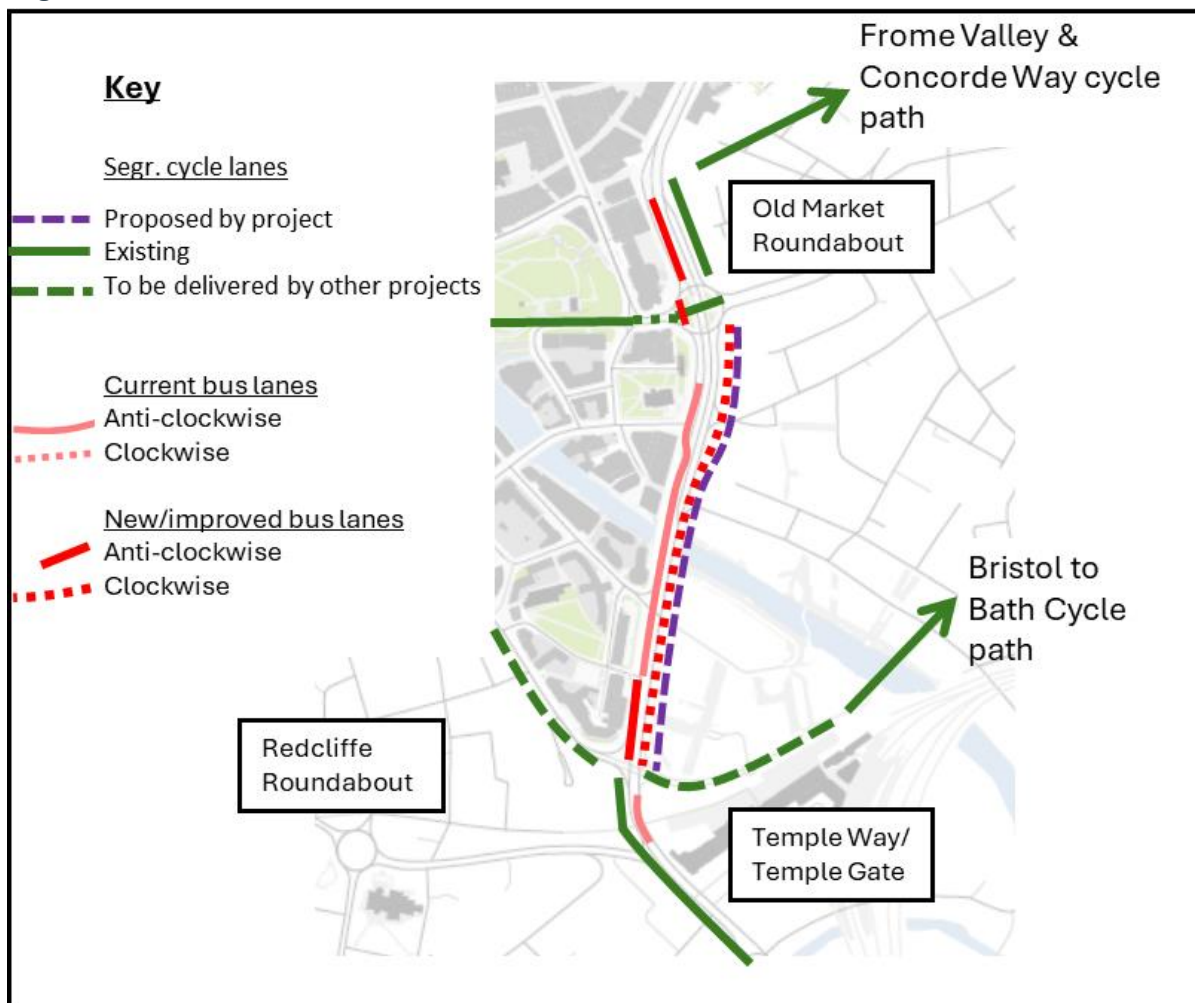


Figure 1-1: Map of existing and new bus lanes and cycle routes in Temple Way

## 1.2 Case for Change

Temple Way is a densely developed and heavily congested area of Bristol City Centre, with significant volumes of vehicular traffic using the area to access city centre jobs, services and amenities, as well as making through trips to other parts of the city. These high volumes of traffic cause congestion leading to slow journey times which affect buses where bus priority isn't currently available.

Figure 1-2 illustrates the features and amenities in proximity of the study area. Temple Way is located in a high concentration of economic activity and has a number of facilities and amenities in the area, which is characterised by large office blocks. The study area is located east of Broadmead, a popular shopping destination with Bristol Temple Meads station located to the south of the study area.

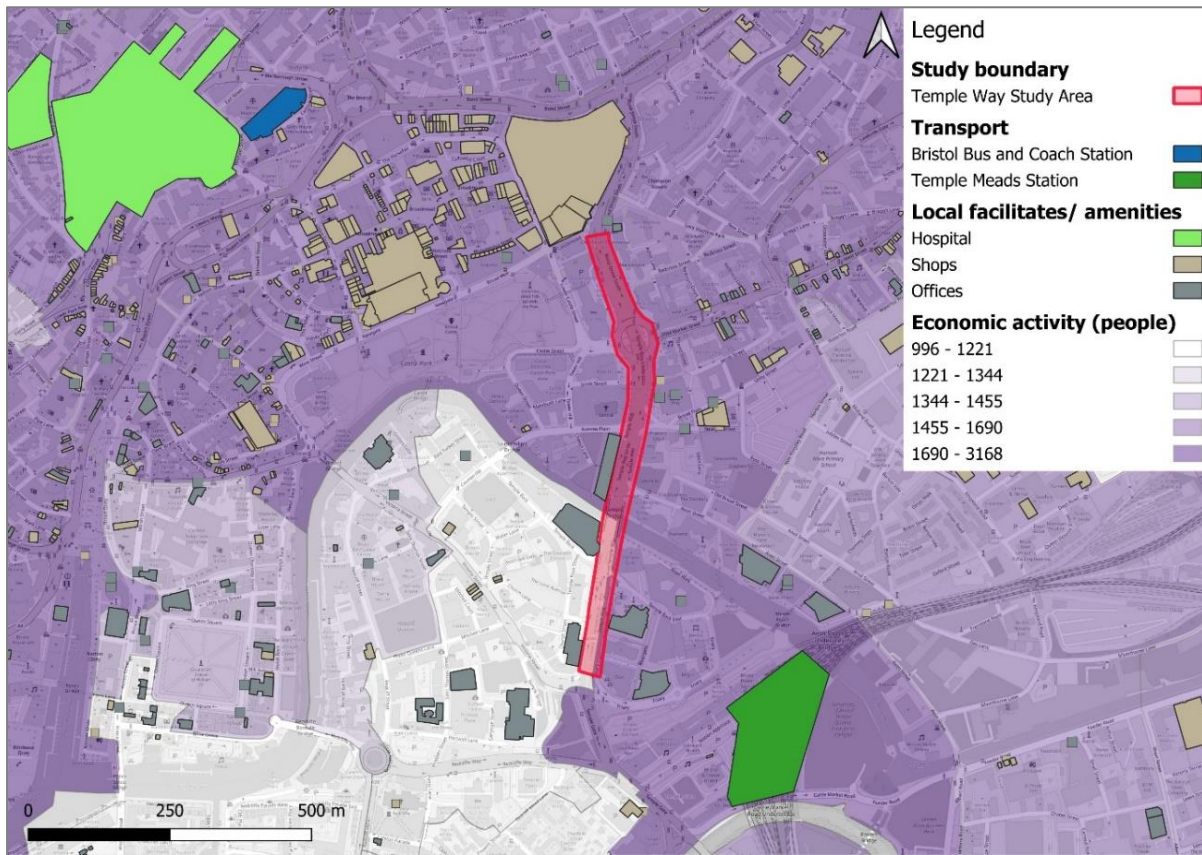


Figure 1-2: Study area in context of Bristol City Centre

Connectivity from the city centre to Bristol’s suburbs and regional destinations by all modes relies significantly on this stretch of the A4044.

This corridor facilitates long-distance north/south journeys using the Strategic Road Network (SRN) and Major Road Networks (MRN); such as trips to London, Wales and the Midlands via the M32 Motorway. Trips to Bath use the A4044 which connects to the A4. Figure 1-3 maps the SRN, MRN and other key roads in the area.

Old Market roundabout provides local access to Old Market High Street and onwards to Lawrence Hill in the east and to Castle Park and Broadmead in the west.



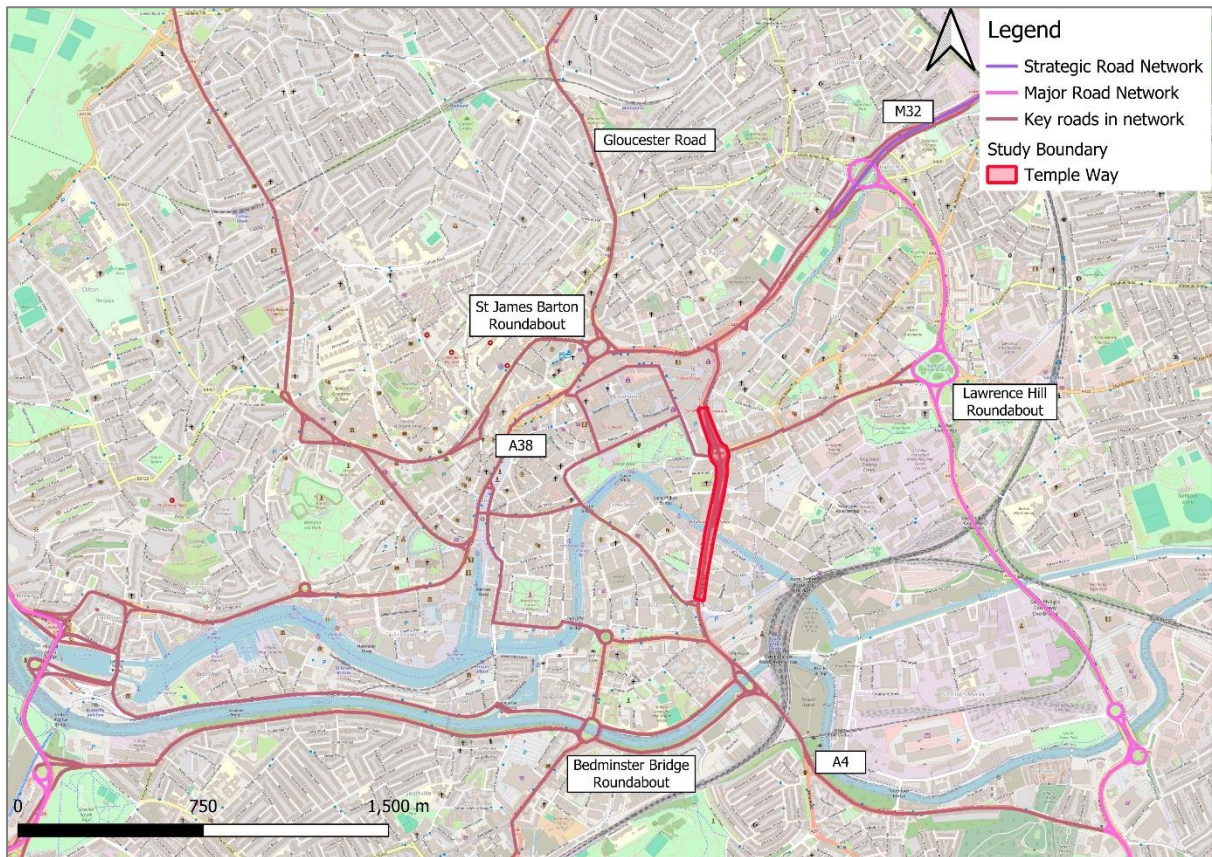


Figure 1-3: SRN and MRN and key roads in study area

The study area corridor also provides connectivity to major employment destinations including Bristol Temple Quarter Enterprise Zone and Bristol Business Park, City Business Park.

The following sections outline the current arrangements for buses and active travel users and explain how the proposed interventions will resolve these problems.

### Bus Priority

A large number of bus services utilise Temple Way as part of their route through the city centre. A traffic survey was conducted on the 8<sup>th</sup> and 9<sup>th</sup> of September 2023. The traffic survey was located on Temple Way (intersecting Temple Back) and recorded northbound and southbound movements. An average of the two days found 17 buses an hour travelling northbound and 12 buses an hour travelling southbound. Figure 1-4 highlights these routes which include the M2 Metrobus route (orange), local buses and coaches (brown lines). A full list of services is shown below Table 1-1.



Table 1-1: Bus services using Temple Way corridor

ID	Direction	Bus Service	Approximate Frequency
1	Bus lanes located north of Old Market Roundabout (used by northbound buses)	5, 7, 8, 9, 45, 6, 36, 24, 41, 42, 43, 44, 46, 48, 48a, 49, 50, x91	40 buses per hour
2	Bus lanes located south of Old Market Roundabout (used by northbound and southbound buses)	8, 9, 61, x91	10 buses per hour
3	Anti-clockwise lane (northbound on Temple Way using bus lanes in ID 1 and 2 which then turns into southbound movement)	M2	3 buses per hour

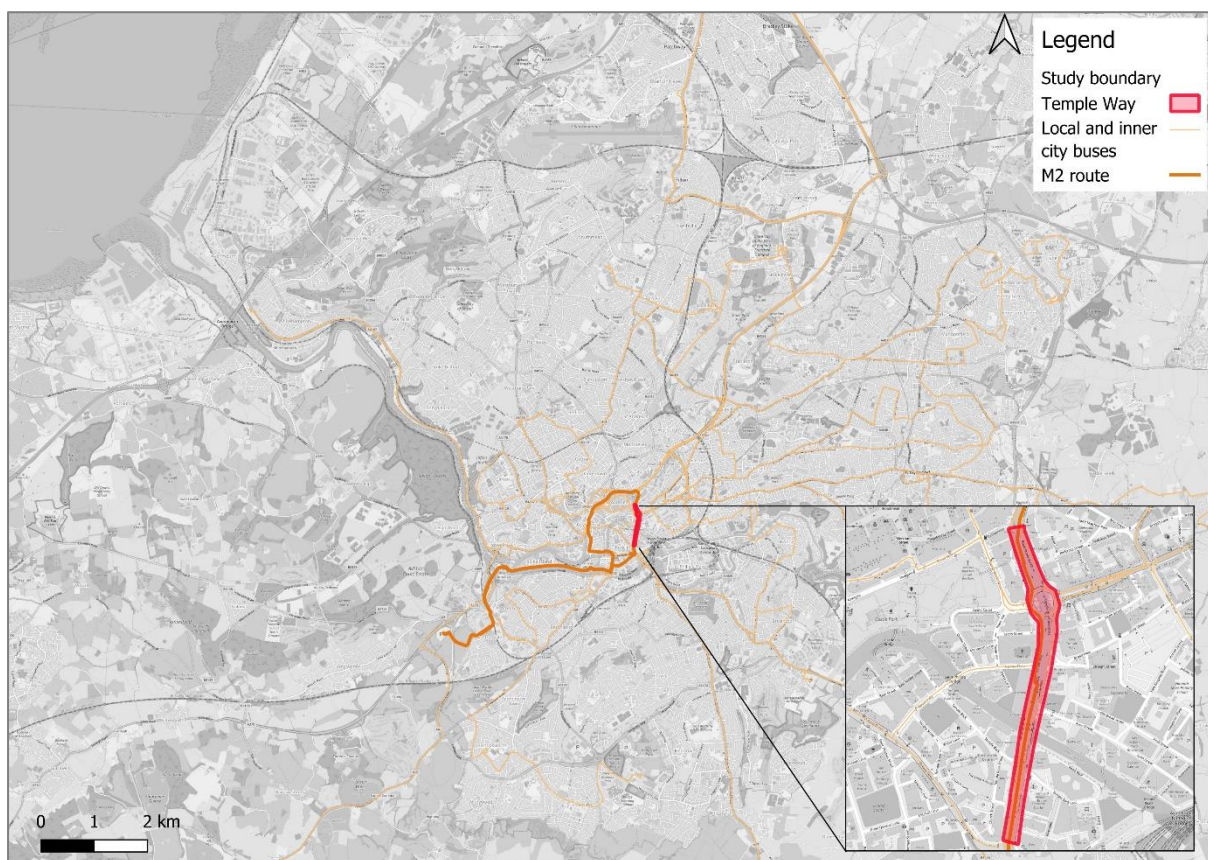


Figure 1-4: Bus Routes through Temple Way

The current alignment of Temple Way includes intermittent bus priority. This scheme will introduce bus lanes to Temple Way contributing (alongside the wider Bristol City Centre programme) to a near complete anti-clockwise loop of bus priority around Bristol City Centre.

Buses experience delays on Temple Way due to stopping buses. Bus lanes will be widened to facilitate overtaking stopped buses at Cabot Circus South (S12) and Temple Way (T8) bus stops. T8 is a key bus stop to be relocated outside the University of Law campus building. The wider bus lane will reduce bus queues and delays, allowing passing buses to overtake stopped buses without delays.

The majority of buses travelling to Bristol City Centre adopt the same (or similar) looped route around the city centre to access stops close to a range of city centre destinations. The City

Centre Loop is shown in Figure 1-5, with buses from the south starting the loop on Temple Way before reaching Bond Street South, heading towards St James Barton Roundabout and continuing into the city centre on Rupert Street or the Horsefair. There is also a one-way loop in the central area using Union Street, the Horsefair and Penn Street. Slow bus journeys on Temple Way result in delays for all bus services following Bristol’s City Centre bus loop. Figure 1-6 shows the bus delay per vehicle on the Bristol City Centre bus loop.

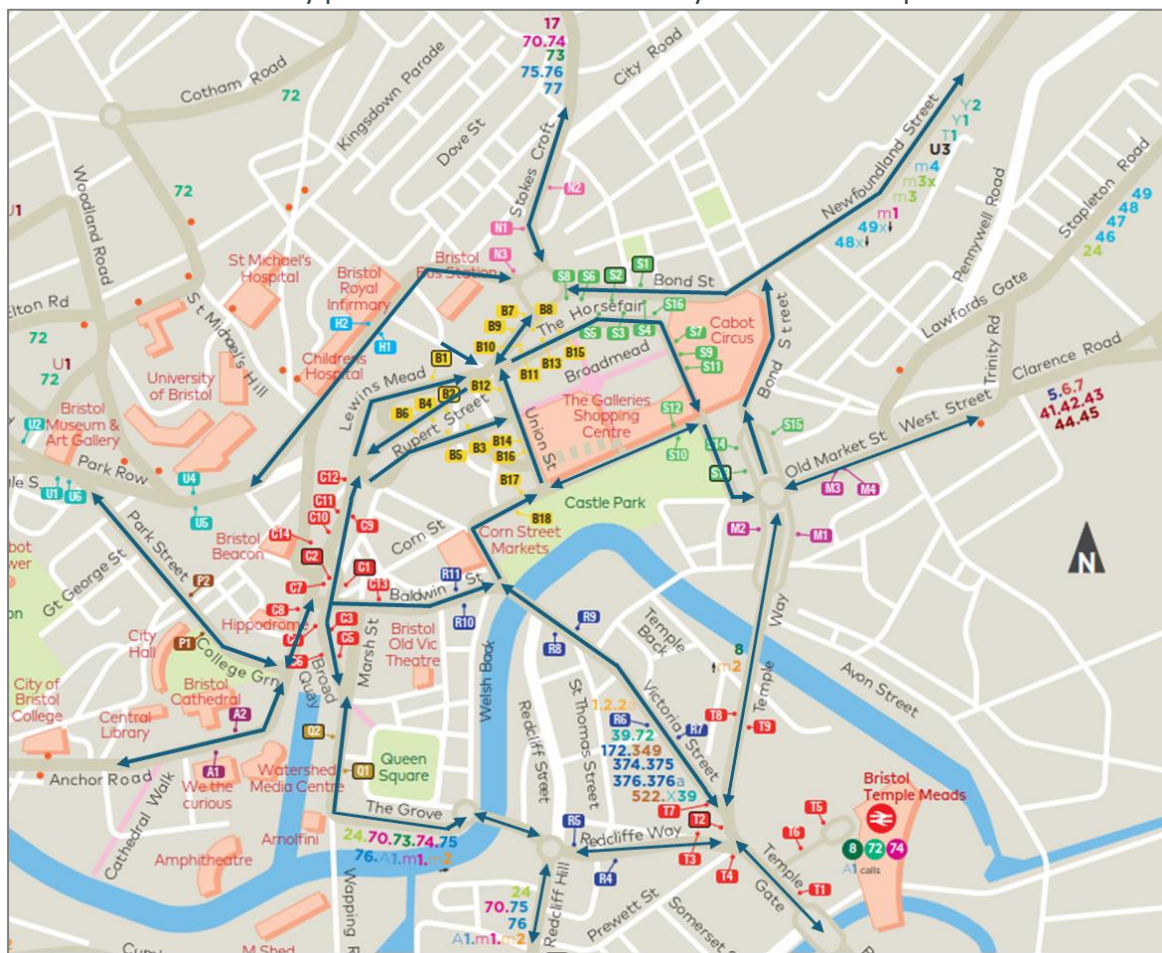


Figure 1-5: Bristol City Centre Bus Loop

Basemap is sourced from First Bus with amendments made using TravelWest journey planner. Sources available at First Bus (2024) Network Maps: [Bristol City Centre Map.ai \(firstbus.co.uk\)](https://www.firstbus.co.uk/bristol-city-centre-map) and TravelWest (2024) Journey Planner: [Bus Route Maps & Timetables in Bath and North East Somerset | WEST \(travelwest.info\)](https://www.travelwest.info/)



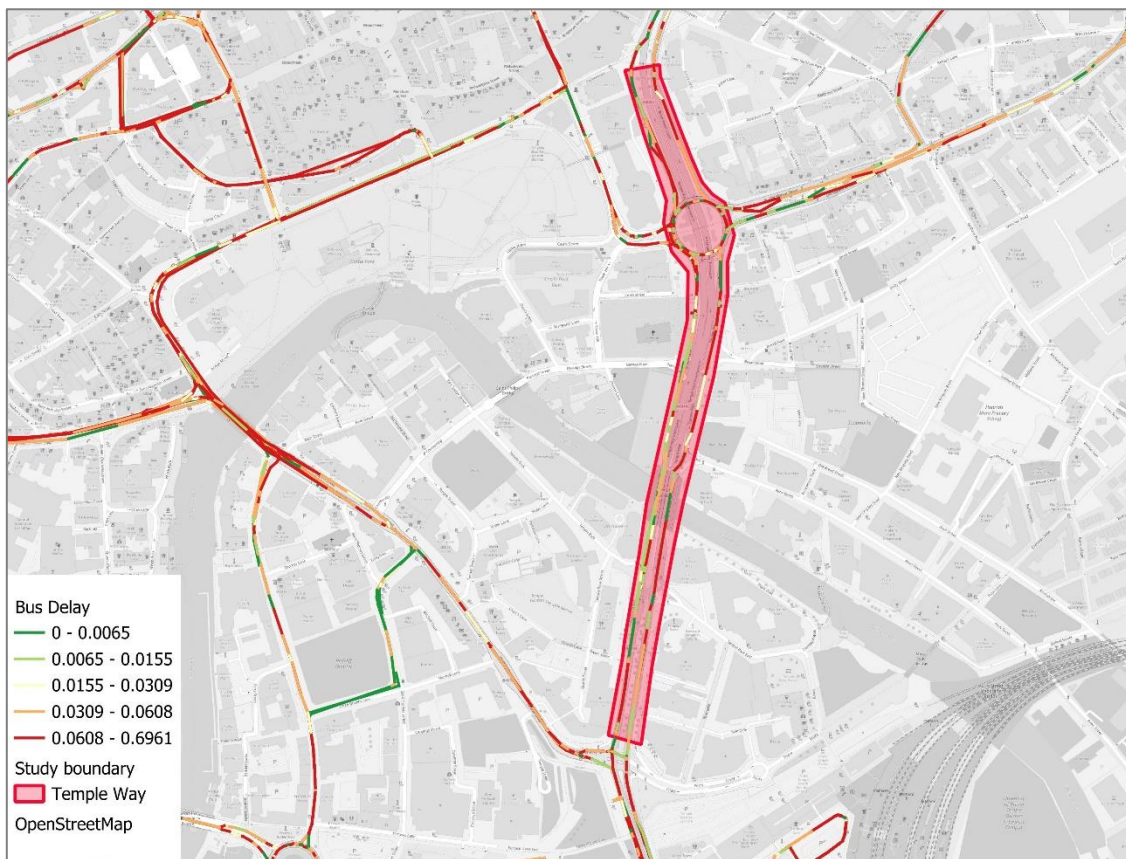


Figure 1-6: AM Peak (8-9) Bus delays (per vehicle) on the Bristol City Centre Bus Loop

Analysis of available traffic data has been combined with estimates of average car/van occupancy and bus occupancy levels from data collected by Firstbus to estimate the existing modal share of users of the study area. This is presented in Table 1-2 below.

Table 1-2: Traffic Information Temple Way

	<b>Temple Way</b>
Observed 2022 24hrs AADF All Vehicle flow	28949
Observed 2022 24hrs AADF bus vehicle flow	472
Observed 2022 24hrs AADF carriageway cycling flow	415
Estimated motorised user modal share*	80%
Estimated bus user modal share+	19%
Estimated carriageway cyclist modal share	1%

This indicates that almost 29,000 vehicles use Temple Way per day. Of these almost 500 are buses (vehicles) and just over 400 are cyclists (in the carriageway). Almost 20% of the users of the corridor are estimated to travel by bus. Currently cyclists represent just 1% of the users of Temple Way.

Bus journey time savings in this corridor will provide benefits for bus users from across the subregion. Bus routes serving the wider region of Bristol, Bath and Northeast Somerset and

South Gloucestershire utilise this corridor. Any bus journey savings experienced in this corridor will improve the overall punctuality of those buses and providing a greater journey time reliability for users.

### Cycle Intervention

The current road alignment has a limited amount of segregated cycle lane north of Old Market Roundabout. This is approximately 160m in length and contains a two-way segregated cycle route.

The remaining cycle infrastructure in the site boundary is unsegregated and located on a busy section of the highway (with almost 30,000 vehicles per day). Current facilities are likely to be considered unsafe by cyclists who are required to cycle alongside three lanes of general traffic on some sections, with the cycle lane running in between traffic lanes and a bus lane in others. Figure 1-7 demonstrates the cycle provision in the study boundary and highlights the safety concerns.



LTN 1/20 Cycle Infrastructure Design Document:  
“Not only must cycle infrastructure be safe, it should also be perceived to be safe so that more people feel able to cycle”.

Figure 1-7: General traffic and bus stop either side of cycle lane on Temple Way.

Source: Google Maps

The existing infrastructure does not align with the LTN 1/20 Cycle Infrastructure Design document, which states that on busy strategic roads, safety will need to be achieved by providing dedicated and protected space for cyclists. LTN 1/20 highlights safety can be achieved for cyclists by providing separation from busy and fast-moving traffic. While the current alignment offers dedicated space for cyclists, users do not feel safe as it is not fully separated (evidenced in Table 1-3).

### Pedestrian Infrastructure

The pedestrian infrastructure in the study area has sections of good and inadequate provisions. The main footways which run parallel to the highway, located on either side of Temple Way, are wide allowing pedestrians to distance themselves from the busy (six lanes) highway- see Figure 1-8. On sections of the highway, there is a line of trees between the footway and Temple Way creating a safe barrier between motor vehicles and pedestrians. On other sections, the good tree coverage along the footways helps to create a safe ‘feel’ for pedestrians by providing public realm benefits, distinguish the area separate from the road users.



The inadequate provisions for pedestrians relate to the crossing infrastructure. While the study area has a number of pedestrian crossings for Temple Way, such as at Old Market Roundabout and Temple Back, there are cases where there is insufficient crossing infrastructure on roads intersecting Temple Way. Figure 1-8 visualises Broad Plain showing no pedestrians crossing and a lack of pedestrian priority. The insufficient infrastructure means pedestrians are required to wait on the kerbside until there to be no turning traffic.



Figure 1-8: Satellite photo of Old Market Roundabout, Temple Way

Accident data from police force accident reporting indicates that between 2019 and 2022 there were 23 incidents involving a pedal bike and a pedestrian within/adjacent to the study area- Figure 1-9 maps these incidents. The majority of the severity of these incidents are classed as 'Slight' with one 'Serious' incident involving a pedestrian located at Old Market Roundabout. Noticeably, the map shows five incidents on the Temple Way and Broad Plain junction, all involving cyclists.



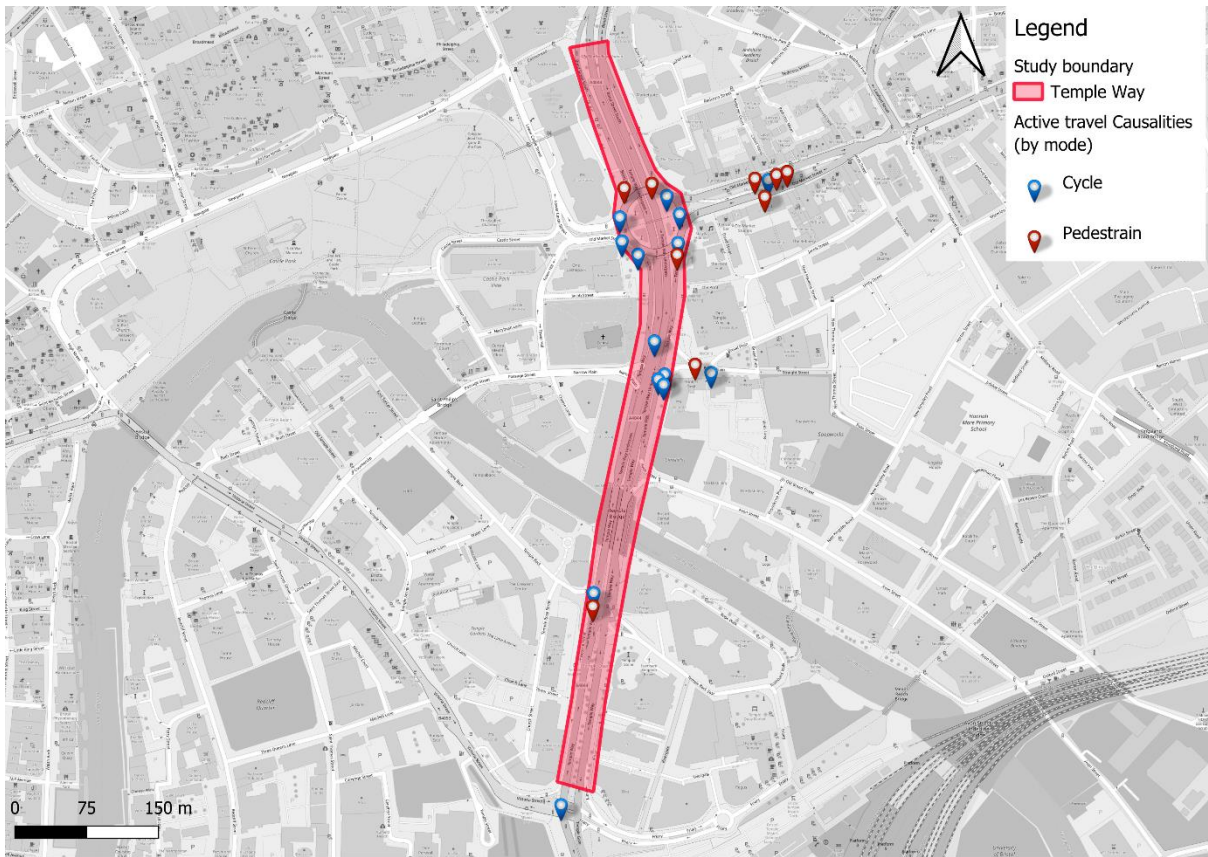


Figure 1-9: Temple Way pedal bike incidents

A public consultation was held as part of the 'Getting Bristol Moving' campaign. The public engagement involved hearing from the general public on walking and cycling improvements across Bristol. Responses from this engagement which are relevant to Temple Way are identified in Table 1-3. The locations discussed are shown in Figure 1-10.

Table 1-3: Getting Bristol Moving Public Engagement, Temple Way.

Objective ID	Improve ment type	Number of votes	Date	Detail (from respondents)	Alignment with scheme
1642	Cycle Lanes	1	Information not available	<i>Currently go from 3 lanes on the south side of the roundabout to two as you turn off the roundabout back to 3 lanes. This is dangerous for cyclists who get squeezed between pavement and cars/buses on this corner.</i>	Scheme introduces segregated cycle lanes
1626	Cycle Lanes	23	Information not available	<i>Pinch point where segregated cycleway becomes shared space before the crossing on the corner, with large ash trees and BT telecoms boxes further obstructing space.</i>	Segregated lane extended
1251	Cycle Lanes	16	Information not available	<i>Better signage, look at alternative routes, this is a heavily congested cycle/pedestrian underpass and causes a lot on conflict between users</i>	Additional cycle lanes
1207	Pedestrian	27	Information not available	<i>Vehicles come off Temple Way at great speed right onto a National Cycle Network Route. There is no need for this access with alternative routes available so please block it.</i>	Zebra crossing added
173	Access	1	Information not available	<i>Disagree with road closure. People who live in the area need access to their houses and a diversion will direct people past Hannah Moore Primary School or via a long route along West Street. Introduce traffic calming instead.</i>	Zebra crossing added
1604	Cycle Lanes	21	Information not available	<i>Cycle route infrastructure is non-existent going west from Friary to Victoria Street. Coming from a major cycle route and the station into town here is very difficult.</i>	Additional cycle lane



Figure 1-10: Getting Bristol Moving Public Engagement, Temple Way

The scheme proposes two-way segregated cycle lanes along Temple Way. The cycle lane will be separated from the highway and bus stops. At junctions, there will be 'Tiger' Crossings providing a separate space for cyclist to cross the road (see Appendix H1 for design drawings). This cycle infrastructure will complement and connect to other existing segregated cycle lanes in the area including Temple Way, Victoria Street, Bristol to Bath Cycle Path and Concorde Way. The additional sections of cycle lanes will start at the Old Market Roundabout and run parallel to Temple Way ending at Temple Gate.

The cycle provision as part of this intervention recognises the existing concerns in the study area and provides a safer route. By connecting into existing infrastructure on onward routes, it will enhance the overall cycle network in Bristol further increasing the attractiveness of cycling in the city centre.

## 1.3 Policy Alignment

The implementation of the scheme will aid in achieving following policy objectives:

- The City Centre Development and Delivery Plan (DDP)
- The West of England Bus Strategy
- The Bus Service Improvement Plan (BSIP)
- The Joint Local Transport Plan (JLTP)
- The Local Cycling and Walking Infrastructure Plan (LCWIP)

Table 1-4 details the alignment between the scheme and each of these policies.

Table 1-4: Regional and local policies aligning with the project

Local/ Regional/ National Strategies, Policies, or Plans	Areas of Alignment
City Centre Development and Delivery Plan- Public Document Pack	The DDP plans to develop Broadmead and Castle Park area into an inclusive sustainable area. The plan restricts private vehicles and support the provisions of new pedestrian priority areas and bus priority routes. The plan includes the creation of new bus priority lanes to support a new anti-clockwise high frequency bus loop around the wider city centre.
West of England Bus Strategy- Our Vision	The Strategy aims to maximise bus service reliability and reduce journey times in the West of England. Future network design will see co-ordinated bus interchanges for neighbourhood and city centre bus trips.
BSIP- Headline Targets	The plan aims to reduce bus journey times by 10%, ensure 95% of services run on time and grow bus patronage to pre-pandemic levels.
JLTP- Section 7 Connectivity within the West of England	Policy W4 is to improve resilience of the network and increase reliability by adapting the network with schemes to improve the safety and encourage sustainable modes of transport. JLTP priorities the need for an orbital connectivity solution with the development of a rapid transit system to provide an alternative to private vehicle trips.
LCWIP- Chapter 1 Background	Increase active travel by investing in cycling and walking infrastructure. Investment is to improve the quality of active travel trips and making them safer.

The scheme has the overall strategic objective to support the delivery of two new high quality rapid transit services in the city, these are shown on page 50 of the DDP and known as the 'red' and 'blue' routes. BCC is working with the Combined Authority to deliver a high-quality, fully segregated and reliable bus service for the city centre and wider region. The Combined Authority aspires to double bus passengers by 2036 and to obtain this goal, BCC and the Combined Authority plan to bring incremental network improvements to the transport network over the next five to ten years.



Figure 1-11 illustrates plans for a bus-based rapid transit network as part of the first set of medium-term rapid transit schemes. The medium-term public transport vision has a central loop which will provide a high frequency orbital service using the existing anti clockwise bus loop with enhanced priority. The bus priority on Temple Way will facilitate this orbital route from Old Market to Temple Meads. The city centre loop helps to connect all other routes together, as well as other routes to major destinations e.g. Temple Meads, Cabot Circus, Broadmead and the Centre supported by the other interventions in the Bristol City Centre package. This scheme on Temple Way is part of a package including Bond Street/Newfoundland Circus, Union Street and Redcliffe Roundabout. Together, the package of interventions will provide the necessary infrastructure to deliver an enhanced priority loop and subsequently supports a rapid transit system in Bristol.

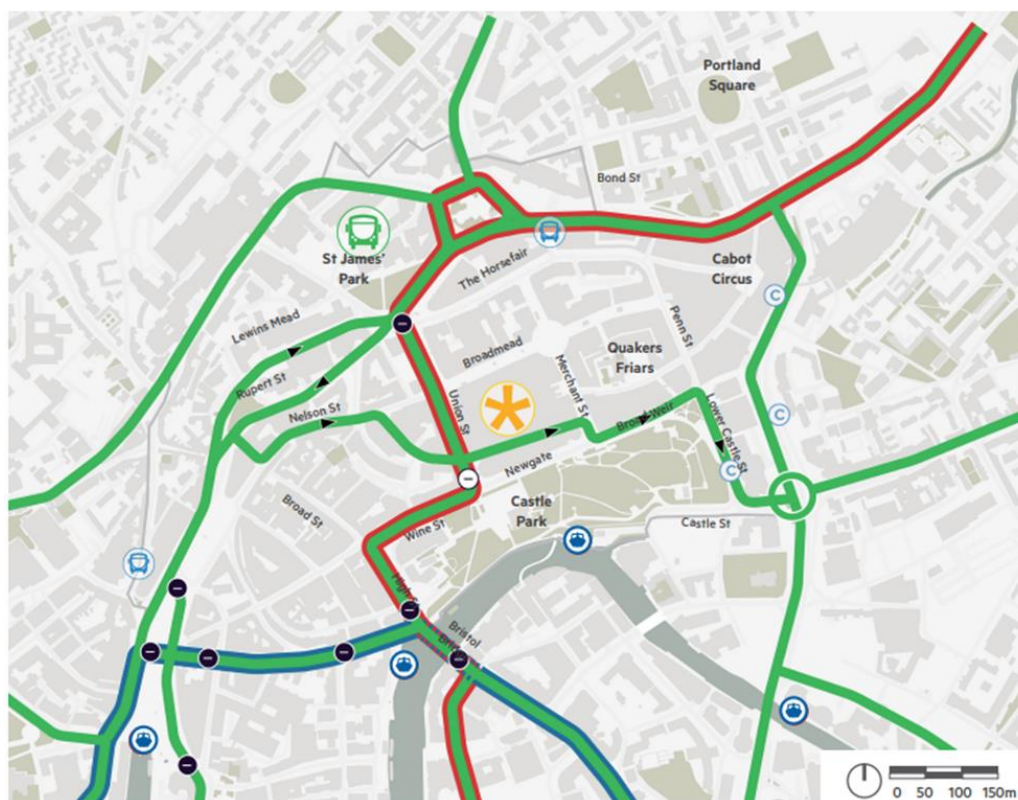


Figure 1-11: Proposed Bus Loop<sup>1</sup>

<sup>1</sup> Bristol City Council (2023) City Centre Development and Delivery Plan. Available at: [City Centre Development and Delivery Plan \(DDP\) Part A \(bristol.gov.uk\)](https://www.bristol.gov.uk/city-centre-development-and-delivery-plan-ddp-part-a) [Downloaded: 11/06/2024]



## 1.4 Project Objectives

Table 1-5 shows the objectives of the project which have evolved from the Bristol City Centre overall project objectives to make them scheme specific.

Table 1-5: Scheme Objectives

ID	Objective
OB1	To increase the number of bus passenger journeys trips along the A4044 corridor (Temple Way).
OB2	To reduce the number of car journeys along the A4044 corridor (Temple Way).
OB3	To improve the air quality on the A4044 corridor (Temple Way).
OB4	To improve the quality and safety of cycle routes along the A4044 corridor (Temple Way) and provide benefits to active travel users.
OB5	To provide an improved interchange facility for bus to bus and bus to active and micromobility along the A4044 corridor (Temple Way).
OB6	To improve levels of punctuality for all bus services along the A4044 corridor (Temple Way).
Strategic Objective	Deliver interventions to support Bristol City Centre rapid transit plan for a better punctuality service.

To make these objectives SMART (Specific, Measurable, Achievable, Realistic and Timebound) a set of targets and indicators have been identified which sit underneath the objectives and will be used to appraise the success of the project throughout its lifecycle, forming a key part of the monitoring and evaluation plan.

Table 1-6: Objective Targets and Indicators

ID	Targets and Indicators
OB1	Assuming the scheme opens in 2027, there is predicted to be a 3.2% increase in bus passenger journeys per year by 2029.
OB2	Change in traffic levels using Temple Way.
OB3	Change in operational carbon emissions within the study corridor.
OB4	<p>160m of segregated provisions aligned with cycle infrastructure design LTN1/20 within the study corridor by 2029.</p> <p>Assuming the scheme opens in 2027, there is predicted to be a 20% increase in cycle trips in the study corridor with the implementation of the scheme (calculated using ATF Uplift Tool and the assumption that 24% of new cyclists come from car and the costs received 31 May 2024).</p>
OB5	<p>560m of new and or improved routes to multimodal bus hubs within the study corridor by 2029.</p> <p>An increase in bus interchanges at multimodal bus hubs [Results from intercept survey].</p> <p>An increase in active and/ or micromobility interchanges at multimodal bus hubs [Results from intercept survey].</p>
OB6	<p>10% increase in bus punctuality along the A4044 (within study corridor) with bus trips no earlier than 1 minute and no later than 5 minutes, by 2029 compared to the 2023 baseline.</p> <p>400m of new bus priority lanes within Bristol City Centre by 2029.</p>

In monitoring the impacts of the scheme a greater focus will be given to Objectives 4 to 6, than for Objectives 1 to 3. This is because objectives 1-3 are likely to be significantly influenced by wider changes in the city centre, rather than this scheme alone. These targets and indicators will be monitored using a range of quantitative data, some of which will require bespoke data collection pre- and post-implementation.

A Logic Map has been produced (Figure 1-12) which outlines how the objectives of the scheme will be achieved through the inputs (scheme financing and staff resource), outputs (the physical infrastructure delivered), and the first, second and third-order outcomes of this. The map shows the logical steps through which these outcomes will lead to long-term impacts for residents, commuters and visitors to the area. Numbered boxes are used to show how the individual scheme objectives map into the logic steps and the process by which these benefits will be delivered.

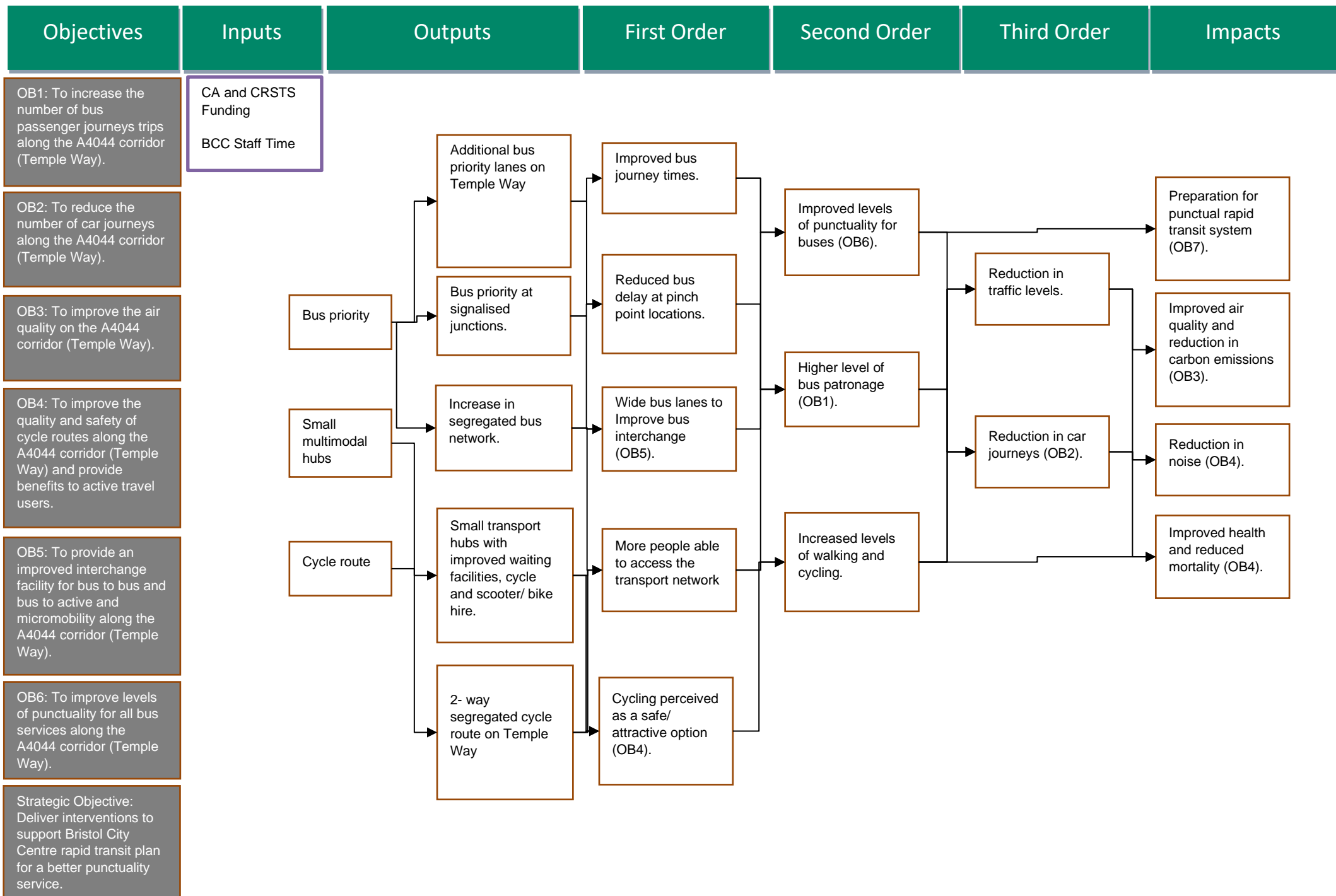


Figure 1-12: Temple Way Logic Map

## 1.5 The Proposed Investment

### Do Minimum Scenario

A number of schemes are proposed in Bristol City Centre which form the 'do minimum' scenario against which the scheme impacts are assessed. The schemes in the do minimum scenario include a mixture of transport (highway, public transport and active transport) and development (residential, mixed-use space, retail) schemes. Table 1-7 highlights these schemes. Expected opening dates have been provided for each development where available.

Table 1-7: Do Minimum Schemes

Scheme Name	Expected Opening Year	Description
Avon Street	2026	The development is situated next to Temple Meads Station and will provide 471 bed student accommodation for the University of Bristol. The complex is spread over three blocks and includes residential and a standalone mixed-use building. The development creates a student residence adjacent to the Temple Quarter Enterprise Zone.
Broad Plain	Ongoing	Broad Plain is located adjacent to the Temple Quarter Enterprise Zone. As Temple Quarter transforms into a residential quarter with mixed-use developments, this public realm strategy maximises this regeneration. The strategy will create new public spaces for the growing residential community and offer improved walking and cycling infrastructure with improve public transport routes.
Old Market Gap	2024	Scheme is located on Castle Street and Tower Hill junction. The new alignment will include a segregated cycle route on Tower Hill with protected pedestrian spaces that connects Old Market Roundabout and Castle Street. The scheme will provide wider and safer points for people walking and cycling.
Temple Quarter	Ongoing	The Temple Quarter development brings employment, housing and mixed-use spaces to Bristol City Centre. Temple Quarter is located near Temple Meads Railway Station and is to be one of the UKs largest urban regeneration schemes. An initial part of the scheme started with a new eastern access to Bristol Temple Meads station, allowing a higher volume of passengers to enter and exit the station to the east of the city.
A4018/A37 Bus corridor Improvement	2027	Scheme aims to make changes to major roads to make it easier for people to take the bus, and to walk or cycle. The scheme includes re-allocation of road space for bus lane and active travel modes, modification to existing junction layout and controls and implementing a reduction in speed limits in locations.
A4 Bus Corridor improvements	2027	The project aims to move people away from using cars by providing more frequent and reliable us services along the A4 corridor.

### Summary of Options

The logic map in Figure 1-12 shows the required outputs of additional segregated bus lanes, bus priority and segregated cycle lanes. Given the linear and narrow extents of the scheme, there was very little scope for large options scale. The locations in which there were design options are listed below:

## **1) Providing bus lane alongside the existing northbound bus stop south of Temple Back East**

Options were drawn up to look at providing a bus lane alongside the current bus stop (to provide maximum segregation and allow non-stopping buses to overtake stopped buses in a bus lane), however this showed that, within the space available, a general traffic running lane would be lost – either the right turn or a straight ahead. Junction modelling was undertaken and concluded that this would have an unacceptable detrimental affect on traffic, as such the decision was made to relocate the bus stop further south as shown on the drawings. This was discussed with the prominent bus operator, First Group.

## **2) Cycle lane Widths**

Towards the southern extent of the scheme, initial designs showed it was not possible to fit in cycle lanes as wide as design guidance and best practice would recommend, even when moving kerb lines to narrow the traffic lanes. To provide sufficient widths would require either loss of a general traffic lane, loss of trees or land take. Loss of a general traffic lane and loss of trees were ruled out as the detrimental impacts in the area are too high. For some of the design area land take was not deemed suitable given the small amount needed included retaining walls and underground car parks. Where the land required was an existing hedge, the decision was made to pursue this land take. In the location which land take was not an option the project was left with a decision between a section of segregated cycle/ped route which was slightly narrower than ideal, or a section of shared use (with trees running down the middle). The decision was made, following internal discussions, that it was safer to have continuous segregation, as partly indicated by the trees, despite this meaning some sections were narrower than ideal.

### **Scope of Proposed Intervention**

The key elements of the proposed scheme are detailed in the design drawings included in Appendix H1.

The scheme includes approximately 400m of bus lanes and includes bus lane widening to improve bus interchanges. The strategic location of the interventions means the scheme has scope to provide network wide benefits. Bus priority on Temple Way will also support the future aspirations for the city centre. The future network as part of BCC and the Combined Authority plan, will require this package alongside other packages across the city to deliver a rapid transit system.

The proposal includes extensions of bus lanes and the widening of existing bus lanes. By widening the bus lanes next to bus stops, buses would no longer be required to wait while another bus is serving a stop, resulting in faster bus journey times and a more punctual service.

The scheme further provides infrastructure promoting cycle safety with two-way segregated cycle lanes and a 'Tiger' Crossing to permit safe crossings. The cycle lane runs parallel to Temple Way and provides a dedicated space for cyclists separate from general traffic. The segregation of the cycle lane will reduce the conflict between cyclists and buses (and general traffic) reducing the journey time for buses and increasing safety for cyclists.

The proposal includes bus stop improvements to deliver small multimodal hubs. The hubs are improved bus stops with cycling parking, additional bus bays to increase bus capacity and real time passenger information (RTPI). These proposals will improve the user travel experience at the bus stop and improve the opportunity for multimodal trips between cycle and bus. The cycle parking and additional two-way cycle route along Temple Way will improve the access to the bus stops via active travel. The combination of components will provide the opportunity for multimodal trips.



## Dependencies

The scheme is not contingent on other developments. While Temple Way is part of the city centre project (1 of 5 bus priority interventions in the city centre) to deliver a new rapid transit service, the proposals the scheme remains a standalone scheme which is not dependent on delivery of anything else. The scheme is designed to enhance the existing transport network supporting current bus and cycle infrastructure in Bristol City Centre.

The scheme is almost entirely contained within BCC-owned highway land for which no consents or legal powers are required, other than Traffic Regulation Orders, which will be gained following FBC approval. However, one small area of land to the south of Temple Back East is currently the subject of negotiation with the landowning developer; this may take the form of land purchase or, more likely, the dedication of privately owned land as adopted highway.

## 1.6 Stakeholders Support

Public engagement and consultation was conducted regarding proposals for Bristol City Centre as part of the Development and Delivery Plans process. The engagement set out the interventions for the future regeneration of the city's centre.

The engagement process started in 2021 with proactive informal engagement. Feedback from this engagement was used to help shape the vision and principles for the city centre. The second phase of engagement involved a ten-week formal consultation period running from 24th July to 1st October 2023. The engagement was hosted on the council's website and was supported by a series of events including surveys, written correspondence (emails and letters), briefs, drop-ins and walkabouts. Some of the key stakeholders and groups are highlighted below:

- The Mayor of Bristol and Mayors Office
- West of England Combined Authority
- Local Councillors
- General public via online survey which was widely publicised
- Community and civic groups
- Groups representing people with protected characteristics including WECIL, Bristol Disability Equality Forum, Bristol Older Persons Forum and Bristol Women's Voice.

The findings from the consultation were reviewed and analysed to enhance the DDP and direct future planning schemes. The engagement covered seven categories, which included movement and connectivity. The relevant findings from the engagement and how the findings relate to the scheme are summarised in Table 1-8.

Table 1-8: City centre public engagement

Request raised in engagement	Engagement evidence	The link between DDP's engagement and the proposed city centre scheme
<p>Improve cycling and walking routes and public transport to encourage people to leave the car at home.</p>	<ul style="list-style-type: none"> <li>82% of respondents agree with improved pedestrian connectivity and accessibility at key sites [n=310]</li> <li>79% agreed with new segregated cycle routes in the city centre (examples given were Union Street, Penn Street) [n=308]</li> </ul>	<p>Cycle infrastructure will increase active travel commuter trips. Cycle routes will improve connectivity for trips in and around the city centre.</p> <p>The scheme's bus priority will improve the public transport through quicker bus journey encouraging a mode shift from car.</p>
<p>Ensure a high quality, efficient, reliable and affordable public transport system</p>	<ul style="list-style-type: none"> <li>68% of respondents agree with the creation of new bus lanes and laybys [n=310]</li> <li>69% of respondents agree with the approach to support delivery of the first phase of rapid transit [n=310]</li> </ul>	<p>The scheme will provide bus priority lanes to supports the aspirations for a transit system which will deliver high quality, efficient, reliable public transport.</p>
<p>Create more low traffic areas where these help to create attractive city centre spaces.</p>	<ul style="list-style-type: none"> <li>79% of respondents agree, of which 51% of respondents strongly agreed to the statement of rerouting buses and consolidate bus stops to support pedestrian areas</li> </ul>	<p>The scheme will provide bus priority lanes to supports the Combined Authority aspirations for a transit system with a which will entail a reroute</p>
<p>Manage and restrict access or private vehicles and taxis</p>	<ul style="list-style-type: none"> <li>66% agree with approach to restrict general traffic with 15% strongly disagreeing [n=308]</li> </ul>	<p>The new bus infrastructure will provide priority to buses over general traffic. The expected mode shift will reduce the number of private vehicles in the corridor.</p>

The public engagement evidences the support for additional bus and cycle infrastructure for the city centre. The public engagement results highlight the demand for increased connectivity with improved public transport and active travel options. This scheme provides new two-way segregated cycle lanes, complimenting existing infrastructure, and additional bus priority which aligns with the city centre engagement.

Further consultation was undertaken for all five City Centre work packages and was held over a 6-week period in Summer/Autumn 2024. The activities included:

- A set of web pages containing the programme information, short videos about the programme and key aims.
- Press releases, newsletters, posters, and social media posts
- Workshops and drop-in sessions

Feedback from the consultation was collected via surveys, questions from events, and walk arounds. The results of this engagement are discussed within the Management Dimension.

## 2. Economic Dimension

### 2.1 Approach to Economic Case

This section outlines the potential value for money of the Temple Way scheme as appraised at the Full Business Case (FBC) stage. As the project meets the criteria for Low Risk Transport Schemes (LRTS), the primary quantified impacts of the scheme are captured using local junction modelling (in LinSIG software) and the Department for Transport's (DfT's) monetisation tools; the Small Scheme Appraisal Toolkit (SSAT)<sup>2</sup> which assesses the impacts of bus and highway interventions, and the Active Mode Appraisal Toolkit (AMAT)<sup>3</sup>, which assessed the impacts of active travel interventions.

The Do Something scenario, which contains the scheme, is assessed against a Do Minimum scenario. The Do Minimum is the likely situation in the assumed scheme opening year (2027) should the scheme not progress. The Do Something scenario assesses the same forecast year but includes the proposed interventions on Temple Way.

The scheme is summarised below with the designs available in Appendix H1:

- **Bus priority:** The scheme proposes inbound and outbound bus priority along Temple Way. As part of this prioritisation, the northbound bus lane will be widened adjacent to bus stops to allow stationary buses to be overtaken. This involves reallocating road space used by general traffic to bus lanes.
- **Cycle provision:** The scheme includes a two-way cycle route proposed along Temple Way parallel to the southbound carriageway. The cycle infrastructure will offer a segregated cycle route which will complement and connect to existing segregated cycled lanes along Temple Way, Victoria Street, the Bristol to Bath Railway Path and Concorde Way.

#### Scope

Table 2-1 details the range of impacts (costs, benefits and disbenefits) appraised, along with the method of assessment used.

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<sup>2</sup> DfT (May 2024) Small Scheme Appraisal Toolkit. Available at: <https://www.gov.uk/government/publications/levelling-up-fund-round-2-small-scheme-appraisal-toolkit-user-guide/small-scheme-appraisal-toolkit-user-guide>

<sup>3</sup> DfT (May 2024) Active Mode Appraisal Toolkit User Guide. Available at: <https://assets.publishing.service.gov.uk/media/631744188fa8f50220e60d1a/active-model-appraisal-toolkit-user-guidance.pdf>

Table 2-1: Economic impacts of scheme and method of appraisal

Economic impacts	Relevant Objective(s) / outcome(s)	Geographical Extent	Method of Assessment
<b>Public account</b>	<i>Temple Way delivers bus and cycle infrastructure to achieve schemes objectives.</i>	<i>The area of intervention is located in Bristol City Centre, east of Broadmead. The proposed intervention is located between Bond Street South and Temple Gate.</i>	<i>Capital cost estimate + inflation at 20% + optimism bias at 46%. No additional operational, maintenance and renewal costs are assumed over the appraisal period (over and above the Do Minimum situation) as there is no change in the paved area.</i>
<b>Public transport passenger impacts</b>	<i>Improved bus journey times and welfare for passengers along A4044 corridor (OB1, OB6).</i>	<i>Bus corridor intervention stretches from Bond Street South to Temple Gate. There is a new inbound and outbound bus priority on Temple Way with sections of the northbound bus lane to be widened adjacent to bus stops.</i>	<i>FirstMove data provides a 2023 estimate of bus patronage by link. First Bus boarding data indicates stop usage. An uplift of 18% has been applied to reflect anticipated growth in bus usage from 2023 to 2027. LinSIG is used to estimate bus journey time benefits. SSAT is used to monetise these impacts.</i>
<b>Active mode user impacts</b>	<i>Improve journey quality and safety for cyclists along A4044 corridor and encourage improved health (OB4).</i>	<i>The active travel route is proposed along Temple Way parallel to the southbound carriageway.</i>	<i>Count data from 2023 is used to estimate existing active travel demand. The ATF4 Uplift Tool is used to estimate with scheme uplift in active travel. AMAT is used to quantify the scheme benefits.</i>
<b>Selection of impacts under the Environmental and Social topics in the AST</b>	<i>Changes to socio-economic metrics including access to employment and services, reliability for commuters and businesses, severance, environment and wider impacts (OB1, OB6).</i>	<i>Bus corridor intervention stretches between Bond Street South and Temple Gate with new inbound and outbound bus priority. Cycle route proposed along Temple Way parallel to the southbound carriageway.</i>	<i>Qualitatively assessed</i>



## 2.2 Monetised Benefits and Costs – Core

This section outlines the monetised benefits and costs of the scheme. The monetised impacts of the scheme are captured using two DfT toolkits, the AMAT and the SSAT. The toolkits provide an estimate of the Present Value Benefits (PVB), Present Value Cost (PVC) and Benefit Cost Ratio (BCR) of a scheme. The two toolkits monetise the impacts of the Do Something when compared against the Do Minimum. Each toolkit assesses different impacts of the scheme and, when combined, give the total quantified impact of the scheme:

- The SSAT toolkit monetises the impacts from bus stop and bus priority measures on highway and bus users; and
- AMAT monetises the cycling and walking impacts of the scheme. Bristol City Council does not anticipate any changes to walking demand, and so this is unchanged in the AMAT.

The assumptions made in the respective toolkits have been summarised Table 2-2.

Table 2-2: Economic Dimension Toolkit assumptions

<b>Assumptions</b>	<b>AMAT Active Travel Users</b>	<b>SSAT Highway and Bus Users</b>
Appraisal year	2024	2024
Intervention opening year	2027	2026 <sup>4</sup>
Construction year starts	2025	2025
Appraisal period	40 years	Highway and bus infrastructure: 60 years Bus quality infrastructure: 40 years
Optimism bias	46%	46%

The scheme opening year is 2027 and assumes a first construction year of 2025. In the absence of information about the spend per year, an equal split of spend per year in 2025, 2026 and 2027 has been assumed.

With the scheme opening in 2027, bus growth guidance has been provided in the West of England Combined Authority Demand Forecasting for Transport Business Cases. This advice note provides guidance on bus and highway demand growth for schemes promoters in the West of England. Between 2023 (the latest observed bus data) and 2027 (the scheme opening), the central case assumes an 18% growth in bus demand.

The promoter has costed for a contingency of 40% for this scheme. We have assumed there is a greater level of uncertainty around scheme costs than typically assumed at FBC stage. Therefore, an optimism bias of 46% has been used, in accordance with TAG Unit A1.2. A lower Optimism Bias value may be applied at a later stage once designs and costs have been finalised.

<sup>4</sup> The scheme's opening year is 2027. In line with the SSAT guidance, when the actual year is unavailable in the toolkit, the nearest year should be used as a proxy (preferably within 3 years). 2026 is the closest available opening year. Source: DfT (2024) SSAT Guidance. Available at: [Small scheme appraisal toolkit user guide - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/123456/Small_scheme_appraisal_toolkit_user_guide_-_GOV.UK.pdf)

## 2.2.1 Active Travel Impact

The existing cycling levels in the study area have been observed using traffic surveys undertaken on the 8<sup>th</sup> and 9<sup>th</sup> of September 2023. The traffic surveys found an average of 548 cycle trips per day at Temple Way.

The Active Travel Fund 4 Uplifts tool (ATF4) has been used to estimate the cycle growth (no growth in walking is assumed to result from this scheme). This tool was developed by Active Travel England to provide consistent growth estimates based upon evidence from delivered Cycling and Walking Schemes in England. The tool produces three growth cases, and the middle growth case (605 cycle trips per day) has been taken for the core economic assessment. The ATF4 requires the cycle scheme costs to be input to the tool. For the purposes of this study, this has been assumed to be 20% of the total scheme cost.

Table 2-3: AMAT Growth Assumptions

Daily Trips	Do Minimum	Do Something	Difference
Cycle	548	605	+57
Walking	2,642	2,642	0

AMAT is an economic appraisal toolkit for assessing cycling and walking interventions in line with DfT TAG Unit A5-1<sup>5</sup>. The latest version of AMAT at the time of writing, November 2023, has been used to quantify and monetise the key benefits of the walking and cycling elements of the scheme. To calculate scheme impacts, AMAT uses details of existing and proposed walking and cycling infrastructure and the anticipated with and without scheme levels of active travel usage. The inputs and outputs of the AMAT assessment are contained in Appendix H2.

## 2.2.2 Highway and Bus Impact

The West of England Regional Transport Model (WERTM) is a strategic, multi-modal transport model covering the City of Bristol, South Gloucestershire, Bath and North East Somerset and parts of North Somerset. The WERTM 2029 Foundation Case has been used for this study to assess the impact of the city centre project as a whole on the strategic rerouting of general traffic to inform the amount of traffic assumed to be retained within the city centre (See Appendix H4). The Do Something scenario considers the same conditions as the Do Minimum, but includes the proposed Temple Way scheme, alongside the proposed Bond Street and Redcliffe Roundabout schemes scheduled for delivery at the same time, which will collectively impact the capacity of the city centre traffic network. To then assess the local impact of the Temple Way scheme in isolation, a cordon of the Old Market Roundabout junction has been extracted from the WERTM Do Minimum and Do Something scenarios. This cordon has then been input into the local junction model to assess and quantify the local journey time impacts of the scheme in more detail. This assumes a slight (3%) drop in traffic levels will occur at Temple Way as a result of the range of changes proposed to the city centre network, see Table 2-4.

Local junction modelling has been undertaken in LinSIG software, which forecasts the impact of journey times on general traffic and bus users in the study area. The Bristol City Council modelling team developed the LinSIG model for Old Market Roundabout, which was then reviewed and updated by AECOM with data from WERTM before being used in this study.

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<sup>5</sup> DfT 1 (May 2024) TAG Unit A5. Available at: <https://www.gov.uk/government/publications/tag-unit-a5-1-active-mode-appraisal>

To provide estimates for bus demand, passenger data has been sourced using First Bus’s FirstMove data. FirstMove uses passenger data from ticketing information and provides a stop to stop estimate of bus patronage by hour of the day (across all services). This data was interrogated for October-December 2023 and identified the number of bus passengers using the sections of the highway within the study area. First Bus boarding data was used for the daily bus passengers benefiting from bus stop improvements. The First Bus count data was collected on a neutral weekday (Thursday) during November 2023.

As no additional bus services are proposed directly as part of this scheme no change to bus demand has been assumed between the Do Minimum and Do Something scenarios.

Table 2-4: SSAT Growth Assumptions

<b>Bus Passenger Data Redacted - Commercially Sensitive</b>			

The DfT’s SSAT (version 3.0) has been used to monetise the impact of the proposed scheme on general traffic and bus users. This includes monetising bus improvements (journey time and journey quality) and general traffic (journey time). In line with the SSAT appraisal method, general traffic demand has been measured by vehicle-trips and bus demand as person-trips, which means the SSAT demand numbers do not precisely correlate with modal share estimates.

The inputs and outputs of the SSAT assessment are contained within Appendix H2.

### 2.2.3 Costs

The scheme costs have been calculated by Bristol City Council in 2024 prices. The costs of the scheme include the design fees, implementation and the scheme’s monitoring and evaluation.

Table 2-5 breaks down the project costs of the scheme post FBC. The promoter costed for a contingency for pre-FBC costing of 10% and 40% for post FBC scheme costs. The economic appraisal acknowledges this level of uncertainty as we used a 46% optimism bias in the Toolkits as discussed in Section 2.2.

Within the scheme boundary there is a Section 106 funded scheme on Avon Street being delivered on Temple Way ahead of these works and provides additional funding (£1,008,566) for the Temple Way scheme benefits. There are also additional S106 funding spread over seven work packages funding the scheme.

Table 2-5: Project costs for the scheme on Temple Way

<b>Detailed Cost Breakdown Redacted - Commercially Sensitive</b>	

The monetised impacts from the AMAT and the SSAT have been combined to calculate the Present Value Benefits (PVB), Present Value Cost (PVC), and Benefit Cost Ratio (BCR) of the scheme. This has been assessed in accordance with the DfT’s Value for Money framework against the categories outlined in Table 2-6.

Table 2-6: DfT Value for Money Categories<sup>6</sup>

<b>Very Poor</b>	<b>Poor</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>	<b>Very High</b>
BCR is less than or equal to 0	BCR is between 0 and 1	BCR is between 1 and 1.5	BCR is between 1.5 and 2	BCR is between 2 and 4	BCR is greater than or equal to 4

The scheme is forecast to generate a BCR of 6.22, which represents very high value for money. The monetised impacts of the scheme and value for money category are summarised in Table 2-7.

<sup>6</sup> DfT (2024). Value for Money Framework Box 5-1. Available at: <https://assets.publishing.service.gov.uk/media/5f6237408fa8f5106d15640c/value-for-money-framework.pdf>



Table 2-7: Central Case: Monetised Impacts of the Scheme

<b>Analysis of Monetised Costs and Benefits (in 2010 prices, £'000s)</b>	<b>AMAT</b>	<b>SSAT</b>	<b>Total</b>
Present Value Benefits (PVB)	£2,063.81	£4,919.56	£5,932.57
Present Value Cost (PVC)			£953.38
Benefit Cost Ratio (BCR)			6.22
Value for Money Category (VfM)			Very High

### 2.3 Monetised Impacts and Costs - Sensitivity

Table 2-8 summarises the results of the sensitivity testing for active travel and bus demand. Sensitivity testing is conducted to consider changes in scheme costs and the scale of scheme benefits. In this economic case, the total PVB and PVC received a -/+ 25% change to create a low case scenario and high case scenario. The PVB, PVC and BCR results from both AMAT and SSAT of the uncertainty analysis are reported below.

Table 2-8: Sensitivity Test: Monetised Impact of the Scheme

<b>Analysis of Monetised Costs and Benefits (in 2010 prices, £'000s)</b>	<b>Central Case</b>	<b>Low Case</b>	<b>High Case</b>
Present Value Benefits (PVB)	£5,932.57	£4,449.43	£7,415.72
Present Value Costs (PVC)	£953.38	£953.38	£953.38
Benefit Cost Ratio (BCR)	6.22	4.67	7.78
Value for Money (VfM)	Very High	Very High	Very High

Table 2-9 and

Table 2-10 shows the extent to which benefits and costs would have to change for the Central Case BCR to pass threshold BCR values where the Value for Money (VfM) category would change.

Table 2-9: Economic Appraisal Sensitivity: Change in Benefits

Analysis of Monetised Costs and Benefits (in 2010 prices, £'000s)	Central Case
Present Value Benefits (PVB)	-£5,932.57
Benefit Cost Ratio (BCR)	3.99
Value for Money (VfM)	High

Table 2-10: Economic Appraisal Sensitivity: Change in Costs

Analysis of Monetised Costs and Benefits (in 2010 prices, £'000s)	Central Case
Present Value Costs (PVC)	+£3,804.00
Benefit Cost Ratio (BCR)	3.99
Value for Money (VfM)	High

## 2.4 Non- Monetised Impacts

The non-monetised costs and benefits related to the scheme have been assessed in accordance with DfT guidance. An Appraisal Summary Table (AST) provides a summary of the impacts of the scheme against three assessment areas defined in TAG as Environment, Society and Economy. Each impact is accompanied by the rationale underpinning a score from the seven-point scale<sup>7</sup>. The ranking system is shown below:

- Large Beneficial
- Moderate Beneficial
- Slight Beneficial
- Neutral/ No Impact
- Slight Adverse
- Moderate Adverse
- Large Adverse

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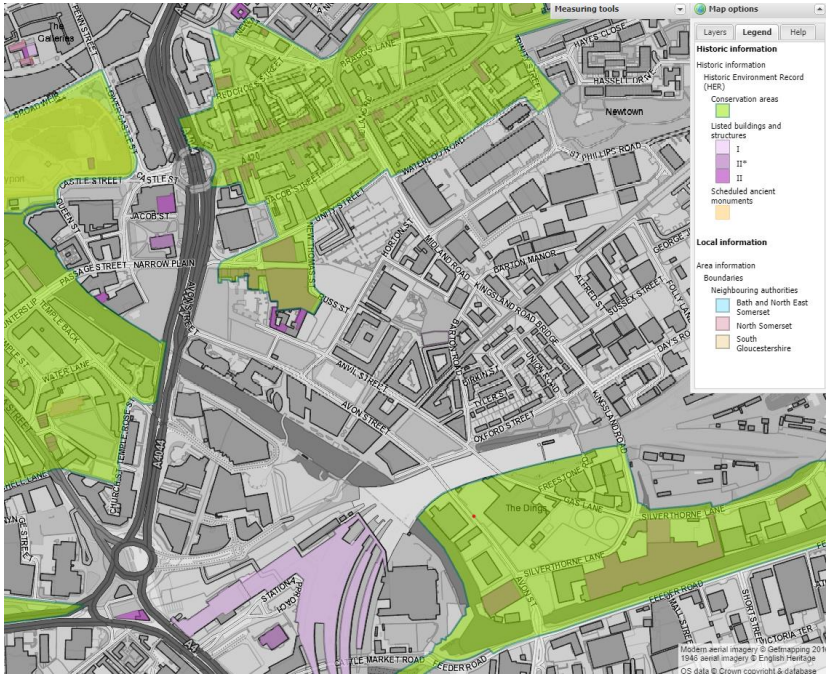
<sup>7</sup> DfT (2018) Transport Analysis Guidance. Available at: [TAG TPM - Guidance for the Technical Project Manager \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/714212/TAG_TPM_-_Guidance_for_the_Technical_Project_Manager_(publishing.service.gov.uk).pdf)

Table 2-11: Appraisal Summary Table

	Impacts	Summary of key impacts	Seven-point scale
Economy	Business users & transport providers	A slight increase in the uptake of bus travel is likely to occur as a result of the scheme. This will benefit the providers of these services, generating additional revenue which can be re-invested in the bus network. However, the bus priority measures reduce road space for cars and may increase the journey times of professional and freight drivers.	Slight adverse
	Reliability impact on Business users	Bus priority is provided in the form of 400 metres of additional bus lanes on Temple Way. Sections of the northbound bus lane are widened adjacent to bus stops to allow stationary buses to be overtaken. This will improve the reliability of bus services travelling through the area as part of the city centre loop, benefiting business users of these services, plus the service operators. The increased reliability of buses is likely to generate a slight mode shift to bus from other transport modes. The bus priority measures, such as reducing road space for cars, combined with traffic calming measures are however likely to reduce reliability for business users travelling by car and freight.	Slight adverse
	Wider Impacts	The scheme forms part of a series of bus priority improvements to the city centre bus loop, alongside other bus priority improvements on radial bus routes into the city centre being taken forward in parallel as part of CRSTS. These improvements have the potential to increase access to employment by providing faster bus services in the corridor hence reducing public transport journey times and improving access to jobs and services. The increased connectivity is likely to lead to agglomeration effects as businesses become effectively closer together, thus boosting each firm's productivity.	Slight beneficial
Environmental	Air Quality	The scheme is located within Air Quality Management Area (AQMA) 10. AQMA 10 was declared for exceedances in the 24-hour mean targets for Particulate Matter (PM10) and annual mean targets for Nitrogen Dioxide (NO2). PM10 and NO2 emissions may be reduced if commuters choose to travel by bus bicycle or foot, reducing the number of journeys taken by the private car. However, a modal shift is not guaranteed and emissions from private vehicles may not be reduced. First Bus are in the process of electrifying their fleet <sup>8</sup> which may reduce emissions produced by buses.	Neutral
	Greenhouse Gases (GHG)	GHG emissions may be reduced if commuters choose to travel by bus, bicycle, or foot, thereby reducing journeys taken by private vehicles. However, a modal shift is not guaranteed. First Bus are in the process of electrifying their fleet, therefore, reductions in GHG emissions from the bus fleet will happen over time.	Neutral
	Townscape	The local townscape is urban, comprising highway infrastructure, non-motorised pathways, local businesses and amenities and public greenspaces. The changes to the local infrastructure are not	Neutral

<sup>8</sup> <https://news-wew.firstbus.co.uk/news/zebra2>



	Impacts	Summary of key impacts	Seven-point scale
		<p>anticipated to greatly alter the urban form.</p>	
	<p>Historic Environment</p>	<p>Nine Scheduled Monuments, a considerable number of listed buildings and three Conservation Areas are in close proximity to the scheme, shown below.</p>  <p>There is unlikely to be a modal shift. However, a greater number of commuters travelling by bus or bike could lead to lower vehicle flows and narrow reduced noise levels, improving the setting for heritage assets. Encouraging a modal shift could reduce the number of cars travelling through the local area, which may improve the setting of the local Conservation Areas.</p> <p>The area in front of the Stag and Hound (1207592) Grade II listed building is proposed to be resurfaced for amenity. The experience of users of the public house seated outside could be improved by this change, which may positively contribute to the setting of the Stag and Hound (1207592). No other heritage assets are anticipated to be directly impacted by the works.</p>	<p>Neutral</p>
	<p>Biodiversity</p>	<p>The Narrowways Millennium Green Local Nature Reserve (LNR) and Avon New Cut LNR, Tree Preservation Order (TPO) trees, the Bristol Feeder Canal, Deciduous Woodland and Traditional Orchard priority habitats are located in close proximity to the scheme. There is unlikely to be a modal shift. However, a greater number of commuters travelling by bus or bike may lead to lower vehicle flows. In turn, noise levels and harmful pollutants produced by cars may be reduced. Improving the environment for ecological receptors.</p>	<p>Neutral</p>

	Impacts	Summary of key impacts	Seven-point scale
Social	Reliability impact on Commuting and Other users	The bus priority measures on Temple Way improve bus journey times for users who live and work in Bristol City Centre as well as those passing through it. The proposed bus interventions are expected to increase bus patronage, but will however prioritise bus movements on Temple Way by reallocating some road space from car to bus lanes; therefore, increasing delays, and journey times for cars.	Neutral
	Access to services	The walking, cycling and bus priority elements of the scheme will improve access to city centre services and amenities as well as improving connectivity to Bristol Temple Meads rail station. A range of journeys will benefit as a result of the improvements forming part of the city centre bus loop.	Moderate beneficial
	Severance	The proposed cycle interventions will facilitate increased cycling on Temple Way increasing the access to facilities and services for local residents. Additional and improved pedestrian and cycle crossings will make it safer and easier to cross the roads adjacent to Temple Way (e.g. Temple Back East), reducing the severance created by these busy roads.	Slight beneficial
	Accidents	<p>The provision of segregated cycle routes will reduce accidents involving cyclists and cars. Separation of cyclists from pedestrians will also reduce the potential for accidents involving these users. The provision of additional and improved pedestrian and cycle crossings at junctions adjacent to Temple Way will reduce accidents involving pedestrians and cyclists. These benefits are in addition to the decongestion-based accident benefits separately quantified. The designs on Temple Way prioritise bus movements over car by reallocating road space away from cars. This is expected to increase the number of car accidents as vehicles may undertake minor rerouting, making use of rat-runs in residential areas to avoid the bus priority measures and associated delays.</p> <p>These impacts are in addition to the decongestion-based accident benefits separately quantified in AMAT.</p>	Slight beneficial

## 2.5 Value for Money and the Impact of Uncertainty

This section outlines the scheme’s value for money assessment using a three-step process in accordance with the LRTS requirements. This section details the scheme’s initial BCR using monetised impacts, detail of how this BCR may be influenced by the non-monetised impacts, and any considerations the level of uncertainty may have in the assessment. The results are reported in Table 2-12.

Table 2-12: Value for Money Assessment

Steps in assessing Value for Money	Assessment	VfM Category
1. Consideration of the Established Monetised Impacts to generate an initial VfM metric	The schemes initial BCR of 6.22 is based on forecast demand for bus and cycle infrastructure using SSA and AMAT. The costs and benefits are derived from journey times, journey quality, vehicle operating costs, accidents, physical activity, noise, air quality, greenhouse gases and indirect tax.	Very High
2. Consideration of other impacts	The revised BCR can be influenced by evolving monetised impacts. Temple Way is planned as part of the wider Bristol City Centre package with other bus and cycle interventions. The combination of all schemes as part of the package will improve the regional bus and cycle network. Other non-monetised impacts include reliability impacts on business users and commuters, access to services, severance, accidents, business users and transport providers, environment, and wider impacts. The other non-monetised impacts are summarised in the AST ( Table 2-11).	Very High
3. Consideration of uncertainties	<p>The BCR value can face supply and demand side uncertainties. The demand for bus use can be influenced by economic factors in the city. Bristol has a growing economy - the second fastest growing out of the core cities in England and Wales over the last decade (2012-2022)<sup>9</sup>. A boom in economic growth can lead to an increase bus usage as an increase in employment opportunities will create more demand for commuters and therefore more bus demand.</p> <p>Supply side uncertainty is related to the future transport network in Bristol. Bristol is delivering a Bus Service Improvement Plan and aspires to improve the bus network in the city. A second supply side factor is the supply of transportation as Bristol, a current Future Transport Zone, has a successful e-scooter and e-bike trial. Mode shift may not be as expected as users shift from private vehicles to alternative modes such as micromobility.</p>	<p>Switching value can be used to assess the certainty of VfM category. The adjusted BCR (PVB £6m and PCV £953 000) suggests a very high value for money.</p> <p>For a changed in VfM category, PVB would have to fall by £2.13m and PVC would have increase by at least £550,000 for the adjusted BCR to decrease to 3.99.</p>

<sup>9</sup> Bristol City Council (2023). *Bristol Key Facts November 2023*: [Bristol Key Facts November 2023](#)

In consideration of the economic case, it is recommended that the scheme, with a BCR of 6.22, representing 'Very High' value for money is taken forward.

Temple Way is part of a wider package of bus priority and active travel interventions in the city centre which are currently at FBC stage (Bond Street and Newfoundland Circus, Redcliffe Roundabout) and OBC stage (Union Street area and Bedminster Bridges). The schemes share similar scheme and strategic objectives and BCC's intention is to implement the package of schemes in conjunction to support the strategic objective of delivering a new rapid transit service in Bristol city centre. Therefore, it can be expected that, in addition to the social, economic and environmental benefits from the Temple Way scheme, the benefits will be even greater when delivered alongside the combined package of measures in the city centre.



# **Appendices**

**Appendix H1 - Scheme Design**

**Appendix H2 - Appraisal Spreadsheets**

**Appendix H3 - Appraisal Summary Table**

**Appendix H4 - Strategic Modelling Summary**

**Appendix H5 - Local Modelling Summary**

**Temple Way**

**Full Business Case**

**Section B:**

**Financial, Commercial &  
Management Dimensions**

**Bristol City Council**

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## 3. The Financial Dimension

### 3.1. Introduction

This section presents the financial case of the Temple Way scheme. The purpose of the financial dimension of the business case is to demonstrate the affordability and funding of the preferred option, including the support of stakeholders and customers, as required.

### 3.2. Capital and revenue requirements

The West of England Combined Authority is the promoting body of the scheme and has financial signoff. Bristol City Council has the responsibility for delivery of the scheme.

The costs that occurred before the submission of the FBC are outlined in Table 1.

**Table 1: Pre-FBC Expenditure**

Item	£
Detailed Cost Breakdown Redacted – Commercially Sensitive	
<b>Total</b>	<b>£289,708</b>

A breakdown of outstanding costs is provided in Table 2. These have been estimated by producing a Bill of Quantities and costing each element.

The allowances for utility diversions are based on C3 returns, which are subject the change based on the outcomes of the C4 and C5 utility searches.

Inflation has been added at a rate of 5%, derived from BCC Engineers professional experience based on recent projects.

Contingency has been evaluated via a Quantitative Risk Assessment completed by Aecom. Each of the 29 active risks on the register were assessed in terms of Cost Impact Estimate, Delay Impact Estimate, and Likelihood. These values were then used in the model to determine a Mean Outcome and a Risk Exposure for each risk and for each iteration. The 80th Percentile risk value, referred to P(80), is then applied to the project.

**Table 2: Forecast Expenditure**

Item	£
Detailed Cost Breakdown Redacted – Commercially Sensitive	
<b>Total</b>	<b>£4,117,783</b>

In sum, the overall estimated cost total is **£4,407,491** for the scheme.

The expected breakdown across financial years is in Table 3.

**Table 3: Annual Expenditure**

	<b>2024/25</b>	<b>2025/26</b>	<b>2026/27</b>
Temple Way (estimated)	£289,708	£1,701,672	£2,416,111

### **3.3. Revenue Support Costs**

Revenue funding streams that will support the benefits realisation of this project include the existing BCC Highways Maintenance budgets, which will support the ongoing maintenance of the new highway assets. The West of England Bus Service Improvement Plan sets out delivery plans for improving bus services (Delivery Plan A) and improving bus priority (Delivery Plan B).

### **3.4. Overall affordability and funding**

The funding source for scheme delivery is CRSTS and construction is due to be complete in October 2026. The scheme also has match funding sourced from Section 106 and Section 278 agreements between the council and developers. Section 106 describes grant money that developers pay to assist the funding of community infrastructure under the Town and Country Planning Act 1990 and is only used for capital projects. Section 278 differs in that it allows for improvements to be made to the public highway by a developer that the highway authority would consider acceptable to undertake and is part of the Highways Act 1980.

**Table 4: Funding Sources**

	<b>CRSTS</b>	<b>Section 106</b>
Temple Way	£2,441,794	£1,965,697

**Table 5: Section 106 match funding sources for the Temple Way scheme.**

<b>Development (if applicable)</b>	<b>Status</b>	<b>Purpose of contribution</b>	<b>Amount</b>
The Assembly	TBC	TBC	£160,000
The Assembly	1 year after signing the Deed of variation	TBC	£320,000



The Assembly	2 years after signing the Deed of Variation	TBC	£320,000
20/05531/F 1 Temple Way, Old Market, City Centre	To be collected in line with conditions.	Bus stops and general CRSTS mass transit.	£25,000
20/05531/F 1 Temple Way, Old Market, City Centre	To be collected in line with conditions	Traffic Regulation Order. High Street/Wine Street upgrade.	£12,134
19/01255 / Former Avon Fire HQ, Temple Back, City Centre	Collected by the council and ready to be spent.	The provision of improvements towards the southbound bus shelter on Temple Way (T9) or such other transport improvements necessary to mitigate the impact of the development.	£33,372
17/06459/P Fmr Post Office Depot, Cattle Market Road, Temple Quarter	To be collected in line with conditions	The provision of a new right turn at the junction of Avon Street and Temple Way.	£135,000
17/06459/P Fmr Post Office Depot, Cattle Market Road, Temple Quarter	Collected by the council and ready to be spent	The provision of a new right turn at the junction of Avon Street and Temple Way.	£873,566
17/04889/F Plot ND9, 4 Glass Wharf, Avon Street, City Centre	To be collected in line with conditions.	Improvements to transport infrastructure within the vicinity of the development.	£40,000
17/04673 / Plot ND6, Avon Street, City Centre	Collected by the council and ready to be spent.	The provision of a “12 line” real time information display boards in the	£10,000

		vicinity of the development.	
16/06195 / Former Temple Way House, temple Way, City Centre	Collected by the council and ready to be spent/	The provision of upgrading bus stops on Temple Way (southbound).	£36,625
		<b>Total</b>	<b>£1,965,697</b>

**Table 6:** Section 278 match funding sources for the Temple Way scheme

<b>Development (if applicable)</b>	<b>Status</b>	<b>Purpose of contribution</b>	<b>Amount</b>
19/01255/F Avon Fire Authority HQ Highway works Phase 1 (AD1927) Bond Value	TBC	Cycle infrastructure	£458,700
19/01255/F Avon Fire Authority HQ Highway works Phase 2 (D2133) Bond Value	TBC	Bus stop upgrades	£320,000
		<b>Total</b>	<b>£757,480</b>

### 3.5. Executive Sign Off

The FBC and all associated documentation is reviewed and approved on the BCC decision pathway. This includes sign off by the Executive Director of Growth and Regeneration at Executive Directors Meeting (EDM) and Chief Financial (section 151) Officer at Capital Improvement Board (CIB). It will then be formally approved by the Transport and Connectivity Committee and this is expected to happen in March 2025.

Once it has been approved by Bristol City Council for submission to the West of England Combined Authority, it will then be reviewed and approved on the WECA decision pathway, including Regional Director Team (RDT) and Committee.

## 4. The Commercial Dimension

The commercial dimension covers the operational and commercial viability of the proposed scheme, and sets out the process that BCC will take in procuring services and materials to deliver the project. It covers the approach for contract and risk management to ensure the achievement of the commercial outcome.

### 4.1. Procurement

To complete the project services which are required, and may be required, procurement can be split into 2 broad categories. These are:

- Project Development, which covers detailed design, site investigations, road safety audits, the TRO process, and Full Business Case drafting, including modelling and appraisal.
- Construction, which includes changes to highway layouts, installation of new traffic signals, alterations to streetlights, alterations to and installation of signage, new public seating and landscaping, alterations to drainage and alterations/ replacement of retaining structures, bus stop upgrades, utility diversions, on site supervision, and NEC4 project management.

#### 4.1.1. Project Development

The project will seek to obtain internal resources to complete the work in the first instance. Where the skillset or resource capacity does not exist within Bristol City Council, the project will seek support from framework suppliers. Should the knowledge and skillset not exist amongst the framework suppliers, the project will look to secure support externally in line with the Bristol City Council procurement guidelines.

#### 4.1.2. Construction

A variety of existing framework contracts will be used to procure the works, specifically:

- Highways Asset Management and Associated Works Framework 2021-2025 with multiple suppliers
- The supply, installation and maintenance of equipment and infrastructure for the control and management of traffic and related services (WoEITS2) with Yunex Traffic
- Street Lighting contract with Centregreat.
- Framework contract with Chroma for BNET diversion.

- Bus stop upgrades contract with shelter supplier Clear Channel UK Ltd.

Other services to be procured not through existing frameworks are:

- Landscaping. The council is currently in the process of tendering a landscaping contract that will be used across the CRSTS programme. To understand the value of these works each project has provided an estimated area of landscaping and number of trees.
- On site supervision / NEC4 project management. We are hoping that this will be undertaken in house but if the Engineering Design team are not able to resource this it will be procured via the Constellia framework.

BCC will manage this procurement process internally, with the BCC Procurement team.

More detail on each contract is given below.

#### **4.1.2.1 BSH/ HGW/ Highways Asset Management and Associated Works Framework 2021-2025**

The Transport Team for BCC has a Highways Asset and Associated Works Framework (HAAWF) in place to ensure that the Department can draw upon the services of contractors via an OJEU compliant process. The framework allows the council to test the market and ensure value for money through a mini-tender process based on a Bill of Quantities (BoQ) and specification set by the client (see the Highway Designs in Appendix H1 of the Strategic Case).

It is proposed that the project would principally procure services through the Bristol Highways Asset Management and Associated Works Framework 2021-25 (BHAMA WF) through 'Lot 6' that applies to projects over £150,000 in value. The council will choose a winning bidder based on price, quality, and social value. There are four contractors on the Lot 6 framework, and all have secured a place on this framework by fulfilling a series of selection criteria.

In order to procure the wider project under lot 6 of the existing HAMAWF, we aim to complete the tender process and sign the contract by the end of September 2025. However if this is not achieved then the wider project would be delivered by the new HAMAWF which begins on 1 October 2025 and will have six contractors on the framework.

#### **4.1.2.2 Street Lighting Contract with Centregreat.**

Street lighting infrastructure and works will be procured through the framework and the current contractor is Centregreat. The management of the contract and calling off the contract lies with the Bristol City Council Highways Electrical Asset Team, with support from the BCC Procurement Team. The council has identified that the current contract value £29.99m will not be sufficient for all works

due between now and the contract end (July 2029) and the team will be procuring another contract running side by side with the term contract, which deals specifically with enhancement works.

#### **4.1.2.3 WoEITS2 with Yunex Traffic**

Traffic signals assets will be procured through the Yunex, WoEITS traffic signals maintenance and installation contract. BCC will manage this procurement process internally, with support from the BCC Procurement team.

#### **4.1.2.4 Payment Mechanism**

Payments will be paid in line with existing agreements between BCC and its suppliers. This will include suppliers invoicing BCC in regular increments, either monthly or at key milestones, up to and not exceeding the maximum total for the Scheme. Along with monitoring the cumulative totals of invoicing for the Scheme, BCC will monitor the invoicing against the detailed cost estimates for each element to ensure payments remain on track to avoid overspend. The Combined Authority will require evidence of invoices to release the funding to BCC.

#### **4.1.2.5 Risk Management Strategy**

BCC will adopt a similar approach to its previous highway construction schemes with regards to risk allocation. Within the tender process BCC will set out that all bids submitted will be for a 're-measure' contract with regards to risk. Essentially, this means that BCC accepts most of the risk, for example if the contractor comes across utilities that were not mapped out in the utility process, there will be a requirement for BCC Engineering Design to re-measure the works and cost of mitigating these utilities.

### **4.2. Operation and Financial Viability**

Business Cases for schemes are either required to identify sources of funding required for ongoing operation or confirm that they are self-sustaining by providing the likely revenue projections along with measures which could be taken if these revenue targets are not met.

#### **4.2.1. Infrastructure financial viability**

Operational, maintenance and renewal costs are not included in the scheme capital costs as these will be funded through BCC's existing highways maintenance budget. There will not be an increase in operational, maintenance and renewal costs associated with the infrastructure because the overall area of infrastructure is not changing, only the layouts.

### **4.3. Social Value Act**



BCC notes the importance of the Social Value Act and wishes to demonstrate its commitment in the principles of the Act and to achieving the top 10 priorities below: -

- 1) Promote the local economy through the use of local suppliers and the voluntary and community sector in order to create and sustain new local jobs and apprenticeships.
- 2) Contribute to carbon reduction targets and use resources wisely.
- 3) Conserve and enhance the environment, supporting biodiversity, minimising pollution and waste and making best use of the environmental opportunities of work undertaken by our suppliers.
- 4) Promote the personal and physical health and the mental and emotional well-being of people within Bristol and the rest of the West of England.
- 5) Support schools and colleges e.g., through new work placements schemes, providing mentors or assisting in mock interviews.
- 6) Increase participation in the Children's 6 Commissioner Takeover Challenge, find details here: [Takeover Challenge | Children's Commissioner for England \(childrenscommissioner.gov.uk\)](https://www.childrenscommissioner.gov.uk/takeover-challenge/)
- 7) Provide training, workplace experience and/or employment opportunities for:
  - i) People with Disabilities,
  - ii) People with Learning Difficulties,
  - iii) Care Leavers,
  - iv) Young People who are not in Education, Employment, Training, or Others who may find access to employment more challenging or who may be under-represented in the workforce, for example ex-offenders.
- 8) Support schools through the provision of business support services.
- 9) Reduce health and social care inequalities across the Bristol area.
- 10) Achieve a service delivery model which uses, engages, or supports the local community and voluntary sector including ideas such as adopting a local voluntary organisation as the provider's 'charity of the year'.

To achieve these priorities, during the development of the scheme BCC has a [Social Value Policy](#) which requires all suppliers to seek to apply these principles in the Act to all decisions. Focussing specifically on reducing poverty and inequality, enhancing community economic and social wellbeing, and

increasing the city's resilience and environmental sustainability. Part of supplier evaluation during a procurement exercise is the supplier's commitment to Social Value.

To achieve these priorities, during the construction of the scheme, it has been agreed that contractors sourced via the framework will:

- Continue to achieve priority 1 through its procurement framework – any commissions or purchases for this project will contribute to priority 1, however these could not be easily quantified.
- Continue to achieve priority 2 through its day-to-day operations – meaning that activities under this project will contribute to this priority, however these could not be easily quantified.
- Continue to achieve priority 3 through its day-to-day operations – so activities under this project will contribute to priority 3, however these could not be easily quantified.

# 5. The Management Dimension

The management dimension covers how the project will be delivered. This section discusses the proposed governance structure, delivery programme, how the risks will be managed and plans for stakeholder engagement, as well as plans for monitoring and evaluation.

A brief introduction to the status and maturity of the project is given below, this is then expanded upon in more detail in this dimension.

- Detailed designs have been completed.
- Public consultation on the plans has been completed. Feedback has been collated and designs are being reviewed and updated in response to the feedback.
- Consultation has been undertaken with all affected bus operators.
- Engagement is ongoing with neighbouring building occupiers and development schemes.
- Work to identify which TROs are affected and will need to be created has begun.
- Statutory Consultation will be carried out in relation to the TROs.
- The optioneering process has included significant design reviews from internal and external stakeholders. The project drawings are provided in Appendix H1 of the Strategic Case.
- C3 utility searches have been completed. C4 surveys are now being undertaken.
- Trial holes have been completed and the cores have been confirmed to be non-hazardous.
- Drainage surveys have been completed.
- A duct survey has been completed.
- The impact of the cumulative impacts of construction from this and other projects has started to be mapped by the project team and a commissioned consultant, work to identify mitigations to 'keep Bristol open for business' has begun.

## 5.1. Promoter and Delivery Arrangements

The West of England Combined Authority is the promoting body and sponsoring organisation. It has responsibility to ensure that the funds allocated are managed effectively to ensure that the benefits of the scheme are realised. Bristol City Council is seeking funding for the delivery of this Scheme from the CRSTS fund. Bristol City Council has responsibility for the development of this business case and has the responsibility to deliver the Scheme, which will include responsibilities for development of the designs, technical approvals, and cost estimates.

Bristol City Council has been delivering these types of transport schemes, as the Local Highway Authority, for many years and is well placed, in terms of capacity and capability, to continue this rollout. Well-established in-house and third-party arrangements for the identification, design, procurement, and delivery of schemes of this type are in place.

## **5.2. Project Governance**

The project will be governed by Bristol City Council's Transport Programme Board which is a monthly meeting of the SROs and Programme Managers. Project management is provided by the Transport Development Team (TDT). The roles are as follows:

- Project Sponsor: Adam Crowther
- Project officer names redacted

The project manager is responsible for tracking progress of the project against the programme, review risks and issues and track spend against the cost forecast. This is done via weekly / fortnightly meetings with team members overseeing parts of the project. The frequency of meetings varies depending on the task. There is a fortnightly meeting with the design lead and fortnightly meetings are held with the consultant undertaking modelling. Specific workshops are convened when necessary to discuss modelling and design implications. Other team members are brought into these as necessary for example traffic signals engineers.

Monthly meetings are held with the TRO work package lead. Monthly meetings were held with the consultation work package lead, this was increased to weekly during consultation and was reduced in frequency once the consultation was complete. The Project Manager is also responsible for arranging resource for work streams which are due to start, and, along with the programme manager, look to arrange resource so that there is resource available as soon as the task can start.

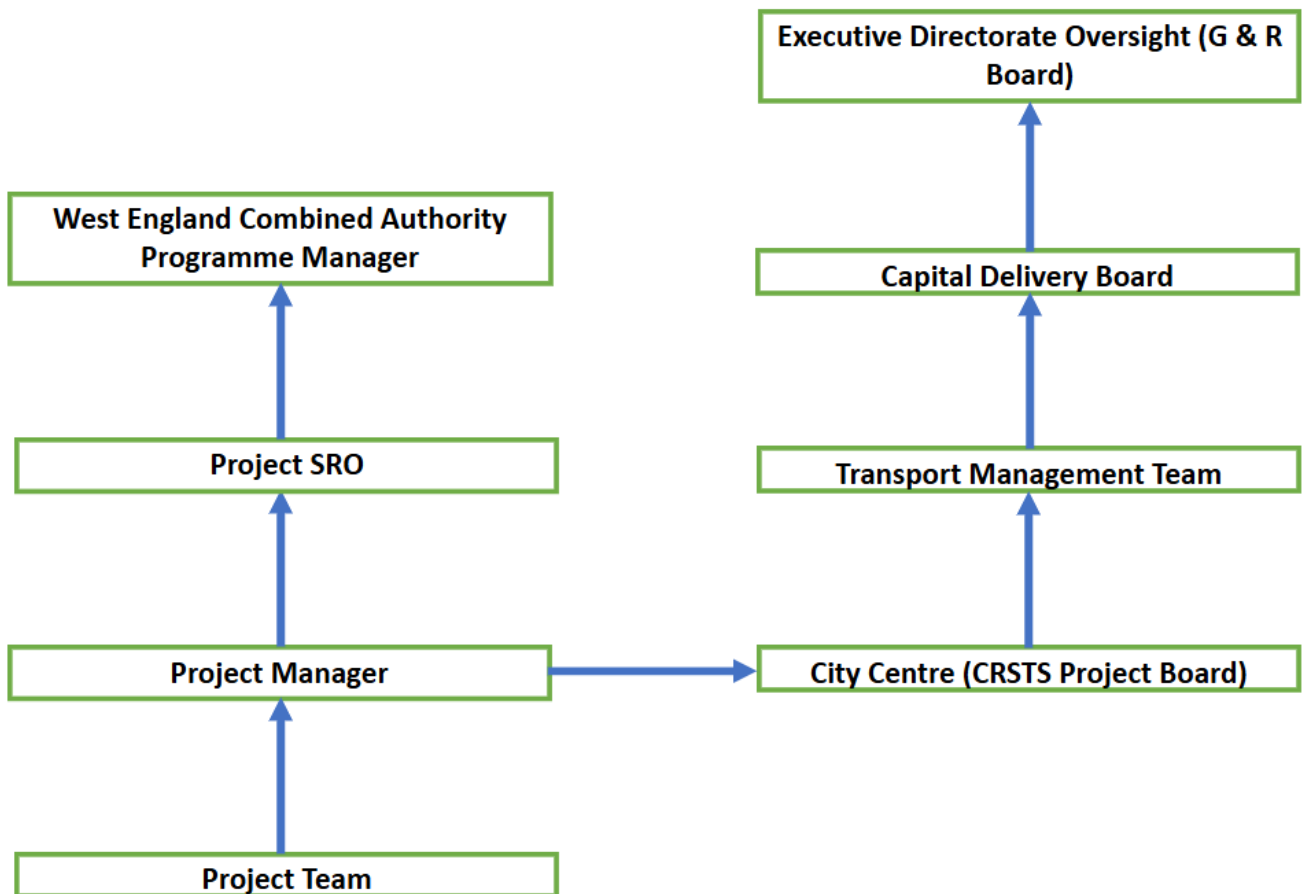
Any issues unable to be resolved by the Project Manager will be escalated first to City Centre Project Board. The board meets fortnightly and includes the project SRO and the Transport Delivery Manager for the City Transport team. Issues that cannot be resolved at the board are then escalated to the Transport Management Team, whose attendees are Transport Heads of Service, including the project SRO. Following this, more serious risks and issues will be escalated to the Capital Delivery Board, and then onto the Growth and Regeneration Board if necessary.

Where it is identified that a change to agreed programme milestones or budgets are needed, the change control process will mirror the above, with change requests of scope, time, or budget escalated to the necessary level of the BCC decision pathway depending on the scale of the change. In addition,

budget changes will be required to follow the BCC Financial Scheme of Delegations. This specifies the level of approval needed to action changes on the Finance System, from Project manager, up through Head of Service, Service Director, and Executive Director.

All the above governance is supported by BCC’s PMO who have a dedicated Transport resource who sits in the Transport Programme Delivery Team. An organogram is provided below.

*Figure 1: Organogram of the governance structure*



### 5.2.1. WECA governance

As the project promoter and funder is the West of England Combined Authority, BCC reports progress to and follows governance set by WECA. This includes a monthly highlight report which presents progress against programme and expenditure every month. There is also an agreed change control process between BCC and WECA to change scope, programme milestones or budget.

Due to the complex nature of the CRSTS programme there is also significant liaison between BCC and WECA programme managers who track progress, spend and risks at a programme level.



### 5.3 Delivery – Organisational Competence

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 Table 6.

**Table 6: Successful schemes delivered by BCC**

<b>Scheme</b>	<b>Summary</b>
<b>Bristol Bridge</b>	BCC was responsible for the delivery of the Bristol Bridge project, which delivered a two-way segregated cycleway, improved pedestrian crossings and a camera enforced bus gate on a key strategic route in Bristol’s City Centre. £1.4 million was allocated to deliver the scheme which better connects the city centre to Temple Meads station and the employment opportunities of the area, giving priority to those using sustainable and active modes of transport.
<b>Old Market Gap</b>	BCC delivered a key missing cycling link in the city network at a cost of £1.2 million, funded by the Department for Transport’s Active Travel Fund. Consisting of segregated cycling tracks connecting to Tower Hill, Old Market Roundabout, and Castle Park, as well as dedicated cycle signals and wider and safe crossings, the recently completed scheme will aid in connections to the strategic routes such as the Bristol-Bath Bike Path, Concorde Way, and routes into the city centre.
<b>MetroBus</b>	Bristol City Council was a co-contributor to the MetroBus project, consisting of four rapid bus routes – the M1 through M4. As part of the South Bristol Link portion of the scheme, 4.5km of new road and cycleway, as well as a 0.5km bus link to Long Ashton Park and ride, were successfully delivered.
<b>Cycle Ambition Fund</b>	Baldwin street, Castle Park, Bond Street and Old Market saw £2 million put towards large improvements of completing new segregated cycleways through the city centre as part of the Cycle Ambition Fund in

	2017. The East West route links the Centre of Bristol to Bath Railway Path providing useful connectivity across the city.
<b>Prince Street</b>	A segregated bidirectional cycle lane linking Cumberland Rd across Prince St bridge to join the Baldwin Street works (as part of Metrobus). This saw a 146% increase over 5 years.

#### 5.4. Programme Plan

A programme has been drafted using Microsoft Project. Over 120 tasks have been identified, their duration, and logic (e.g. predecessors, successors and lag times) have been coded into Microsoft Project. Microsoft Project then calculates the start and end dates of each activity and highlights the critical path.

The programme has been put together by the project manager in conjunction with team members. For example, team members will provide realistic durations and help compile the logic and sequencing of tasks. The percentage complete of each task is also tracked in Microsoft Project. Microsoft Project can calculate the float in the programme, and time risk allowances are also applied to some tasks.

This programme is reviewed at least once a month with the percentage complete being updated, and duration and logic updated where new information has come to light. This is done by the project manager in conjunction with the project team. This programme is provided to WECA as part of the monthly reporting.

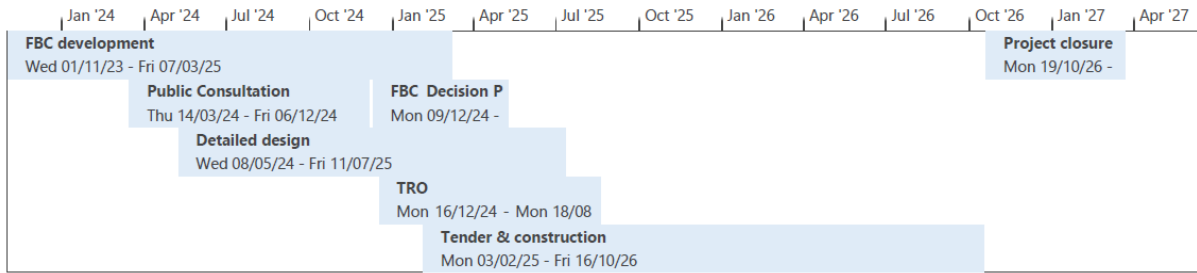
Within the programme the baseline, and key milestones can also be seen.

The project programme is provided in Appendix H6. The key milestones are summarised in Table 7 and key activities are summarised in Figure 2.

**Table 7: Key project milestones**

<b>Milestones</b>	<b>Timeline</b>
FBC Approval (BCC Committee)	20 <sup>th</sup> March 2025
Grant Offer Letter Issued	17 <sup>th</sup> April 2025
Tender commences	29 <sup>th</sup> May 2025
Contract signed	8 <sup>th</sup> September 2025
Construction starts	10 <sup>th</sup> November 2025
Construction ends	26 <sup>th</sup> October 2026
Quality Assurance Stage 5 sign-off	22 <sup>nd</sup> March 2027

**Figure 2: Main project activities**



## 5.5. Risks, Constraints and Dependencies

### 5.5.1 Risks

The project risk register has identified the main risks, mitigation measures and owners. The risk register is regularly reviewed and was initially compiled by the BCC PM with key members of the project team such as the highway designer. Its management strategy has enforced 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 to the Combined Authority PM. A complete risk register can be found in Appendix H7.

### 5.5.2 Constraints and dependencies

There are process based constraints and dependencies the project must be delivered within:

- BCC committee will need to approve the FBC before it can be submitted to WECA’s committee.
- The completion of the Scheme by March 2027 (CRSTS funding deadline) if left unmanaged could harm delivery.

The project team has identified these and assessed which need to be actively managed based on the risk posed to the project.

The project has some physical interfaces with other projects. An overview of the interfaces is below:

- The Temple Quarter Enterprise Zone includes plans to create a cycleway along the Friary towards Temple Back and Meads Reach Bridge. These plans are still in development.

- The 1 Temple Way building, which abuts the scheme is due for renovation. A planning application has previously been submitted and this project has ensured that the design is compatible with that planning application.
- The 2 Temple Back East building, which abuts the scheme is due for renovation. A planning application has previously been submitted and this project has ensured that the design is compatible with that planning application.
- The Distillery scheme includes plans to open a new office development in Glassfields, which abuts the scheme. A planning pre-application has previously been submitted and this project has ensured that the design is compatible with that planning application.

All neighbouring schemes are off highway. All interfaces with developers are conducted via the Transport Development Management team who keep the Project Team updated.

### **5.5.3. Construction Impacts**

The CRSTS programme team is conscious of the challenge of delivering this project alongside many other capital works, without causing significant disruption to the city and its residents. The team has started to map the impact of the cumulative impacts of construction from this and other projects and work to identify mitigations to 'keep Bristol open for business' has begun. A construction coordinator role is being created. Funding for this role has been secured, and the job description is being defined.

### **5.6. Land acquisition, planning and other consents**

The scheme is almost entirely contained within BCC-owned highway land, for which no consents or legal power are required, other than a licence certificate and Traffic Regulation Orders, which will be gained following FBC approval. This is presented in Figure 3.

*Figure 3: Adopted Highway extent on Temple Street.*



### 5.6.1 Land South of Temple Back East

An area of land to the south of Temple Back East is owned by two landowners. BCC will enter into a Dedication Agreement with those landowners to dedicate the land as highway and once the works have been completed the land will be adopted. The landowners have confirmed that they will provide the necessary consents and BCC Legal Dept has been instructed to prepare the necessary paperwork.

### 5.6.2 Traffic Regulation Orders

Traffic Regulation Orders will be required, and the process is currently ongoing. Statutory consultation is expected to take place in April/ May 2025. The following are plans for the TRO:

- Changing Avon Street from left turn out only right turn out only.
- Small stretch of bus lane Southbound on Temple Way over Avon Street junction.
- Minor waiting restriction amendments e.g. loading bay on Broad Plain.

### 5.7. Utility / Service Diversions

The C2 to C4 process forms part of the design delivery of new or diversionary utility works on the public highway operating under the legal framework of the **New Roads and Street Works Act 1991 (NRSWA)**. The process entails the following stages:

C2 – Scheme identification (Preliminary Inquiry). The Project Sponsor or in this case Overseeing Organisation (OO) (being a highway authority) seek from the Undertakers (utilities company), details of their apparatus within the specific section of the highway which is being considered for improvement without making any commitment to the scheme.

C3 – Budget Estimate. The OO submit a preliminary design to the Undertakers. The Undertakers should respond with preliminary details of the effects on their apparatus and provide budget estimates for the necessary works and an indication of any special requirements involved.

C4 – Detailed Budget Estimate. The OO submits a final detailed design with working drawings and an outline programme. The Undertakers should come back within 25 days with (a) their detailed design of their works (b) a detailed specification of the works required; (c) a detailed estimate with itemised costs; (d) provisional programmes and timescale for works; and (e) all necessary information for the civil engineering work required if the Undertaker's works are to be undertaken by the OO's contractor.

C3 utility searches have been completed and C4 surveys will now be undertaken.

### **5.8. Data collection**

Pedestrian, cycle and road vehicle traffic counts were taken on the 8<sup>th</sup> and 9<sup>th</sup> of September 2023, a Friday and Saturday. These were used in the calculations for the economic dimensions, and will inform the monitoring and evaluation of the scheme at a further date.

A period of 7am to 7pm was analysed for the two dates, determining the numbers of pedestrians and cyclists on the road and pavement. Vehicle traffic counts analysed focused only on road movements, and split the data between various categories of vehicle, including Car, Bus and HGV.

Summary data for the traffic counts can be found in Appendix H8.

### **5.9. Stakeholder Engagement**

Extensive stakeholder engagement has been carried out for this project and additional engagement will be conducted as detailed below. Some engagement with stakeholders overlaps with design development and/or project assurance. As such, engagement with WECIL, ATE and WECA's internal teams is described in the following section.

This project undertook formal public consultation in summer 2024. Consultation took place mainly through an online survey hosted from 12<sup>th</sup> August 2024 until 30<sup>th</sup> September 2024 and was accessed from a shortened AskBristol link: [www.bristol.gov.uk/bcctc](http://www.bristol.gov.uk/bcctc). This was promoted and publicised through materials including postcards, lamppost wrap around banners, adverts at bus stops and on the information screen on the services that run through the Broadmead area. BCC's communication team also ran local adverts on Nextdoor, Facebook and X, getting more than 10,000 link clicks and reach of over 47,000. From this 2,120 people responded to the survey. BCC commissioned support from West of England Centre for Inclusive Living (WECIL) to disseminate the survey to a wider disability network which allowed a representative sample of people responding to the survey, with a 16% response rate.



BCC held 9 drop-in events at 5 different locations around the city centre on weekdays and weekends and at a range of times to make the events as accessible as possible. All events were wheelchair accessible. Across the 9 sessions, BCC spoke to 141 people with the aim of giving information about the project, answering questions and encouraging people to complete the survey in their own time. To ensure that the businesses most impacted by the proposed changes had a chance to get involved, the team attempted to drop into all businesses in Broadmead and the Galleries in August and September. In total, 205 businesses were successfully reached and were left information on the scheme.

Responses were also received and in-person presentations conducted with the below stakeholders:

- Broadmead Baptist church
- Bristol cycle campaign
- Bristol Civic Society
- Bristol walking alliance
- Business West and Chamber of Commerce
- Churches Conservation Trust
- Disability Equalities Forum (plus email from Alun)
- First Bus
- Green Party Response
- Guide Dog Charity
- Jon Wesley New Room
- Labour Group Response
- Leonardo Hotel
- University Hospital Bristol and North Bristol NHS Trust
- Redcliff Church
- Residence
- TAXI Forum
- University of West of England
- WECIL
- SWX music venue

Key survey results:

- 876 responses were recorded on the Temple Way scheme. Overall, **63.5% agreed with the proposals** and 25.8% disagreed.

- The change which caused most disagreement was the widening of the bus lane on the northbound slip road from Old Market Roundabout, which would reduce traffic lanes from two to one. **23.1% of respondents strongly disagreed** with this measure.
- However, **50.3% of respondents strongly agreed** that a two-way cycle track along the east side of Temple Way from Old Market Roundabout to Temple gate junction was a good change to the scheme area.

### 5.9.1 Bus Operator Engagement

First West of England provided comprehensive feedback on the City Centre proposals. A summary of the response is provided below.

“First West of England expresses broad support for Bristol City Council's (BCC) city centre development plan, recognizing its potential to enhance Bristol's vibrancy and accessibility. As a key player in the local economy, First West of England underscores the importance of a reliable bus network, which has seen notable growth in recent years due to investments and effective bus priority measures.

The company welcomes many aspects of the development plan, particularly the proposed bus priority measures around Bedminster and Bond Street, which promise to improve journey times and reliability.

First West of England also appreciates BCC's responsiveness to their feedback, leading to more practical bus routing solutions.”

The company had a number of specific comments about the wider City Centre project but did not have any specific comments regarding the Temple Way scheme.

### 5.9.2 Ongoing Stakeholder Engagement

Engagement is ongoing with a number of neighbouring building occupiers and development schemes as noted in 3.5.2. Statutory Consultation will be carried out in relation to the TROs as noted in 3.6.2.

## 5.10. Project Assurance and Optioneering

Design work was originally undertaken by BCC's Strategic Partner Arcadis, this project team strived to follow all highway design guidance (Manual for Streets, LTN 1/20) to the letter and could not design a solution to the requirements set out in the Basis of Design Document which fit within the physical constraints. This work concluded with a set of designs which the BCC Client team did not feel met the requirements, and a design report setting out how standards constrained the design.

Design was then brought in house to be completed by BCC's Engineering Design team. This team are empowered to work creatively within the guidance and had the added advantage of being Bristol

based and familiar with the schemes. They were able to design a solution that provided bus-priority and segregated cycle provision while meeting the other requirements of the project.

#### **5.10.1. BCC Quality Assurance process**

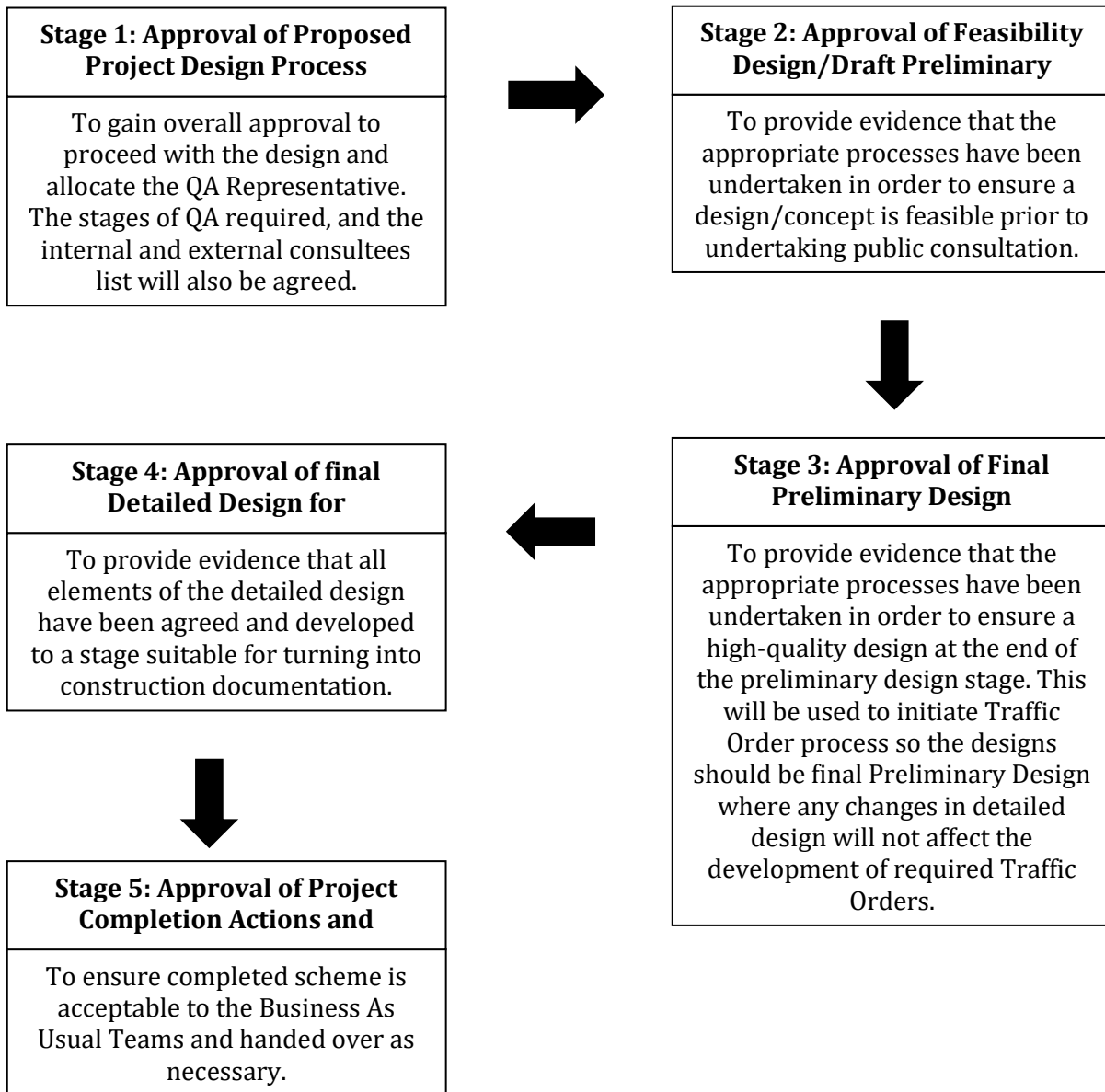
The Quality Assurance (QA) process at BCC is required upon the design and implementation of any city council capital works affecting the public realm to recognise the constraints, opportunities, and issues.

The process is a form of project lifecycle, with a number of stages a project must progress through before it can move to the next project / design stage. To pass through these stages, the design is reviewed by the QA board (or a representative of the board for smaller projects). The QA board members are made up of senior managers from City Transport, City Design, Highways and Traffic, Passenger Transport, Major Projects, and Parks Horticulture Tree Management.

The QA Board guides the project manager to decide the scope, impact/scale, programming, and staffing. It also ensures the design process is followed appropriately to design standards, guidance, and toolkits. QA also mediates any conflict of policy or design that the PM cannot address while providing approval for various project stages.

There are five QA stages and projects can only be progressed to the next stage once the previous stage has been received by the QA co-ordinator and approved.

**Figure 4: The BCC QA Process Stages.**



The project has secured QA3 (Approval of final Preliminary Design), and as part of this process comments were collected from QA board members and internal stakeholders. It is due to go to QA4 on 15<sup>th</sup> April 2025.

#### **5.10.2. WECIL access audit**

West of England Centre for Inclusive Living (WECIL) was commissioned to complete an Access Audit to appraise proposed plans and designs and propose the extent of works required to improve the proposed designs in accordance with the definitions of the Equalities Act 2010. The audit considers the needs of people with mobility impairments (including wheelchair users) and sensory impairments. The audit identifies physical barriers to access. This audit should be treated as the starting point of an ongoing access plan, which should be regularly reviewed by the organisation.

WECIL is a Disabled Peoples User Led Organisation that has several members with a variety of

impairments that can relate to the access issues Disabled people face daily. All WECIL's access audit specifications come from the official HM Government Approved Document on Access to Buildings and Use, using M1/M2 specifications.

This access report explored the concerns and feedback of Disabled people who live, work and visit Bristol. The aim of this report was to provide detailed feedback on the design elements of the project as per the resources given by Bristol City Council. In addition, the team visited the route as it is currently to explore and address access barriers along the route, whilst also exploring potential accessibility issues caused by the infrastructural changes. This is with the overall aim of addressing such issues before they arise to support Bristol City Council in achieving the goal of creating truly inclusive spaces throughout the City Centre.

Several points to be considered when reviewing the scheme were highlighted as part of the audit. The high-level points are summarised below. There were also a number of more general comments that the project team will review and implement as the project progresses, such as bus stop design, colour contrast for bollards and need for tactiles at key (non-road) crossing points particularly where there are times access for vehicles of concealed car parking. The report can be provided as an appendix to this FBC if required.

### **Residents**

- Why are there going to be changes to the crossing and islands outside of the Hilton Garden Hotel on Temple Way to cater to a right turn movement into Temple Back East?

*Project Response:* To cater for the cycle lane; the right-turn movement already exists.

### **Workers and Visitors**

- There is no clear crossing or tactile paving that allows pedestrians to cross over both Narrow Plain and Broad Plain.

*Project Response:* There will be a new parallel crossing at Broad Plain but not Narrow Plain.

- T5 & T10 bus stops can't currently be located for us to understand what is being moved. Is the T5 bus stop going to encroach on the pavement to produce a double width bus lane?

*Project Response:* The widening of the bus lanes will be achieved by removing a lane of vehicle carriageway not by reducing the footway.

- The wayfinding for visitors coming into Bristol from Temple Meads at the Friary entrance needs to be improved. So many different destinations from this point so a clear wayfinding strategy will need to be implemented.

*Project Response:* This will be dealt with at a larger scale than just the Temple Way scheme and will involve the team leading on the Temple Quarter Enterprise Zone and the new entrances scheme for Temple Meads station.

### **Path of Travel**

- Consideration of flexi bollards to separate the segregated cycle path on Temple Way up to Old Market Roundabout.

*Project Response:* The existing cycle lane from Bond Street to the Old Market roundabout is kerb-segregated from the footway.

- Wheelchair users like to use the cycle path due to the smoothness of the surface and can sometimes worry about the speed of cyclists in segregated cycle lanes.

*Project Response:* Although slabs will be used on footways for aesthetic reasons, newly laid surfaces should be smoother than older ones so that wheelchair users do not feel uncomfortable.

- A clear indication of a path of travel for both cyclists and pedestrians at the new segregated junction at Temple Back East.

*Project Response:* The kerb segregation of the cycle lane will make paths of travel clear and separate.

### **Travelling to and from the area**

- New changes to the road layout at the Avon St junction, you need to ensure that the island in the middle for the new crossing leading to the Assembly building it structure for visually impaired people to know when to arrive onto the island and when to move from the island.

*Project Response:* This crossing will be built to the latest standards for maximum clarity of use.

- Broad Plain is a confusing area as there is no diagram or description of any changes but when we got through the plans there is a clear before and after image which shows significant changes for workers and visitors to navigate. There needs to be consideration to the colour contrast of this area as they can all merge into one. There needs to be clear indication of travel for people using this area.

*Project Response:* The kerb segregation of the cycle lane will make paths of travel clear and separate.



### **5.10.3. Benefits and Outcomes Panel**

Active Travel England and WECA host the Benefits and Outcomes Panel (BOP). The purpose of the BOP is to support the development and delivery of high-quality schemes through review of project outputs against investment objectives, project requirements, and national and local guidance. This will provide better value for money and improved benefits/outcomes for residents, businesses and visitors to the region.

Designs are reviewed prior to attending the BOP, with the Unitary Authority responsible for undertaking the Active Travel England's Route Check to audit the scheme. This is then sent to WECA along with a completed proforma for circulation and at this point Active Travel England provides its comments. Following this a meeting is held where the panel will either endorse, endorse with conditions, or not endorse the scheme.

The scheme was taken to the BOP in October 2024 with a completed ATE Route Check Tool that ATE reviewed prior to the meeting. Only five issues were raised, none of them critical, with four deemed to require no further action. The fifth was to consider retaining the bus stand on the slip road from Old Market roundabout to Temple Way (rather than changing it into a bus stop), which was accepted as a temporary solution while alternative bus stand locations are sought.

The results of the ATE Route Check were as follows:

Safety Check: the proposed design will likely improve safety (net difference 12%)

Street Check: the proposed design will likely improve route quality (net difference 11%)

Street Placemaking: the proposed design will likely improve the quality of place (net difference 6%)

### **5.10.4. Grant Assurance**

In line with DfT and WECA Grant Management guidance, this Full Business Case will be reviewed by WECA's Grant Assurance team before approval for funding of the next project stage is given at WECA committee. Prior to the FBC being submitted to the WECA Committee it will be approved by BCC's Transport and Connectivity Committee.

### **5.10.5. Strategic Optioneering**

A detailed outline of options considered at the strategic level may be found in the Strategic Dimension, section 1.5 'The Proposed Investment', under the heading 'Summary of Options'.

## **5.11. Carbon Management**

The project team and BCC aim to minimise the emission of greenhouse gases to tackle the climate emergency and meet BCC's targets of Net Zero by 2030. It was recognised in 2023 that, of the UK's total emissions, transport is the largest sector, emitting 29.1% of all carbon. Projects are designed to

minimise emissions in the construction phase. Projects seek to avoid creating civil engineering works where appropriate, for example existing kerb lines are used and utility diversions avoided where possible. Carbon emissions are further managed by appropriate material selection.

#### **5.12. Benefits realisation arrangements**

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.

Further benefits can be self-realised in evaluation. This will be seen as buses use the new infrastructure of the bus lane and cyclists use the segregated cycleways. On evaluation, these uses of the project will be successfully realised when in use as the Council continues to promote active travel.

#### **5.13. Monitoring and Evaluation arrangements**

A Monitoring and Evaluation Plan will be produced by WECA. This will evaluate the whole CRSTS programme and its success after full completion. The project has collected data which can be used as a baseline for post opening evaluation.

#### **5.14. Contingency Plans**

The chosen contractor will be subjected to a competitive tender process whereby their application to complete the works would have been assessed by BCC. As part of the assessment the contractor's capacity to complete the works will be examined, including resources, supplies, and materials.

If for any reason the contractor chosen to complete the work through the tender process is no longer able to fulfil the requirement of the contract within the 90-day period where quotes from the other tender applicants are still valid, the second placed tender applicant will be offered the works. If the

tender winner is unable to fulfil the requirements of the contract outside of the period where other tender applications are valid, then the works may be subject to re-tendering.

As an NEC4 contract, the Bristol Highways Asset Management and Associated Works Framework 2021-25 (HAAWF) allows BCC to ask contractors to include a performance bond within the tender submissions. A performance bond is a way of ensuring a contractor's performance and the guarantor would take on the responsibility of payment to the client (BCC) should the contractor breach the contract. Typically, would cost the project between 1 – 3% of the construction value.

#### **5.15. Project Closure**

As part of the project closure, the project will progress through Quality Assurance Stage 5. The intention of the Quality Assurance Stage 5 is to ensure that the completed scheme is acceptable to the Business As Usual teams and handed over as necessary. Tasks that must be completed as part of project closure include:

- Completion of as-built drawings
- Safety audit undertaken
- Consolidation of finances
- Project Closure report produced.

## 6. Conclusion

This business case has demonstrated that the scheme can be delivered, operated and maintained and will provide benefits to the city of Bristol and the West of England region. The new Temple Way infrastructure will increase the bus lanes providing segregation from general traffic for buses, alleviate pressure on central bus stops to aid in the future provision of a Rapid Transit Route, and promote a modal shift to active travel with provision of improved walking and cycling infrastructure.

The main benefits include:

- Improving the quality and safety of cycle routes along the City Centre corridor and providing benefits to active travel users.
- Improving the reliability and strengthening the priority of bus services into and out of the city centre.

The overall BCR of the scheme is 6.22, with the value for money category being 'very high'. There are also a number of benefits which have not been monetised. This includes the increase in the uptake of bus travel, improvements to the reliability of bus services and safer and easier routes for those walking, cycling and wheeling. Together, these will improve access to city centre services and amenities and facilitate increased active travel.

# **Appendices**

**Appendix H6 – Project Schedule**

**Appendix H7 – Risk Register**

**Appendix H8 – Data Collection Summary**