#### NORTH SOMERSET COUNCIL DECISION

**DECISION OF**: THE EXECUTIVE MEMBER FOR HIGHWAYS AND TRANSPORT



# WITH ADVICE FROM: DIRECTOR OF ENVIRONMENT, ASSETS AND HIGHWAYS SERVICES

DECISION NO: 24/25 EAT 102

# **SUBJECT:** BUS SERVICE IMPROVEMENT PLAN (BSIP) INFRASTRUCTURE SCHEME AT A370 SMALLWAY JUNCTION, A370

#### KEY DECISION: YES

**REASON:** The decision will result in the council incurring expenditure of over £500,000 and will be significant in terms of its effects on communities living or working in an area comprising two or more wards.

#### BACKGROUND:

#### Introduction

The Bus Service Improvement Plan (BSIP) is a joint initiative between North Somerset Council (NSC), the West of England Combined Authority (WECA), the Department for Transport (DfT) and bus operators.

Our communities tell us they want more reliable, frequent and affordable bus services. That's what we're working hard to deliver through our infrastructure schemes – improving junctions to offer better flow for all traffic, resulting in quicker, more reliable, bus services, that get people where they need to be more efficiently.

We want North Somerset communities to have a modern, efficient, reliable, and affordable public transport system they can enjoy for years to come. The BSIP is working to achieve this goal by delivering packages of joined-up improvements, from more frequent bus services to more affordable fares, which work alongside our new bus service and sustainable travel infrastructure schemes, to benefit residents and communities.

Together, these changes will help make bus travel the first public transport choice, and more financially sustainable longer-term, helping to protect our vital services for the future.

Current UK Government funding for improving bus services through the Bus Service Improvement Plan is available only for a short time. But its long-term legacy will be more reliable, efficient and frequent bus services, new electric buses which are better for the environment, and more financially secure bus services, fit for our growing population, now and in the future.

Our infrastructure schemes are designed to enhance and protect residents' bus services, and promote more sustainable travel for years to come, by:

- introducing dedicated bus lanes and intelligent traffic signals to give bus users priority in key areas, and at peak times. These changes help make bus services quicker, more reliable, and more affordable for residents – and more financially viable for bus operators to keep running, requiring lower or no public subsidy
- incorporating better crossings and pavements for pedestrians, cyclists and others using lower-carbon forms of transport. This will improve the travel experience, encouraging more people to walk, wheel and cycle wherever possible, and making it easier to get to bus stops in some locations
- creating attractive new transport hubs in communities, offering a range of facilities such as secure cycle parking, real-time information displays and electric charging points, and bringing a place-making boost to town and village centres
- and replacing or improving existing stops and shelters on priority routes making the experience of waiting for, and making, travel connections better for residents.

Our current targets across the West of England area are summarised in the following table:

Category	Target	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Target by 2025
Bus journey times	Reduce average bus journey times (minutes) on designated corridors by 2% by 2025 and by 10% by 2030	61	*63	No data	55	56	61	62
Bus punctuality	Achieve 95% of services running on time, defined as being no more than 1 minute early or 5 minutes late, by 2030. Target for 2024/25 is 82%	*77%	N/A	74%	71%	67%	72%	82%
Passenger growth	Return to pre-pandemic patronage levels by 2025 and grow patronage by at least 24% from that level by 2030	-	*70.2m	22.5m	46.8m	55.3m	63.7m	70m
Bus Passenger satisfaction	Increase bus passenger satisfaction to 89% for 2025 and 95% for 2030	85%	*86%	No data	No data	78%	79%	89%
Bus fleet de- carbonisation	By the end of 2023 all buses operating in the BSIP area will meet the Euro VI emission standard	No data	No data	48.2%	88.6%	96%	98%	100%
Bus fleet de- carbonisation	By 2030, at least 75% of the local fleet will be either zero-emission or ultra-low emission and by 2035 all buses will be zero-emission buses (ZEBs).	No data	No data	0%	0%	3.6%	6.6%	N/A

The bus journey time figures shown in the table are an average of bus journey times in minutes over all identified corridors in the West of England and North Somerset areas.

These targets will be monitored using the following methodology:

Metric	Timing	Scale
Bus journey times	4-week period pre- implementation monitoring	Between two bus stops on either side of the bus priority scheme location
General traffic journey	in 'neutral' month within 1	Between two bus stops on either side of
times	year of starting works	the bus priority scheme location
Bus punctuality	4-week period post- implementation monitoring	Cumulative bus punctuality at timing points for bus routes using the bus priority scheme
Bus patronage	at 6-, 12 and 24-months in neutral months	Cumulative bus patronage for bus routes using the bus priority scheme

In order to meet these targets, the BSIP's capital-funded infrastructure schemes are designed to work hand-in-hand with initiatives to improve passenger journeys, such as fare offers and more frequent services. These initiatives are funded through a separate BSIP grant of £57 million for the whole of the West of England area, which was jointly awarded to NSC and the

West of England Combined Authority (WECA) to deliver in partnership. The BSIP is governed by an Enhanced Partnership (EP) between North Somerset, the Combined Authority, the other Highway Authorities in the West of England area, bus operators, and other key stakeholders. Through the EP process, capital and revenue investment from NSC and WECA is met with comparable and legally binding investment in improvements to services by the bus operators.

The indicative BSIP funding was subject to a final Department for Transport (DfT) outline review of the proposed schemes, which concluded in June 2022 and resulted in the confirmation of funding being granted in November 2022. With this confirmation of funding being later than anticipated, a change request was submitted and accepted by the DfT to extend the deadline for delivery of investment to October 2025. A subsequent change request has been accepted by DfT to extend the deadline of investment to March 2026.

In order to deliver North Somerset's Bus Service Improvement Plan (BSIP) capital-funded infrastructure schemes, a variety of contractual arrangements are required. The initial schemes were delivered through the council's Term Service Contract. The remaining bus priority schemes are to be delivered through a Design and Build contract awarded to Alun Griffiths Contractors Ltd. The decision to award the contract was made by the October 2023 Executive Committee. The October 2023 decision requires a subsequent Executive Member decision at the design stage before commencing delivery of each scheme.

**Please note:** The BSIP funding from UK Government is ringfenced. This means it cannot be used to pay for any non-BSIP related council activities, such as filling potholes, or other council services.

#### Pause and review

In April 2024 we paused the live programme of BSIP infrastructure projects, such as junction updates, and the introduction of new bus lanes. The pause followed several months of engagement with local communities on early proposals for schemes in Backwell, Clevedon, Rownham Hill, Lime Kiln, Churchill and Worle High Street aimed at improving congestion, enhancing local travel experiences and creating infrastructure needed for now and in the future.

During this 2024 pause and review period, the only new BSIP infrastructure project delivered was at the A370 Wood Hill junction, as part of the Congresbury congestion scheme.

The 2024 pause and review period was implemented in order to:

- assess completed schemes to monitor their effectiveness and learn any lessons to apply to future works
- consider any changes we needed to make to our approach as a result of then new Department for Transport guidance on bus priority (LTN1/24)
- continue to engage with communities and their representatives about the range of proposed schemes
- gather further data and undertake testing in areas where this is needed in order to make a decision, and;
- set a new timeline for decisions for approval of remaining schemes to allow fuller consideration of each scheme and reduce scheme-related disruption to the local road network for residents.

The assessment of delivered schemes' effectiveness, the 'lessons learned' from the delivery of the Brockley Combe scheme, and our review of the DfT LTN 1/24 guidance, were all <u>considered by the council's Transport, Climate and Communities Scrutiny Panel in July 2024</u>. This ensured the BSIP programme was able to fully benefit from the review, by enabling us to draw on the additional data, and carry learning forward into future, approved, schemes.

Changes agreed to the BSIP programme as a result of the 2024 pause and review period include:

- reducing the scope of current proposals for several schemes, including Martcombe Road near the M5 junction 19 roundabout, Southern Way in Clevedon and Rownham Hill near Bristol, and removing the Portbury Hundred scheme completely
- continuing to monitor completed infrastructure schemes to understand their impact and draw out any lessons learned for future schemes
- undertaking a comprehensive review of the effectiveness of the programme delivery to identify areas of improvement for the remainder of the funding period
- developing a bus lanes policy to clarify restrictions and work towards a default position of motorcycles being allowed to use these unless a particular local issue prevents it
- continuing to develop the engagement approach to deliver improvements in the way stakeholders and the wider community are communicated with.

Both during, and since concluding, this period, we have:

- continued to engage with local communities and their representatives on the next schemes, including for transport hubs, within the programme
- developed policies against new national guidance, which were reviewed at an allcouncillor session, hosted by the Transport, Climate and Communities Policy and Scrutiny Panel, in January 2025.

With the 2024 pause and review period complete, our BSIP infrastructure programme is now moving forward, with improvements and updates under way, planned, and proposed, across North Somerset. This means some of the next infrastructure schemes in the programme are now set for an Executive Member decision.

### A370 Corridor

The A370 is a major arterial transport route running through North Somerset and connects Weston-super-Mare to Bristol. At Junction 21 of the M5, the A370 into Weston carries approximately 60,000 vehicles per day. Further along the corridor on the Long Ashton Bypass, it carries approximately 10,000 to 14,000 vehicles per day. The A370 commonly suffers from congestion in the morning and evening peak periods, which is exacerbated in the summer months due to increased holiday traffic. It can also be significantly affected by displaced traffic from incidents affecting the M5 motorway or the A38.

Buses have the capacity to carry a large number of passengers within existing road space. On the northern part of the A370, approximately 14,500 people are transported each day by 13,000 non-bus vehicles, whereas around 3,000 to 3,600 people are transported by around 110 buses per day – meaning that buses carry almost 20% of trips while accounting for just 1% of the traffic. Increasing the capacity of bus services using the A370 is a key means of reducing the impact of future growth on congestion of our road network.



The A370 corridor is currently served by six scheduled bus routes on top of community transport and school buses, totalling up to 23 buses an hour in total – the X1, X5, 6, 7, the X7, X11 and the A3 (noting that some services use only a part of the corridor).

The services using the Smallway junction are:

- The X1 service between Weston-super-Mare and Bristol serves the whole of the A370 corridor, and carries around 150,000 passengers per month, at a frequency of up to one bus every 15 minutes. This route experiences the highest patronage in North Somerset.
- Bristol International Airport operates the A3 between Weston-super-Mare and the airport, which now has a frequency of every 30 minutes and patronage is over 10,000 per month and has a growing trajectory.
- The X11 service replaced certain sections of the old X5 route in April 2025, the service operates every 2 hours between Clevedon and Weston, via Yatton and Claverham. The previous X5 route carried 18,000 passengers per month, a certain amount of these passengers will now use service X11.

Focusing on the X1 service, set of the highway improvements that the BSIP aims to bring to the A370 at Queensway, Smallway, Wood Hill, Brockley Combe, Backwell and Long Ashton Bypass, as well as the traffic signal upgrades in various locations, are designed to deliver an operational cost reduction that should allow a commercial operator to retain the current 15-minute frequency on the X1 without ongoing subsidy from the Council or government. This requires an average 22-minute round-trip journey time reduction. The schemes at Long Ashton Bypass, Brockley Combe and Wood Hill have been delivered and are contributing to

the required journey time savings. However, remaining schemes are required to yield the necessary efficiencies.

As well as journey time savings, the bus priority measures are intended to provide improvements to journey reliability and punctuality by enabling buses to bypass queues at the most congested locations, and so encourage more people who can choose to use the bus to do so.

In March 2024, North Somerset successfully secured £2.1 million in Government funding to support the introduction of 24 electric buses. This investment will bring new buses to the X1 and X4 routes. This exciting development means that in 2025, electric buses will be a common sight along the A370 corridor. The buses will deliver enhanced comfort and reliability (from potential breakdowns), along with reducing carbon emissions, helping us to encourage more people to use the bus and evidence our commitment towards being a carbon neutral area by 2030.

#### **Corridor business case elements**

To understand the effects of congestion on the A370, bus and general traffic journey times were analysed between the Interchange bus stop (in Weston-super-Mare) and the Blackmoors Lane / Winterstoke Road bus stop (in Bristol) in both directions. While the two bus stops on the Bristol-side of the corridor have different names, they are in similar locations on either side of the Cumberland Basin junction in Bristol. This covers a nearly 19 mile-long section of the A370. The analysis took into consideration four 4-week time periods in June 2023, November 2023, June 2024 and November 2024. The detailed bus journey time and general traffic journey time for these time periods are displayed in Appendix 2; Table 1 and Table 2 (bus journey time) and Table 3 and Table 4 (general traffic journey time).

Bus journey times for the A370 corridor towards the Weston Interchange vary generally by around four minutes, however it experiences a morning peak between 7am and 9am where journey times can vary by between 6.5 to 10 minutes, with an average total journey time of 57 minutes and 6 seconds. The largest peak is visible in the afternoon-to-evening period, starting roughly at 2pm until 6pm, where journey times generally vary by 6 to 13 minutes, with an average total journey time of around 1 hour and 3 minutes.

Bus journey times travelling on the A370 corridor towards Bristol peak mostly in the morning between 7am and 9am, when journey times can vary by between six and 15 minutes, with an average journey time of 1 hour and 13 minutes. The afternoon-to-evening peak is much less visible and on average a bus journey would take 1 hour and 2 minutes.

To help manage the variability in journey times, the service timetables are designed with slack which improves overall punctuality to advertised timings but artificially increases overall journey times.

The existing punctuality data for the affected services is below:



Figure 1: Punctuality data for bus services operating across the Smallway junction

Around 25 per cent of the A3 and X5 services, and around 18 per cent of the X1 services are currently not running on time (defined through national measures as being between 1 minute ahead of schedule and 5 minutes behind schedule). Poor punctuality is considered a significant barrier to further increasing use of these services.

General traffic journey times towards Bristol from Weston-super-Mare are generally between 32 minutes and 46 minutes outside peak times. However, during the AM peak this can increase to between 45 and 55 minutes, a difference of around 15 minutes. The PM peak shows a slightly reduced peak of around 48 to 52 minutes.

In the Weston-bound direction between the Bristol boundary and Weston-super-Mare Interchange, general traffic experiences a 37 to 43-minute journey time outside of the peaks. Journey times are slowest in the PM peak when they can increase to between 50 and 54 minutes. In the AM peak traffic is significantly faster, with a slowest journey time of between 38 and 42 minutes.

The difference between bus and general traffic is more pronounced in the Bristol-bound direction, especially in the AM peak. However, it is also present in the Weston-bound direction, but the difference between the AM and PM peak is less significant.

The differences in journey times between peak and off-peak periods, and between general traffic and buses, demonstrates the opportunity to make bus journey time savings and punctuality improvements on this corridor through congestion reduction and bus priority schemes.

#### A370 Smallway infrastructure scheme

The Smallway crossroads is a key interchange for motorists travelling to and from Yatton and Bristol, where road users frequently experience tailbacks and hold-ups. The planned improvements to Smallway will work alongside recent changes to the nearby A370 Wood Hill junction. Once complete, traffic will flow more freely through the sister junctions, improving local traffic flows on the road network.

This scheme is intended to help improve bus journey times, punctuality, passenger numbers and passenger satisfaction, and to contribute towards bus services achieving commercial sustainability on the A370 corridor.

#### Development of the design

Smallway Crossroads was identified as a location on the A370 corridor where buses suffer delays, especially at peak times. Three options were originally considered for a bus priority scheme to address this problem:

- 1) A do minimum scheme to upgrade the traffic signals to incorporate bus priority.
- 2) Widen the A370 to facilitate a new bus lane on south side of the Smallway/B3133 Junction, and to extend the existing bus lane on the A370 on the north side of the Smallway/B3133 Junction. Shut the Smallway east junction, creating new footway link through Smallway east and new Puffin Crossing across the A370.
- As per option two, but instead of implementing a bus on the south side of the Smallway/B3133 junction, extend the left turn diverge lane to Yatton from the junction down to the A370/Kent Road junction.

At first, the second option was chosen for conceptual design as this would most improve bus journey times on the A370, however this was proven to be not possible as the widening would require more adjacent land than North Somerset Council owned and land purchase is not in scope for BSIP schemes because of the length of time this would take in a time-limited programme and financially unviability of procuring the extra land.

The third option was then explored, and although extending the left diverge lane to Yatton is not a bus lane, it would make the junction work better as this arm of the junction is used by a large volume of local traffic, so would free up the north carriageway straight ahead on the A370 and therefore improve junction capacity and make an improvement to bus journey times on the A370 travelling north.

The widening on option three land requirements were not as substantial as that required for option two but would mean the surface water drainage ditch adjacent to the A370 on the west side between Kent Road and B3133 Smallway would require culverting of the watercourse.

#### **Concept development**

Of the three original options referenced earlier in the report, the second option was selected as the preferred option for inclusion in the original BSIP submission as it offered the greatest potential benefit.

The second option was then developed into an initial concept during 2023 and was reviewed by the Executive Member for Highways and the Transport, Climate and Communities Policy and Scrutiny Panel in July 2023. There was then further reviewed by ward members and parish council in September 2023, with Option three then being shared following further work in July 2024 and November 2024. This concept was then used for engagement with members, parish councils, stakeholders and members of the public in Winter 2024.

The concept design was reviewed by the parish councils and local ward members in 2023 with their feedback being used to evolve the design further in 2024, re-shared with Parish and Ward members, and passed to the appointed design consultants. The feedback consultation and engagement exercises is summarised in the Consultation section of this report.

Following the engagement process, the designs have evolved to include a more holistic approach focusing on walking, wheeling and cycling. This also led to the review of connectivity through the local area, particularly focused on the link through Smallway east to Kent Road.

After this review, in order to improve walking and cycling through Smallway east and connect pedestrians to Kent Road through Congresbury a new Puffin Crossing is proposed and a new footway connecting the A370, through Smallway east to Kent Road.

The scheme design has now reached a high degree of maturity. A final concept design is appended to this report. Its key features are:

- Extension of southbound bus lane.
- Widening of the A370 between Kent Road and Smallway to extend the left turn diverge lane to Yatton.
- Removal of eastern footway on the A370 between Kent Road and Smallway, and the creation of a new widened 1.8m-2m footway on the western side of the A370.
- Closure of the Smallway east junction.
- Improve walking and wheeling crossing facilities with a new Puffin Crossing across the A370 from Smallway east.
- Improved walking and cycling with a new footway link through Smallway to Kent Road
- Improved signals and southbound right turn facility.

#### **Benefits realisation**

#### Existing traffic data and delays to bus services

To understand the existing issues at the Smallway junction, and to understand the likely benefits of improvements there, extensive traffic monitoring has been undertaken. Bus journey time and general traffic journey time data was collected for four 4-week periods in November and June 2023 and 2024. These periods provide data outside of school holidays and Christmas and represent different weather conditions for different times of the year.

Data was collected for the different segments of bus routes across the Smallway junction in Congresbury: between the second to last stop approaching the junction and the first stop after the junction. The detailed journey times for both buses and general traffic are displayed in Appendix 2 in Table 5 and Table 6 (bus journey times), and Table 7 and Table 8 (general traffic journey times).

On average, the bus journey time across the Smallway junction is around 3 minutes outside peak times in the Bristol-bound direction, and around 1 minute and 45 seconds in the Weston-bound direction. The AM peak mainly shows delays in the Bristol-bound direction, with a peak journey time of between 5 and 9 minutes. The PM peak impacts Bristol-bound bus journeys slightly more than Weston-bound bus journeys, with a peak journey time of up to 5 minutes (Bristol-bound) and 3 minutes and 15 seconds (Weston-bound).

General traffic journey times across the Smallway junction are around 95 seconds faster in the Bristol-bound direction than bus journey times on the same section of road, and around 30 seconds faster in the Weston-bound direction, with off peak averages of just over 1 to 1.5 minutes. Like the bus journey times, the Weston-bound direction sees a clear PM peak, and

the Bristol-bound direction experiences a similar journey time in both AM and PM peaks. Journey times at these peaks are around 2.5 to 3.5 minutes in both directions.



Figure 2: Graph showing the mean, 25th percentile, and 75th percentile bus journey times per hour between Strawberry Line and Tesco bus stops in November 2024.

The journey time variability at the junction demonstrates the potential benefits of a congestion reduction and bus priority scheme at this location.

The proposed design has been tested to understand its impact on bus journey times and general traffic.

#### **Congestion reduction**

The existing junction and BSIP proposed design have been junction capacity tested in order to understand the changes in junction performance which are likely to occur as a result of this scheme. The junctions have been assessed using an industry-standard modelling tool (LinSig) to understand the impact on junction capacity, queuing and the average amount of delay experienced by vehicles passing through the junction. The model of the existing junction has been closely matched to the current on-street operation, based on data captured by the existing traffic signals and site observations. The modelling also considered the frequency of the pedestrian crossing movements within the junction network.

Traffic data from 2018 has been used to inform the assessment. Information has been collated from a Junction Turning Count survey which tells us the number and type of vehicles turning through the junction (e.g. cars, buses, HGVs etc.) all of which has all been accounted for within the model. The 2018 data was used because this was readily available to the council at the start of the project. The traffic has not increased significantly since 2018 so we anticipate this will reflect the current 2025 situation and validate the junction modelling. There will always be daily and seasonal variations in traffic flow, however the 2018 data is considered to reflect a typical situation. This is a proportionate approach, given the purpose of the modelling exercise is to test the implications of the proposed BSIP scheme in comparison with the existing layout. The proposed scheme has been assessed using the observed flows as surveyed. Adjustments have been made to account for the closure of

Smallway to the east of the junction. The small amount of traffic which currently uses this arm is instead assumed to route via Kent Road to access the A370.

The junction capacity assessment assumes a 120 second cycle time for the junction for both the existing and BSIP scheme junctions, with signal times optimised to maximise the Degree of Saturation results for each arm of the junction. For the purposes of this analysis, it has been assumed that pedestrian demand for the new crossings will be once every six minutes during the AM and PM peak hours.

Overall, the modelling assessment demonstrates that with the BSIP design implemented, the junction will operate within practical capacity. The results are demonstrated in the graphs below based on the 'without mode shift' results. The modelling results for Smallway East have not been presented given that this arm is being removed from the junction under the BSIP scheme.



Notes: 1) Results are the worst-case across lanes on each approach arm.
2) The results for Smallway East are not shown given that this arm will be closed under the BSIP proposals.

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![](_page_11_Figure_1.jpeg)

![](_page_11_Figure_2.jpeg)

Notes: 1) Results are the worst-case across lanes on each approach arm.
2) The results for Smallway East are not shown given that this arm will be closed under the BSIP proposals.

The results of the junction capacity modelling show that the introduction of the BSIP scheme at this location will result in an increase in queue lengths on the A370 southbound and a decrease in queue length for the A370 northbound during both peak hours. However, in both cases, the average amount of delay experienced by general traffic is expected to remain the same or decrease compared to existing conditions meaning that the change to the junction would have little change on journey times for general traffic through the junction.

The Degree of Saturation results demonstrate that the junction is expected to continue to operate within practical capacity (i.e. DoS <90%) following implementation of the BSIP scheme. The scheme will improve the DoS of all arms of the junction during the AM peak hour, by approximately 20%, 8% and 8% on the A370 southbound, Smallway West and A370 northbound arms respectively. During the PM peak hour, there is expected to be an improvement to the DoS of the Smallway West and A370 northbound arms by approximately 3% and 12% respectively however there is also forecast to be minor worsening in DoS on the A370 southbound arm by approximately 4%. This is not considered to be a material worsening in southbound journeys given that this results in a minor improvement to average journey times.

The improvements shown through the implementation of the BSIP scheme are owing to various factors. The removal of Smallway East enables the relocation of the A370 southbound stop line further south which reduces the inter-green times associated with this arm, which in turn means that that there is more "green time" available for the junction. This is to the benefit of all movements through the junction, including bus movements along the A370. The removal of Smallway East also enables a redistribution of junctions' "green time" across the remaining arms of the junction including the signalised A370 northbound left-turn lane, which better accommodates the heavy flow of traffic between Congresbury and Yatton. The left-turn lane towards Yatton has also been extended by approximately 50m which reduces the opportunity for queues for this movement to block the mainline flow on the A370 which would create additional delays and longer queues on the A370 to the disbenefit of all road users, including buses. Therefore, overall there is expected to be an improvement to the experience of general traffic and bus movements using this junction through the introduction of the BSIP proposals.

It should be noted that the extent of deterioration in the performance of the A370 southbound arm of the junction could be minimised within the future junction operation. The modelling results shown are based on optimised signal times which provide the best junction performance for the 2018 data used in this analysis. It is likely that changes in traffic flows since 2018 and into the future may change the way the signals operate, improving the performance of this arm to the cost of others. The signal times will always be operated to minimise queue / delay on a cycle-by-cycle basis. For this analysis however a "snapshot" of how the junction could perform under the BSIP scheme has been provided and this demonstrates that the BSIP scheme would not have a significant net improvement to the operation of the junction for general traffic.

In terms of the BSIP scheme's wider improvements, the closure of Smallway East will enable the implementation of a continuous footway along the eastern side of the A370 to improve the pedestrian environment and areas of public realm. The proposals also include a signalised pedestrian crossing over the A370. The junction is likely to incur marginally reduced maintenance costs on the basis that there is less traffic signal infrastructure under the BSIP arrangement compared to the existing situation however this is not considered to be material.

#### Bus journey times and reliability

The existing delays experienced by bus services, described in this report, demonstrate the potential for significant improvements to bus journey times and reliability through making changes at the Smallway junction.

For the purposes of this analysis, we will use the example of an X1 bus travelling through the scheme area, between the second to last stop approaching the junction and the first stop after the junction, in both directions.

As described elsewhere in this report, GPS data shows that existing bus journey times and delays are tidal, with Bristol-bound journeys taking significantly longer in the AM peak, while Weston-super-Mare bound journeys take longer in the PM peak.

The proposed changes will benefit bus services in three ways:

- There will be significant improvements to the general capacity of the junction which will directly benefit buses;
- an extension to the Weston-bound bus lane allow buses to bypass more of the queues and save time when the road network is busy;
- the revised traffic signals will have the capability to change their sequencing, and give priority to approaching buses, when safe to do so. The traffic lights do this by sensing the buses' GPS data, which then triggers them to change. This will help journey times at all times of day.

The resulting benefits from these elements are cumulative and are described below.

#### Bristol-bound buses

The benefits for Bristol-bound buses are less than Weston or Nailsea bound services because there is no bus lane on the southern approach to the junction, however the benefits from the traffic signals upgrades and Smallway East closure are expected to be similar.

The table below collate the various benefits described above for the X1 service, demonstrating a very significant benefit to bus journey times particularly in peak periods.

	Journey time change (seconds, mean)	
	Off-peak	Peak
Extended left turn lane to Yatton	0	-20
Bring the southbound A370 stop line further south	-2	-5
Closing Smallway East	-5	-10
Benefit from bus priority signals	-40	-60
TOTAL (Northbound direction):	-47	-95
Extended left turn lane to Yatton	0	0
Bring the southbound A370 stop line further south	-5	-10
Closing Smallway East	-5	-10
Benefit from bus priority signals	-30	-45
TOTAL (Southbound direction):	-40	-65

TOTAL (round-trip):	-87	-160

Figure 4: Benefits analysis for likely bus journey time savings on the X1 route through the Smallway Crossroads.

It is expected that the changes will also provide increased service reliability and punctuality by reducing the variability of journey times through the junction. The range of saving within the peak could be frequently higher than the mean time saving by over a minute and a half with the potential reaching over 3 minutes on higher than average traffic flow days.

#### Impact of displaced traffic

An analysis of Kent Road junctions with A370 has been undertaken to assess whether additional traffic using these junctions will cause queues either on Kent Road or on the A370. The analysis demonstrated that both junctions currently operate well under their capacity

A risk assessment using Department for Transport methodology using collision data has been undertaken below to identify the existing risk to road safety compared to the potential risk perceived if the traffic is displaced and increased within the Kent Road area due to this scheme and forthcoming housing developments in the area.

The risk assessment matrix is shown below:

Likelihood (L) x Seve	Severity (S)					
Value (R )		Minor harm; Minor damage or loss no injury	Moderate harm; Slight injury or lines, moderate damage or loss	Serious harm; Serious injury or illness, substantial damage or loss	Major harm; major damage or loss	Extreme harm; Multiple fatalities, extreme loss or damage
Likelihood (L)	Very unlikely; improbable not known to occur	1	2	3	4	5
	Unlikely; Less than 1 per 10 years	2	4	6	8	10
	May happen; Once every 5-10 years	3	6	9	12	15
	Likely; Once every 1-4 years	4	8	12	16	20
	Almost certain: 1 or more per year	5	10	15	20	25

Existing Risk	Likelihood (1-5)	Severity (1-5)	Total score
Vehicle-to-vehicle conflict turning right into Smallway east.	3	2	6
Vehicle-to-vehicle conflict turning right into Kent Road north.	2	2	4
Vehicle-to-vehicle conflict turning right into Church Lane south.	2	2	4
Vehicle-to vehicle conflict through Kent Road.	2	2	4
Vehicle-to-pedestrian conflict through Kent Road	2	3	6
Vehicle-to-pedestrian conflict at junctions	2	3	6

Potential risks with shutting Smallway east junction.	Likelihood (1-5)	Severity (1-5)	Total score
Vehicle-to-vehicle conflict Turning right into Smallway east.	0	0	0

Vehicle-to-vehicle conflict turning right into Kent Road north.	2	2	4
Vehicle-to-vehicle conflict turning right into Church Lane south.	2	2	4
Vehicle-to vehicle conflict through Kent Road.	2	2	4
Vehicle-to-pedestrian conflict through Kent Road	2	3	6
Vehicle-to-pedestrian conflict at junctions	2	3	6

Risk (R)	Required Action
Low (1-9)	Ensure assumed control measures are maintained and review as necessary.
Medium (10-19)	Additional control measures needed to reduce the risk rating to which is equivalent to a test of "reasonably required".
High (20-25)	Activity not permitted. Hazard to be avoided or reduce risk to tolerable.

The risk assessment shows that there is a reduced risk of conflict with the removal of Smallway east. The reduction of a junction will reduce risk of potential conflict point whilst turning right from three junctions to two, which equates to a third of the potential risk removed.

The removal of the Smallway east junction would mean there is a slight increase in vehicles diverted to, and using, the Kent Road north and Kent Road south junctions to navigate through Congresbury, we do not envisage an increase in safety risk in conflict between vehicles and pedestrians or vehicles and other vehicles.

The closure of the Smallway east junction would improve safety for pedestrians navigating Smallway east due to the reduction in through traffic. Smallway east is used to access Sheppy's Mill, a small housing development which is an assisted living retirement development where a proportion of the most vulnerable residents in Congresbury live. Closing the junction with A370 and providing an additional footway on the closed section of Smallway will improve pedestrian safety for these residents.

The closure of Smallway east will remove the potential for possible conflict between vehicles exiting Sheppy's Mill and traffic coming off the A370 and although it will be a narrower than standard two-way road, it is very likely the vehicles that will continue to use Smallway east are residents or visitors to Sheppy's Mill and Smallway (east), who will be familiar with the road layout.

The existing visibility from Smallway east into Kent Road is impeded by existing high stone walls, however North Somerset Council is proposing to impose a 20mph speed limit through Congresbury which will slow traffic within Kent Road and will make navigating the junction safer, improvements to the visibility will also be looked into during further design. Warning signs may be implemented to highlight the presence of the Smallway east junction.

The junction of Sheppy's Mill and Smallway East has been tested using a simulated 11.2m rigid refuse vehicle which is larger than emergency and delivery vehicles. The large vehicle movements work if proposed parking restrictions are installed around Smallway east to protect the junction.

#### Other benefits

In addition to increased junction capacity and reduced bus journey times, the scheme will have the following benefits:

Active travel benefits:

- A 1.8-2m widened footway on the western side of the A370.
- A new puffin crossing across the A370 to link Smallway east and the B3133.
- Improved pedestrian crossing facilities at the crossroads on the A370, B3133, and Station Road. New footway link through Smallway east to Kent Road.
- Cyclists will benefit from the protection of the bus lane.

Maintenance benefits:

- A new carriageway surface on the A370 between Kents Road south and Smallway.
- New upgraded traffic signals and the Smallway junction.
- New and upgraded street lighting between Smallway and Kent Road south
- The road markings will be re-laid or refreshed where required through extent of scheme.
- The drainage will be upgraded and refurbished where necessary this will reduce flood risk and extend the life of the surface water sewer system.

Safety benefits:

- The signalisation of the left turn from A370 North to B3133 towards Yatton will improve the existing safety situation.
- Bring forward the stop line on A370 South to further south the improve visibility and vehicular movements.

#### **Overall benefits**

The proposed changes at Smallway crossroads are expected to provide a significant benefit to bus journey times and reliability during and outside peak periods. These upgrades will complement other work under way to improve bus travel in the area.

The changes are expected to make a significant improvement for traffic flows through the junction at busy periods. In all scenarios, the changes provide an improvement over the existing layout when tested using existing 2022 and projected traffic flows.

New pedestrian and cycle facilities will improve the existing provision for active travel users in Smallway.

The proposed scheme will provide significant maintenance for highway infrastructure within the scheme area. Extensive carriageway resurfacing, drainage improvements, new traffic signals at crossings and street lighting improvements will all provide a benefit for road users, while easing the pressure on local maintenance budgets.

#### **Delivery programme**

The next steps are the continuation of preliminary and detailed design processes, before review of the contractor's target cost. Statutory consultation to make the necessary Traffic Regulation Orders will take place in advance of any works. We expect the works to commence in the coming year but a programme for scheme delivery is still being developed.

#### **DECISION:**

- To approve the design principles for the BSIP improvement scheme at Smallway junction.
- To authorise officers to proceed with implementing the BSIP infrastructure scheme at the Smallway junction

#### **REASONS:**

To help improve general road capacity and traffic flow at this location, in tandem with other improvements on the network, and realise the journey time and reliability improvements necessary to ensure the commercial sustainability of local bus routes.

#### **OPTIONS CONSIDERED:**

- 1) A discussion around the alternative options considered for improvements at this location is provided in this report (see Scheme Identification).
- 2) Doing nothing is not considered a practical alternative due to existing congestion and delays to bus services at this location, combined with the likelihood of future growth exacerbating those issues if not dealt with using this funding opportunity.

#### FINANCIAL IMPLICATIONS:

The October 2023 Executive Committee decision has authorized the award of the design and delivery phases of the project to Alun Griffiths, to a total value of £15.4million. Therefore, no financial decision is required at this stage.

#### Costs

Scheme costs are estimated to be £2.2 million, including a risk/contingency budget, which is within the overall available budget for the BSIP schemes. This includes all design work and surveys required for various aspects of the scheme such as drainage, Statutory Undertakers Apparatus and environmental mitigations.

Costs will be charged to KDT150 project code BSIP008 which has an approved budget of  $\pounds 2,475,000$ . These costs will be coded to Asset Register Infrastructure code A6031-01 which is the council's reference for capital works relating to A Roads as part of the BSIP scheme.

The current approved capital budget for this scheme is £2.475m which is adequate to cover the estimated costs.

#### Funding

In May 2022 the Department for Transport (DfT) awarded North Somerset Council (NSC) an indicative £47.8 million in capital funding to spend wholly on bus infrastructure schemes within North Somerset.

#### LEGAL POWERS AND IMPLICATIONS

The Highways Act 1980 provides the council with the necessary powers to make changes to the public highway.

The Road Traffic Regulation Act 1984 provides the council with the necessary powers to implement bus lanes and other traffic restrictions on the public highway. This is achieved by making Traffic Regulation Orders (TROs), for which there is a defined statutory process.

The Traffic Management Act 2004 provides the council with the powers to enforce bus lanes and related restrictions.

#### CLIMATE CHANGE AND ENVIRONMENTAL IMPLICATIONS

The wider BSIP programme, including the infrastructure scheme discussed in this report, will contribute to enhancing the reliability and attractiveness of the public transport network, with the aim of enabling more people to choose bus travel, thereby reducing the number of car journeys that need to be taken within North Somerset and beyond.

The BSIP has ambitious targets to:

- reduce bus journey times by 2 per cent by 2025 and by 10 per cent by 2030
- achieve 95 per cent of services running on time, defined as being no more than one minute early or five minutes late, by 2030
- return to pre-pandemic patronage levels by 2025 and grow patronage by at least 24 per cent from that level by 2030
- increase passenger satisfaction to 89 per cent for 2025 and 95 per cent for 2030
- aim for all buses to be zero emission by 2030.

The proposed scheme for Smallway will contribute towards achieving these targets, supporting a sustainable bus network, and encouraging modal shift from private cars to public transport, which will contribute towards the council's climate change and environmental objectives.

#### CONSULTATION

There have been various points of consultation and engagement on the BSIP programme and its specific schemes. For the A370 Smallway junction scheme, consultation and engagement has been undertaken with stakeholders over a period of more than a year. This includes discussions with ward members, Executive Members, parish councils, bus operators and local residents.

In September 2023 the BSIP team met with the local ward member and Congresbury Parish Council, to give early briefings on the initial scheme design and invite input. In January 2024, a meeting was also held with representatives from Congresbury Residents Action Group on the early proposals. The scheme was discussed at a meeting with Cleeve Parish Council in February 2024.

With scheme development under way in light of this early feedback, two further briefings on the evolved design were held with ward members, and Congresbury and Yatton Parish Councils, in November 2024.

An online public engagement survey, inviting practical feedback on specific scheme elements, was held from Monday 11 November to Wednesday 3 December 2024, and had 163 respondents. A ticketed community event was publicised locally and held on Thursday 21 November 2024 and attended by 94 people. This engagement period has been summarised in an online report, available at: <u>Engagement Summary</u>. This report was published on the council website in February 2025 and shared with local ward members, Congresbury Parish Council and Yatton Parish Council.

Many of the local insights and feedback received through our engagement period are being addressed in the final concept design or will be further considered through the detailed design process following this decision. The evolving scheme design has been shared with First Bus who are supportive of the proposals.

Below is a summary of comments raised and key themes from the public consultation and briefings with local representatives, and how these have been considered by the project team.

Source	Detail	Action taken
Local residents	Concerns about extending the existing bus lane.	The most appropriate and effective positioning of the bus lane will be tested further if the design is approved to proceed to construction.
Local residents	Closing the Smallway East arm and the effect on Kent Road.	Closure will help traffic to flow through more efficiently on the A370, and at the junction, by reducing the number of movements in all directions. Simplifying the number of directions people can take will also make the junction safer. It means we can improve the crossing points and a major A370 footpath for pedestrians, cyclists and mobility users. The concept design has been successfully tested for large vehicle access and turning in the Sheppy's Mill area, tracking an 11.2m-long refuse vehicle. Accessibility would be tested further in a more detailed design phase, following approval of the planned scheme. Parking in Smallway East and Kent Road will also be looked at if the design is approved to proceed to construction.

Common or significant issues raised and officer responses

Local	Safety concerns	As well as introducing traffic lights on all
residents		arms of the junction to control traffic
TCSIGCILIS		vellow box junctions would be repainted
		se needed to support meyomente
		as needed to support movements
		between Kent Road and the A370.
		Bringing the stop line heading towards
		Weston-super-Mare further forward
		would encourage better vehicle
		positioning. Vegetation would be cleared
		to improve visibility and lines of sight.
		Speed limits will also be considered in
		the preliminary design process if the
		scheme is approved for construction
	Design offectiveness	The changes would work together with
	Design ellectiveness.	The changes would work together with
residents		wood Hill as the sister junction to ease
		congestion and improve flow by allowing
		traffic to disperse better across the road
		network.
Local	Pedestrian or cyclist	By removing the footpath on the lesser-
residents	crossings or access.	used eastern side of the A370, we can
	Ŭ	improve, lengthen and widen the
		western footpath making it more
		accessible Adding a new crossing with
		traffic lights will give a clear pedestrian
		crossing across the A270 New signage
		at the junction such as fingernests will
		at the junction, such as ingerposts, will
		neip signpost pedestrians, cyclists and
		mobility users to appropriate routes.
		Kent Road offers a quieter alternative for
		pedestrians walking from north to south
		than the A370.
Local	Traffic light timings and	Adding traffic signals on all arms of the
residents	synchronicity.	junction – including on the right-hand
		turn to Yatton – will help to minimise
		risky driver behaviour Traffic in all
		directions would be controlled by traffic
		lights. These lights would be linked with
		other pearby traffic lights such as at
		Mead Lill and the Ligh Street Briefel
		Road junction. The traffic light
		technology would also be upgraded with
		the capability to sense bus locations
		using GPS.
Local	Flooding and drainage.	The drainage system would be surveyed
residents		to understand any issues to resolve. We
		would also add new gullies on both sides
		of the road, to help with surface water
		run-off
l ocal resident	Lindating the bus stop layby	If the scheme is approved for
	near the south Kent Dood /	construction we will look at this hus stop
	A270 junction	to app how we can shange the layer t
1		i to see now we can change the layout, so

	buses can pull in more effectively, and
	avoid holding up traffic.

#### Summary of future/remaining engagement

The design changes to the junction have been shaped by discussions with local community representatives and reinforced by public engagement on the concept designs. Future engagement will include external comms highlighting a hard decision, including any design elements considered due to feedback on the initial proposals, highlighting the role this has played in the scheme's evolution.

A Traffic Regulation Order (TRO) will also be published on the council's website, giving a further, formal opportunity for the public to engage on the final concept designs. This would happen around 12 weeks before any works are due to start on the ground.

Further updates will be shared through the council BSIP website pages, and social media channels.

#### **RISK MANAGEMENT**

There is effective project and programme management led by officers with support by an external consultancy to aid in both design and contract management.

There is an agreed internal governance function to oversee decision making which includes regular reporting through appropriate boards.

A Quantified Risk Assessment (QRA) has been prepared for the scheme which will be reviewed at key milestones throughout both the design and build process. The QRA will be reviewed and updated on completion of the preliminary design. The risk register is a live document for the duration of the programme.

Some of the key risks that relate to this project are listed below:

- Statutory Undertakers Apparatus (SUs) As with all construction projects, the location of buried services and the potential need to divert or protect those during works present a key risk during the initial stages. This risk is being managed as far as possible by engaging with the SUs at an early stage, and, where possible, designing out any significant works.
- Journey time delays, complaints, disruption during works The works to the Backwell Crossroads will take approximately 6 months to complete. This is a key commuter and bus corridor, and a link Bristol to Weston-super-Mare, and therefore we are preparing stakeholders to expect and prepare for a notable impact during the construction period. This risk will be managed by careful planning during the preconstruction phase and mitigated during the construction of the works. However, other traffic management will be in place throughout the works.
- **Drainage and carriageway condition** The location, condition and suitability of existing drainage is a key risk. This risk will be managed at all stages of the scheme, throughout design and construction. This risk will be managed through investigation,

CCTV and cleansing which will mitigate any significant issues associated with these works. The carriageway on the A370 is also showing signs that it may be in poor condition in places, investigation will be undertaken and any remediation will be undertaken within the extent of the scheme.

An additional risk relating to the project is appended to this report.

#### EQUALITY IMPLICATIONS

Have you undertaken an Equality Impact Assessment? Yes.

The assessment shows there are positive or neutral outcomes for this scheme for all users, albeit with low or negligible levels of impact across the various groups. Mostly it will aid disabled people, people on low incomes, and younger and older age groups, by helping to improve public transport viability.

#### **CORPORATE IMPLICATIONS**

The North Somerset Council Corporate Plan 2024-28 includes key commitments to:

- deliver the Climate Emergency Strategy and action plan and progress towards net zero by 2030
- deliver large-scale projects that improve the infrastructure and sustainability of North Somerset
- continue to invest in our highways and transport network to connect places and communities
- deliver on public transport improvements and support more cycling and walking across North Somerset to help decarbonise travel and promote preventative public health and encourage healthy lifestyles.

# This includes 'offering transport choices that make the most of our infrastructure and provide opportunities for better use of public transport'.

Regionally, the council is a member authority of the Western Gateway Sub-national Transport Body (STB) and has recently adopted our Strategic Transport Plan 2024-2050. This firmly sets out the wider region's commitment to act on the essential decarbonisation of our transport networks with one of the five overarching principles being 'Decarbonisation and Air Quality' and sets the target to achieve a shift of 17% of current vehicle kilometres to sustainable modes.

Sub-regionally, as part of the West of England region, the Council's overarching transport strategy is the Joint Local Transport Plan 4 (JLTP4), that clearly states the direction of travel for decarbonising our transport network. This includes:

- that 'to transform our region, we will need to be flexible, agile and brave in our approach to the climate emergency'
- 'taking action against climate change and address poor air quality', as one of the five key objectives
- recognising the need to 'provide transformational alternatives' to car driving
- 'considering ways to manage demand possibly through congestion charging, emissions charging and workplace parking levy-type schemes', as a sub-region.

More specifically for public transport, the plan commits to:

- reinventing public transport through mass transit, smart ticketing and making it more user friendly, convenient, safe, direct and attractive linking key destinations to enable everyone to use it
- rethinking how we use our existing transport corridors including reallocating more road space to buses, pedestrians and cyclists
- demand management measures to influence travel choice and raise revenue to reinvest in alternatives
- first and last mile-type solutions to provide a linked-up transport network.

The emerging North Somerset Local Plan continues the strong vision-led 'decide and provide' approach to transport decarbonisation through its sustainable transport strategy, by proposing development in locations where sites will be required to reduce the need to travel and reduce car dependency - by being located close to existing facilities and connecting into existing and improved sustainable transport networks – providing more options to get around.

In December 2024, central government updated the National Planning Policy Framework (NPPF) with the aim of enabling local planning authorities and the development industry to deliver more homes to reduce the national shortage and provide more affordable housing. This has meant a return to mandatory housing targets and has resulted in North Somerset Council needing to identify a minimum of 8,620 additional homes on top of the 15,275 homes already identified in the Reg 19 Plan consulted on in 2023-24. This NPPF update includes the need to identify residential development within Green Belt land if the required level of housing cannot be accommodated outside of the Green Belt.

The additional sites are still being identified and are currently live for consultation, between 7 February and 21 March 2025. Once the additional sites have been finalised for inclusion in the emerging Local Plan, strategic transport modelling will be updated. This will enable the Council to understand the impacts from the full scale of proposed Local Plan development (including the additional sites) and allow for the further refinement of transport mitigation schemes. These schemes will enable the developments to be delivered consistent with the objectives of the Local Plan and its Spatial Strategy for sustainable developments.

The updated transport modelling will include all 'committed' major transport schemes, including any BSIP bus priority schemes that are funded and approved to be designed and delivered. At A370/Smallway junction in Congresbury, it this will help to future-proof this junction for better bus priority given the likely growth in demand along the A370 corridor (from background growth and development growth), to help provide an alternative to private vehicle reliance and congestion, as consistent with the Council's corporate, transport and planning vision.

### APPENDICES

Appendix 1 – Scheme concept plan Appendix 2 – Bus and general traffic journey time tables Appendix 3 - Additional risk. Not for publication by virtue of paragraph 3 of Part 1 of schedule 12A of the Local Government Act 1972

#### **BACKGROUND PAPERS**

<u>Report to The Executive – 20<sup>th</sup> October 2021 - Update on the Development of a Joint Bus</u> <u>Service Improvement Plan (BSIP) with the West of England Combined Authority and Bus</u> <u>Operators</u>

Report to The Executive – 22<sup>nd</sup> June 2022 – North Somerset Bus Service Improvement Plan

<u>Executive Committee – 18<sup>th</sup> October 2023 - Bus Service Improvement Plan (BSIP) - Contract</u> <u>Award of Design and Build Contractor</u>

SIGNATORIES:

DECISION MAKER(S):

Signed Jmy Executive Member for Highways and Transport

Date: 30 April 2025

WITH ADVICE FROM:

Signed MMC Director of Environment, Assets and Transport Services

Date: 24 April 2025

### Appendix 1 – Scheme concept plan

![](_page_25_Figure_1.jpeg)

## Appendix 2 – Bus and general traffic journey time tables

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	5:00-6:00	00:45:07	00:43:23	00:47:12	00:03:49
Jun-23	AM peak	7:00-8:00	01:09:26	01:05:30	01:12:27	00:06:57
Jun-23	Inter peak	13:00-14:00	00:53:33	00:50:33	00:55:32	00:04:59
Jun-23	PM peak	15:00-16:00	01:01:59	00:59:17	01:04:41	00:05:24
Nov-23	Off peak	5:00-6:00	00:48:28	00:45:13	00:49:22	00:04:09
Nov-23	AM peak	7:00-8:00	01:18:17	01:10:29	01:25:17	00:14:48
Nov-23	Inter peak	13:00-14:00	00:53:46	00:50:28	00:55:46	00:05:18
Nov-23	PM peak	15:00-16:00	01:02:23	00:58:28	01:06:07	00:07:39
Jun-24	Off peak	5:00-6:00	00:47:45	00:46:19	00:49:26	00:03:07
Jun-24	AM peak	7:00-8:00	01:10:45	01:06:45	01:16:01	00:09:16
Jun-24	Inter peak	13:00-14:00	00:57:08	00:52:30	00:57:02	00:04:32
Jun-24	PM peak	15:00-16:00	01:01:20	00:58:22	01:03:51	00:05:29
Nov-24	Off peak	5:00-6:00	00:49:31	00:45:10	00:50:39	00:05:29
Nov-24	AM peak	7:00-8:00	01:13:16	01:06:38	01:21:15	00:14:37
Nov-24	Inter peak	13:00-14:00	00:57:23	00:54:42	00:58:45	00:04:03
Nov-24	PM peak	15:00-16:00	01:02:04	00:58:10	01:04:40	00:06:30

Table 1: Bristol-bound bus journey times along the A370, between Interchange and Winterstoke Road bus stops

Table 2: Weston-bound bus journey times along the A370, between Blackmoors Lane and Interchange Road bus stops

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	19:00-20:00	00:47:01	00:44:45	00:49:08	00:04:23
Jun-23	AM peak	7:00-8:00	00:52:12	00:49:09	00:55:11	00:06:02
Jun-23	Inter peak	10:00-11:00	00:50:33	00:47:25	00:52:30	00:05:05
Jun-23	PM peak	16:00-17:00	01:00:41	00:55:32	01:04:51	00:09:19
Nov-23	Off peak	19:00-20:00	00:45:40	00:43:02	00:47:36	00:04:34
Nov-23	AM peak	7:00-8:00	01:00:38	00:54:31	01:05:08	00:10:37
Nov-23	Inter peak	10:00-11:00	00:50:38	00:47:49	00:53:28	00:05:39
Nov-23	PM peak	16:00-17:00	01:02:25	00:56:50	01:08:06	00:11:16
Jun-24	Off peak	19:00-20:00	00:48:45	00:46:14	00:50:35	00:04:21
Jun-24	AM peak	7:00-8:00	00:55:43	00:53:53	00:58:01	00:04:08
Jun-24	Inter peak	10:00-11:00	00:52:52	00:50:16	00:54:59	00:04:43
Jun-24	PM peak	16:00-17:00	01:04:05	01:00:35	01:07:25	00:06:50
Nov-24	Off peak	19:00-20:00	00:48:34	00:45:55	00:50:35	00:04:40
Nov-24	AM peak	7:00-8:00	00:59:49	00:54:40	01:02:58	00:08:18
Nov-24	Inter peak	10:00-11:00	00:53:43	00:51:07	00:56:17	00:05:10
Nov-24	PM peak	16:00-17:00	01:05:56	00:58:49	01:11:40	00:12:51

Table 3: Bristol-bound general traffic journey times along the A370, between Interchange and Winterstoke Road bus stops

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	5:00-6:00	00:32:11	00:26:50	00:33:57	00:07:07
Jun-23	AM peak	7:00-8:00	00:45:53	00:31:33	00:46:57	00:15:24
Jun-23	Inter peak	13:00-14:00	00:42:08	00:31:43	00:43:09	00:11:26
Jun-23	PM peak	15:00-16:00	00:48:20	00:33:02	00:50:02	00:17:00
Nov-23	Off peak	5:00-6:00	00:33:36	00:27:49	00:35:36	00:07:47
Nov-23	AM peak	7:00-8:00	00:56:02	00:34:03	00:59:20	00:25:17
Nov-23	Inter peak	13:00-14:00	00:43:04	00:32:06	00:44:57	00:12:51
Nov-23	PM peak	15:00-16:00	00:51:49	00:33:50	00:54:05	00:20:15
Jun-24	Off peak	5:00-6:00	00:33:33	00:27:27	00:35:43	00:08:16
Jun-24	AM peak	7:00-8:00	00:45:44	00:31:48	00:48:32	00:16:44
Jun-24	Inter peak	13:00-14:00	00:45:57	00:32:13	00:45:14	00:13:01
Jun-24	PM peak	15:00-16:00	00:51:44	00:33:24	00:54:02	00:20:38
Nov-24	Off peak	5:00-6:00	00:34:30	00:28:13	00:36:17	00:08:04
Nov-24	AM peak	7:00-8:00	00:53:15	00:33:29	00:56:15	00:22:46
Nov-24	Inter peak	13:00-14:00	00:45:20	00:32:38	00:47:07	00:14:29
Nov-24	PM peak	15:00-16:00	00:52:06	00:34:08	00:55:44	00:21:36

Table 4: Weston-bound general traffic journey times along the A370, between Blackmoors Lane and Interchange Road bus stops

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	19:00-20:00	00:36:49	00:29:20	00:38:13	00:08:53
Jun-23	AM peak	7:00-8:00	00:38:47	00:29:54	00:39:51	00:09:57
Jun-23	Inter peak	10:00-11:00	00:40:42	00:31:20	00:41:56	00:10:36
Jun-23	PM peak	16:00-17:00	00:51:19	00:32:55	00:53:18	00:20:23
Nov-23	Off peak	19:00-20:00	00:39:16	00:30:50	00:41:10	00:10:20
Nov-23	AM peak	7:00-8:00	00:42:23	00:31:16	00:44:01	00:12:45
Nov-23	Inter peak	10:00-11:00	00:41:46	00:31:50	00:43:53	00:12:03
Nov-23	PM peak	16:00-17:00	00:54:01	00:34:46	00:59:36	00:24:50
Jun-24	Off peak	19:00-20:00	00:38:25	00:29:50	00:40:45	00:10:55
Jun-24	AM peak	7:00-8:00	00:40:16	00:30:26	00:42:35	00:12:09
Jun-24	Inter peak	10:00-11:00	00:41:45	00:31:51	00:44:01	00:12:10
Jun-24	PM peak	16:00-17:00	00:50:25	00:33:11	00:51:31	00:18:20
Nov-24	Off peak	19:00-20:00	00:40:08	00:30:55	00:42:19	00:11:24
Nov-24	AM peak	7:00-8:00	00:41:56	00:31:18	00:43:10	00:11:52
Nov-24	Inter peak	10:00-11:00	00:43:31	00:32:01	00:44:33	00:12:32
Nov-24	PM peak	16:00-17:00	00:53:40	00:34:37	00:55:32	00:20:55

Table 5: Bristol-bound bus journey times across the Smallway junction, between Strawberry Line and Tesco bus stops

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	6:00-7:00	00:02:34	00:02:04	00:02:53	00:00:49
Jun-23	AM peak	8:00-9:00	00:04:24	00:03:04	00:05:12	00:02:08
Jun-23	Inter peak	10:00-11:00	00:03:48	00:02:59	00:04:40	00:01:41
Jun-23	PM peak	15:00-16:00	00:04:01	00:03:07	00:04:27	00:01:20
Nov-23	Off peak	6:00-7:00	00:02:46	00:02:15	00:03:10	00:00:55
Nov-23	AM peak	8:00-9:00	00:04:03	00:02:53	00:04:59	00:02:06
Nov-23	Inter peak	10:00-11:00	00:03:03	00:02:33	00:03:40	00:01:07
Nov-23	PM peak	15:00-16:00	00:03:29	00:02:44	00:04:02	00:01:18
Jun-24	Off peak	6:00-7:00	00:03:06	00:02:26	00:03:38	00:01:12
Jun-24	AM peak	8:00-9:00	00:06:58	00:04:12	00:09:18	00:05:06
Jun-24	Inter peak	10:00-11:00	00:03:20	00:02:34	00:03:36	00:01:02
Jun-24	PM peak	15:00-16:00	00:04:15	00:03:07	00:05:08	00:02:01
Nov-24	Off peak	6:00-7:00	00:02:51	00:02:13	00:03:21	00:01:08
Nov-24	AM peak	8:00-9:00	00:06:15	00:03:37	00:07:59	00:04:22
Nov-24	Inter peak	10:00-11:00	00:03:19	00:02:29	00:03:57	00:01:28
Nov-24	PM peak	15:00-16:00	00:03:35	00:02:43	00:04:14	00:01:31

Table 6: Weston-bound bus journey times across the Smallway junction, between Wrington Road and Congresbury Bridge bus stops

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	20:00-21:00	00:01:45	00:01:32	00:01:59	00:00:27
Jun-23	AM peak	8:00-9:00	00:01:57	00:01:40	00:02:08	00:00:28
Jun-23	Inter peak	10:00-11:00	00:01:48	00:01:26	00:02:04	00:00:38
Jun-23	PM peak	16:00-17:00	00:02:50	00:01:57	00:03:15	00:01:18
Nov-23	Off peak	20:00-21:00	00:01:41	00:01:24	00:02:01	00:00:37
Nov-23	AM peak	8:00-9:00	00:01:54	00:01:37	00:02:08	00:00:31
Nov-23	Inter peak	10:00-11:00	00:01:40	00:01:24	00:01:54	00:00:30
Nov-23	PM peak	16:00-17:00	00:02:31	00:02:00	00:03:00	00:01:00
Jun-24	Off peak	20:00-21:00	00:01:52	00:01:35	00:02:04	00:00:29
Jun-24	AM peak	8:00-9:00	00:02:02	00:01:38	00:02:18	00:00:40
Jun-24	Inter peak	10:00-11:00	00:01:56	00:01:41	00:02:11	00:00:30
Jun-24	PM peak	16:00-17:00	00:03:02	00:01:58	00:03:11	00:01:13
Nov-24	Off peak	20:00-21:00	00:02:10	00:01:46	00:02:32	00:00:46
Nov-24	AM peak	8:00-9:00	00:02:05	00:01:39	00:02:14	00:00:35
Nov-24	Inter peak	10:00-11:00	00:01:51	00:01:32	00:02:05	00:00:33
Nov-24	PM peak	16:00-17:00	00:02:54	00:01:52	00:02:46	00:00:54

Table 7: Bristol-bound general traffic journey times across the Smallway junction, between Strawberry Line and Tesco bus stops

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	6:00-7:00	00:01:32	00:01:19	00:01:39	00:00:20
Jun-23	AM peak	8:00-9:00	00:02:48	00:01:58	00:03:25	00:01:27
Jun-23	Inter peak	10:00-11:00	00:02:00	00:01:40	00:02:15	00:00:35
Jun-23	PM peak	15:00-16:00	00:02:39	00:01:57	00:03:11	00:01:14
Nov-23	Off peak	6:00-7:00	00:01:36	00:01:22	00:01:43	00:00:21
Nov-23	AM peak	8:00-9:00	00:02:41	00:01:58	00:03:13	00:01:15
Nov-23	Inter peak	10:00-11:00	00:02:04	00:01:40	00:02:21	00:00:41
Nov-23	PM peak	15:00-16:00	00:02:40	00:02:00	00:03:08	00:01:08
Jun-24	Off peak	6:00-7:00	00:01:37	00:01:21	00:01:42	00:00:21
Jun-24	AM peak	8:00-9:00	00:02:32	00:01:53	00:02:51	00:00:58
Jun-24	Inter peak	10:00-11:00	00:02:09	00:01:44	00:02:22	00:00:38
Jun-24	PM peak	15:00-16:00	00:02:52	00:02:02	00:03:20	00:01:18
Nov-24	Off peak	6:00-7:00	00:01:43	00:01:24	00:01:48	00:00:24
Nov-24	AM peak	8:00-9:00	00:02:31	00:01:52	00:02:55	00:01:03
Nov-24	Inter peak	10:00-11:00	00:02:10	00:01:42	00:02:27	00:00:45
Nov-24	PM peak	15:00-16:00	00:02:29	00:01:53	00:02:51	00:00:58

Table 8: Weston-bound general traffic journey times across the Smallway junction, between Wrington Road and Congresbury Bridge bus stops

Date	Peak	Time	Mean	25th percentile	75th percentile	Variability
Jun-23	Off peak	20:00-21:00	00:01:10	00:01:00	00:01:15	00:00:15
Jun-23	AM peak	8:00-9:00	00:01:30	00:01:10	00:01:40	00:00:30
Jun-23	Inter peak	10:00-11:00	00:01:21	00:01:07	00:01:29	00:00:22
Jun-23	PM peak	16:00-17:00	00:02:49	00:01:24	00:03:26	00:02:02
Nov-23	Off peak	20:00-21:00	00:01:09	00:01:01	00:01:14	00:00:13
Nov-23	AM peak	8:00-9:00	00:01:26	00:01:08	00:01:36	00:00:28
Nov-23	Inter peak	10:00-11:00	00:01:20	00:01:07	00:01:29	00:00:22
Nov-23	PM peak	16:00-17:00	00:01:59	00:01:19	00:02:10	00:00:51
Jun-24	Off peak	20:00-21:00	00:01:17	00:01:04	00:01:21	00:00:17
Jun-24	AM peak	8:00-9:00	00:01:44	00:01:19	00:01:55	00:00:36
Jun-24	Inter peak	10:00-11:00	00:01:32	00:01:13	00:01:44	00:00:31
Jun-24	PM peak	16:00-17:00	00:02:22	00:01:33	00:02:48	00:01:15
Nov-24	Off peak	20:00-21:00	00:01:11	00:01:03	00:01:16	00:00:13
Nov-24	AM peak	8:00-9:00	00:01:32	00:01:10	00:01:38	00:00:28
Nov-24	Inter peak	10:00-11:00	00:01:26	00:01:11	00:01:34	00:00:23
Nov-24	PM peak	16:00-17:00	00:01:43	00:01:14	00:01:50	00:00:36

Appendix 3 – Additional risk

Not for publication by virtue of paragraph 3 of Part 1 of schedule 12A of the Local Government Act 1972

![](_page_30_Picture_2.jpeg)