Transport
Infrastructure Delivery Plan Topic Paper

Introduction

1.0 This paper summarises the current position in terms of transport infrastructure and provision in South Gloucestershire.

Delivery Agencies

2.0 Responsibility for the provision of transport in England is fragmented; the division of these responsibilities is as follows:

- The Strategic Road Network [SRN] (motorways and trunk roads) is managed and maintained by the National Highways. This is a government owned company charged with operating, maintaining, and developing the network. In South Gloucestershire, the SRN consists of the M4, M5, M32, M48, M49 and the A46 south of the M4.
- All other public highways are managed and maintained by South Gloucestershire Council, using capital funding provided by the Department of Transport (DfT) (City Regional Sustainable Transport Settlement (CRSTS), the Council's own resources and third-party funding such as developer contributions.
- Railway infrastructure is managed and maintained by Network Rail, a 'not for profit' company funded by income received from Train Operating Companies [TOCs], Freight Operating Companies [FOCs] and from the DfT. Train services are run by the TOCs. Passenger services are run on a franchise basis, with the DfT specifying the terms of the franchise (including minimum service levels). In South Gloucestershire, local services and those to/from London and South Wales are currently run by Great Western Railway, whilst north-south cross-country services are currently run by Cross Country.
- Local bus services are provided on a commercial and non-commercial basis. The main commercial operator in South Gloucestershire is First Bus, with several smaller companies also operating services; non-commercial services are operated under tender to the West of England Combined Authority (WECA). Express inter-city coach services are primarily run by National Express and Mega Bus. Community transport services are widely provided on a voluntary basis and often with financial support from South Gloucestershire Council.
- The West of England Combined Authority (WECA) is responsible for a consolidated, devolved local transport budget. The authority promotes the West of England Joint Local Transport Plan, which includes the MetroBus network and the MetroWest rail project. The Key Route Network of local authority roads is managed and maintained by the combined authority on behalf of the WECA Mayor.

- Air transport is regulated by the government and run by commercial organisations. The nearest commercial airport to South Gloucestershire is Bristol Airport.
- Avonmouth is the nearest port serving the South Gloucestershire area and is owned and operated by the Port of Bristol.

Current and planned Infrastructure Assets

3.0 Previous studies have identified a lack of sustainable transport access and relatively low frequency bus services for many residents as key issues impacting movement across the region. These issues combine to make car travel the mode of preference for many, even when trip lengths are such that active mode alternatives could be viable alternatives. When considered alongside a highway network with limited spare capacity and notable pinch-points the impact is additional pressure on the road network leading to further congestion. This consequentially impacts on reliability of bus services using those routes and safety concerns for cyclists and pedestrians, making them a less attractive option compared with driving.

3.1 The following paragraphs provide an overview of key geographic areas in South Gloucestershire:

North Fringe

3.2 The North Fringe comprises Cribbs Causeway, Filton, Patchway, Bradley Stoke, Stoke Gifford, Frenchay and Harry Stoke. It is bounded on three sides by the M5, M4 and M32 motorways; and by the A4174 Ring Road on its southern side. The Great Western Mainline railway line bisects the area and is a significant barrier to north-south and east-west movements as few local roads cross the railway, and therefore these have historically been very congested during weekday peak periods.

3.3 Changes in travel behaviour since the Covid lockdowns of 2020/2021 have helped alleviate the duration that the network is put under stress, but some key junctions continue to experience regular operational problems:

- M5 Junction 17 (A4018) is particularly congested during peak shopping periods at weekends and around Christmas; continuing intensification of retail development at Cribbs Causeway would increase traffic levels and congestion.

- M5 Junction 16 (A38) is congested with commuter traffic, given its proximity to the nearby business parks at Aztec West and Woodlands Lane and by trips to/from aerospace industries in Filton.

- M5 Junction 15 / M4 Junction 20 (Almondsbury Interchange) - queues generated at M5 Junction 16 can back up to this junction in the AM peak when commuter traffic combines with holiday traffic on Friday afternoons.

- M4 Junction 19 (M32) is congested during commuter peak periods, queues that form on the off slips can back up onto the M4 running lanes.

- M32 Junction 1 (A4174 Ring Road) is also congested during commuter peak periods, queuing traffic backs up along the A4174 to the Stoke Gifford bypass and B4058 at Hambrook.

3.4 The main local roads are the A4018, A38, A4174 Ring Road, B4057 and B4427, linked by various distributor roads. The main junctions include:

- A38/Bradley Stoke Way/Aztec West.
- A38/B4057 Gipsy Patch Lane.
- A38/A4174/B4056 (Air Balloon or Filton Roundabout).
- A4174/Filton Avenue.
- A4174/Great Stoke Way/MoD (Abbey Wood Roundabout).
- A4174/Coldharbour Lane.
- A4174/B4058 at Hambrook.
- B4057/B4427 at Stoke Gifford.
- Lysander Rd/Merlin Rd (Cribbs Causeway).

These main roads (and their junctions) experience congestion to varying degrees. At peak times there is little spare capacity to cope with exceptional traffic conditions.

3.5 There are currently three rail stations located within the North Fringe:

- Bristol Parkway is the main railway station and provides both inter-city, regional and local services, giving direct access to a wide range of destinations (including Swansea, Manchester, Gloucester, Plymouth, Paddington, Worcester, Cardiff, Edinburgh, and Bristol Temple Meads). Typically, there are over 12 passenger services stopping at the station per hour during weekdays. A recently enhanced bus interchange area facilitates transfer onto local bus and Metrobus services.
- Filton Abbey Wood station is well-served by regional and local train services (including Portsmouth, Cardiff, Gloucester, Worcester, and Bristol Temple Meads). It is located close to a major employment site. Access to/from the nearby residential areas is however a well-known issue.
- Patchway station is more isolated and is served by an hourly train service. Station facilities have recently been enhanced and now include passenger lifts and improved waiting facilities. There is a dedicated entrance onto the Rolls Royce site (employees only) but access into the nearby residential areas is a known issue.

3.6 There are well developed plans to add additional rail stations at North Filton and Henbury (both on the Henbury spur). These will provide hourly services into Bristol Temple Meads and benefit residents of the Cribbs Patchway New Neighbourhood (CPNN) and the Arena which is being built on the old Filton airfield.

3.7 Bus services operating in the north Fringe are focussed on the Cribbs Causeway Bus station and the University of West England interchange. Two metrobus routes have terminuses within the North Fringe (M1 and M4).

Cribbs Causeway Bus Station	UWE Bus Stops
12 (Bristol Parkway to Severn Beach) Y6 (Chipping Sodbury to Bristol Bus Station) 75 (Cribbs Causeway to Hengrove) 3 (Bristol City Centre to Cribbs Causeway via Avonmouth) 4 (Bristol City Centre to Cribbs via Lawrence Weston) 1 (Broomhill to Cribbs Causeway via Westbury on Trym) 2 (Stockwood to Cribbs Causeway) 76 (Bristol City Centre to Cribbs Causeway via Southmead) T7 (Chepstow to Bristol)	M1 (Hengrove Park to Cribbs Causeway) M3 (Bristol City Centre to Emersons Green) M4 (Bristol City Centre to Cribbs Causeway) 46 (UWE to Bristol City Centre via Fishponds 70 (Temple Meads to UWE via Filton Avenue) 19 Bath to Bristol Parkway 72 UWE to Temple Meads via Cotham

*Accurate at the time of writing (Oct 23)

3.8 The cycle and pedestrian networks generally follow the highways, but with sections of traffic-free routes, including the Concorde Way. Several walking and cycling schemes are under development to enhance connectivity along the A38/Bradley Stoke Way corridor and to/from the Cribbs Patchway New Neighbourhood.

3.9 The following major schemes have been recently completed and are planned in the locality:

- Metrobus (new high frequency services, with additional bus lanes and modern shelters) from Hengrove Park to Cribbs Causeway – complete.
- Stoke Gifford Transport Link – complete.
- Cribbs Patchway to Parkway Station Metrobus extension including new rail bridge at Gipsy Patch Lane removing significant network pinch point – complete. Full scheme will be completed once development on CPNN site advances.
- Improved bus facilities at Bristol Parkway facilitating easier interchange between bus and rail – complete.
- MetroWest half hour rail services to Yate & Gloucester – operational.
- Rail electrification on Great Western mainline between London Paddington and Cardiff – complete.
- New rail stations at North Filton & Henbury – planned, and
- Cycle routes to connect into CPNN – planned.

<u>East Fringe</u>

3.10 The communities of the East Fringe comprise Downend, Emersons Green, Mangotsfield, Staple Hill, Soundwell, Kingswood, Warmley, Cadbury Heath, Oldland Common, Longwell Green and Hanham. The primary highway access route is the A4174 Ring Road and several radial routes including the A432, B4465, A420, A4175 and A431. These main routes all experience significant traffic congestion in the peak periods, especially at junctions between the Ring Road and radial routes.

3.11 Known congestion hotspots are along the A4174 between Wick Wick Roundabout and Bromley Heath Roundabout. A junction improvement scheme at the Wraxall Road junction (A4174) has recently been completed and has helped reduce delays through the junction. There are 2 air quality management areas: in Kingswood to Warmley along the main A420 road and in Staple Hill town centre.

3.12 Public transport provision is provided entirely by bus services, most of which are on radial routes to/from the city centre. There is a high frequency Metrobus service from Emersons Green, via Lyde Green Park and Ride and onward to Bristol City centre via the University of the Western England (UWE). A lower frequency service (86) also provides connectivity south towards Kingswood and north towards Yate.

3.13 Kingswood High Street provides a focal point for local bus services.

Route Number	Route
41	Kingswood to Avonmouth
42	Bitton to Bristol City Centre (via Kingswood)
43	Warmley to Bishopworth (via Kingswood)
17	Keynsham to Bristol Bus Station (via Kingswood an Southmead).
19	Bath to Bristol Parkway Station via Kingswood
86	Yate to Kingswood
6	Kingswood to Bristol City Centre
35	Kingswood to Marshfield

*Accurate at the time of writing (Oct 23)

3.14 The cycle and pedestrian networks generally follow the highways, but with sections of traffic-free routes, including the well-known Bristol-Bath cycle path. Several walking and cycling schemes are under development to enhance connectivity.

3.15 The following schemes have been recently completed and are planned in the locality:

- Wraxall Road throughbout – was opened on the A4174 in October 2021.
- Lyde Green Park and Ride and operation of M3 metrobus service between Emersons Green, University of West of England and Bristol city centre - complete
- Phases 5&6 of the Yate spur (under development)
- Improvements to Bristol to Bath cycleway (under development)
- Keynsham to Willsbridge Path (under development)

<u>Yate and Chipping Sodbury</u>

3.16 Yate and Chipping Sodbury are adjoining settlements north-east of Bristol. Although they do have several employment areas, there is net out-commuting of traffic to Bristol city centre, the North Fringe and beyond. This results in heavy traffic flows out of Yate in the morning towards the Ring Road and North Fringe via the A432, the B4058, B4059, B4427 and rural roads through Westerleigh, with similar flows returning in the evening.

3.17 The main bus service in Yate (Y1) provides two buses per hour between Bristol city centre and Yate, operating along the A432, A4174 and M32. These services also provide connectivity between Cotswold Road Roundabout (Chipping Sodbury) and South Yate (Heron Way, Shire Way). The Y1 service has recently been enhanced to offer four buses per hour along the main corridor (Yate to Bristol) with a 30-minute frequency services into North Yate and South Yate/Chipping Sodbury respectively. It is recognised that passengers boarding / alighting in Chipping Sodbury have an additional 20 minutes added to their journey due the service having to route around south Yate.

3.18 Yate Bus station is located at the eastern side of the Yate Town centre and aside from relatively high frequency Y1 & Y2 service is served by a number of low frequency bus routes.

Route Number	Route
Y1	Yate to Bristol
Y2	North Yate to Bristol
Y6	Bristol to Chipping Sodbury via Southmead & Cribbs /Parkway
Y8	Hawkesbury - Charfield
620	Old Sodbury – Stroud
41	Yate to Malmesbury
86	Yate to Kingswood
525	Yate to Emersons Green

*Accurate at the time of writing (Oct 23)

3.19 There is a half -hourly rail service from Yate railway station to Bristol and north to Gloucester. Yate station has limited passenger facilities, comprising small bus-stop style shelters, information boards, cycle stands/lockers and a car park.

3.20 The cycle and pedestrian networks generally follow the highways, but there are bespoke links incorporated into recent developments, especially in Brimsham Park, north Yate.

3.21 The following schemes have been recently completed and are planned in the locality:

- 198 space Park and Ride facility at Badminton Road Yate – complete.
- Improved cycling infrastructure on the A432 between Nibley Lane and Frog Lane junctions – complete.
- MetroWest half hour rail services to Bristol & Gloucester – operational.
- Replacement of Yate rail station shelters - complete
- Improvements along A432 and A4174 to transform corridor to give residents and visitors better options for using buses or walking and cycling (under development), and
- North Yate to Yate Station walking and cycling scheme (under development).

Thornbury

3.22 Thornbury has net out-commuting to Bristol city centre, the North Fringe and beyond. This results in heavy traffic flows out of the town in the morning towards Bristol via the A38 and B4427, with similar flows returning in the evening. There is congestion at the main junctions along the A38, especially on the approach to M5 Junction 16. The main bus service provides three buses per hour to/from Bristol city centre via the A38; these also provide intra-town services. There are also less frequent services to Dursley and Sharpness.

Route Number	Route
T1	Thornbury – Bristol City Centre
60	Thornbury via Charfield to Dursley
62	Thornbury via Berkeley to Dursley
207	Thornbury to Sharpness

*Accurate at the time of writing (Oct 23)

The cycle and pedestrian networks generally follow the highways.

3.23 The following major schemes have been recently completed and are planned in the locality:

- Improvements along the A38 to transform corridor to give residents and visitors better options for using buses or walking and cycling (under development).
- Grovesend Road/Gillingstool corridor to deliver a high-quality walking, cycle and wheeling[1] track on a key route between Thornbury town centre and the A38 (under development).

[1] Wheeling is included to cover wheelchair users, kick scooters and potentially e-scooters.

- Alveston Hill scheme to provide a direct, segregated pedestrian and cycle route linking the A38 with Thornbury town centre providing an alternative to the narrow footway along Alveston Hill (under development)

Severnside

3.24 Severnside is the area between the Avonmouth and Severn Beach and consists of a coastal plain already partially developed with large scale employment uses. A long-standing planning consent from 1954 allows for further employment development to come forward in this area.

3.25 The area is bisected by the M49 which links the M4 junction 22 with M5 Junction 18A. A new junction on the motorway has been completed and the link road to connect it to the local road network is expected to be completed in 2025.

3.26 The main local highways are the A403 and B4055. Both highways have well known constraints. If the whole Severnside area were to be developed the A403 would be unsuitable to cope with additional traffic without the new junction on M49 being fully operational. The B4055 is not considered suitable for HGVs or significant commuter traffic.

3.26 The Severn Beach branch line railway serves the area, with a recently improved service frequency (every hour) operating into Bristol Temple Meads station. There is a local railway station at Pilning on the Great Western mainline, but this is served by a minimal weekend only service and is essentially maintained in case of problems at the Severn Tunnel. Rail freight access to Avonmouth is provided via the Hallen branch from the Great Western mainline at Parkway.

3.27 There are limited bus services to/from Severn Beach to Cribbs Causeway and onto Bristol Parkway (Service 12, hourly).

3.28 The following major schemes have been recently completed and are planned in the locality:

- New Junction on M49 to serve the Western Approach Distribution Park (delivered).
- New link road to connect M49 junction with the local road network (under development).
- Increased service frequency from Severn Beach station (operational).

Rural Areas

3.29 The Rural Areas cover the small settlements and countryside outside the Bristol North & East fringe communities, Yate, Chipping Sodbury, Thornbury and Severnside. The main motorway network bisects the area, with local access junctions at M5 Junction 14 (A38, B4509, Falfield), M4 Junction 19 (A46, Tormarton) and M48 (A403, B4461, Aust).

3.30 Traffic at M4 J14 (a single overbridge) can back onto the mainline of the motorway, particularly during the morning rush hour on the north bound offslip. Improvement

works are required on this junction before further substantial growth could take place in the locality.

3.31 The A46/A433 also runs from north to south across the eastern part of South Gloucestershire. A short section of the A46 between M4 Junction 18 and the Bath and Northeast Somerset boundary is part of the Strategic Road Network (SRN) and is under the jurisdiction of National Highways.

3.32 The main local highways are the A38, A432, A420, A431 and several B-class roads. Traffic flows on the roads are generally tidal towards Bristol in the AM peak period, returning in the PM peak period. Historically peak period congestion occurs at junctions including:

- A38/B4061 at Alveston.
- A38/B4427 at Rudgeway.
- A38/Fernhill, Woodhouse Down.
- A38/Hortham Lane, Woodhouse Down.
- B4058/B4057, Winterbourne.
- B4058/Church Road, Frampton Cotterell.
- B4058/B4059, Iron Acton.

3.33 There is a sparse network of rural bus services north of Yate and Thornbury. The best level of service in rural areas are those close to the radial routes into Bristol from Thornbury and Yate. The Council has well developed plans and CRSTS funding identified to transform the A38 between Thornbury and Almondsbury by providing high quality walking and cycling infrastructure. A similar scheme is being developed for the A432 between Yate and A4174. Both schemes could be operational by 2027. Plans are also already well advanced for a new rail station to be built at Charfield. It is anticipated that it will be open to passengers in Spring 2027.

3.34 In addition, the WECA recently launched *WEST*link – an innovative demand responsive bus service which users can book using an app or by phone across most of rural south Gloucestershire (operational as a trial).

Rail

3.35 New railway stations are currently planned at Filton, Henbury and Charfield (opening 2026/27). There are several other longer-term schemes suggested in the Greater Bristol Rail Network Strategic Study[2] (Feb23) and the West of England 10 Year Rail

[2] https://sacuksprodnrdigital0001.blob.core.windows.net/regional-long-term-planning/Wales%20and%20Western/Greater%20Bristol%20Rail%20Network%20Strategic%20Study%20February%202023.pdf

Delivery Plan [3], that have the potential to increase services in South Gloucestershire. These include:

- Filton Bank signalling (to reduce 'headways' between trains to 3mins). This could support increased service frequency between Bristol & Cardiff.
- Severn Beach branch: Passing loops and second platform/track at Severn beach Station to increase services to 3/hr.
- Pilning & Severn Tunnel: relief line and signalling headways to increase freight capacity.
- Bristol Parkway to Westerleigh 4 tracking, to increase line capacity to Gloucester.
- Westerleigh Jct grade separation of east/west and north/south mainlines to increase capacity (will need land safeguarding).
- Wickwar & Heresfield passing loops (improve freight capacity).
- Gloucester Station (additional platform & Houghton Road crossing closure) to increase service capacity.

3.36 Network Rail are expected soon to publish an economic study that will help assess the relative business case and priority of proposed schemes across the West of England area. Prioritisation of these longer-term schemes will likely be expressed through National Rail Local Strategies, the Joint Local Transport Plan 5 and refresh of the West of England 10 Year Rail Delivery Plan.

Moving Forward: Key Regional and National Strategy Documents

4.0 Transport investment plans continue to evolve, subject to the availability of funding. In addition to the rail strategies mentioned above, key strategy documents currently include:

West of England Bus strategy

4.1 The Bus Strategy was adopted in June 2020 and sets out principles that can help increase passenger numbers; as well as a headline programme for how it can be achieved. The strategy promotes the following:

- A comprehensive and joined up bus network which maximises the range of journeys able to be made by bus, thereby improving access to key employment, health, and leisure destinations for everyone.
- A doubling in bus passenger numbers by 2036.
- For rural areas, whilst the bus mode share will remain relatively low, an improved and easy-to-understand network will provide a practical alternative to the car for many journeys and a reliable means to accessing services for those without access to a car.
- To maximise bus service reliability and reduce journey times.

[3] 10-year rail delivery plan - West of England Combined Authority (westofengland-ca.gov.uk)

- To provide simplified ticketing which allows all bus users to travel on a single ticket (on one or more buses), with fares capped to a daily maximum.
- Accessible passenger waiting facilities and vehicles, and better integration with other modes.
- Address congestion and delays due to car travel by attracting car users to use buses for some or all their journeys.
- Continue to improve passengers' satisfaction with bus services and their value for money.

The West of England Bus Strategy Improvement Plan (BSIP)

4.2 BSIP was initially published in October 2021 and updated in December 2022. Its key aims are to set pathways to: –

- Make the bus convenient – taking residents where they want to go at the times, they need to travel by extending the current network, enhancing frequencies, and optimising services.
- Make our public transport network co-ordinated – by providing a recognisable and consistent brand across the area, easy access to information, integrated ticketing across operators and enabling simple connections across modes and services.
- Deliver a positive customer experience – by bringing bus stops up to a high quality and consistent standard, delivering new accessible and environmentally friendly buses, offering a value for money and affordable service for all.

Local Cycling and Walking Infrastructure Plan (LCWIP)

4.3 The LCWIP, published in January 2021, is a strategic document that builds upon both the Government's Cycling and Walking Infrastructure Strategy (CWIS)[4] which had the objective to increase the quantum of walking and cycling journeys across the country, and the interventions and aims of the West of England Joint Local Transport Plan 4 (JLTP4)[5]. The LCWIP interventions will be funded on a case-by-case basis through one, or a combination, of: the City Regional Sustainable Transport Settlement (CRSTS) [6], The Transport City Fund (TCF)[7], and the Active Travel Fund (ATF)[8].

Joint Local Transport Plan (JLTP4)

[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918442/cycling-walking-investment-strategy.pdf

[5] https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/10/JLTP4-Adopted-Joint-Local-Transport-Plan-4.pdf

[6] https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/10/West-of-England-Combined-Authority-CRSTS.pdf

[7] https://www.gov.uk/government/publications/apply-for-the-transforming-cities-fund

[8] https://www.gov.uk/government/publications/emergency-active-travel-fund-local-transport-authority-allocations

4.4 The JLTP4 was published in March 2020 includes policies to increase cycling and walking modal share for short journeys[9] by improving walking and cycling connectivity to local services and facilities and improving the safety of the cycling and walking network. The West of England Combined Authority is currently seeking to refresh the document to better reflect adopted national government policy.

National Highways Road Investment Strategy 3 (RIS3)

4.5 RIS3 will set out the government's aims and proposals for investment in the strategic road network from 2025 to 2030. National Highways is currently developing RIS3 with an emphasis on exploring what steps can be taken to make journeys smoother and safer, while protecting and respecting the environment. There is likely to be an emphasis on management and maintenance in the eventual next 5-year settlement.

South Glos New Local Plan

4.6 As well as existing commitments and none-strategic allocations, the new local plan proposes new homes and jobs predominantly in a series of large and small urban and village extensions (SUaVEs) around the fringes of the north & east Bristol Urban area, specifically at:

- Easter Compton (250 homes) & Pilning (employment allocation)
- Almondsbury (350 homes)
- Woodlands Golf Course (2400 homes)
- North Lyde (2050 homes and strategic employment release)
- Carsons Green & Rockhouse Farm (1930 homes and employment release)
- North Warmley (1060) homes)

4.7 To support these new homes and jobs, and in addition to currently planned transport schemes to support committed development at places including the new neighbourhoods at Cribbs Patchway, East of Harry Stoke & North Yate, nLP Policy – Strategic Movement & Transport Infrastructure, sets out a series of transport packages. The evolution and further detail of these packages can be found in the main Transport Topic Paper. These packages, in the first instance, have been built around the seven SUaVEs above, whilst recognising the potential wider benefits to the existing communities and other allocations. The IDP Infrastructure list and SUaVEs Matrix (see Part II of the IDP), seeks to reflect the principal elements of these packages. It should be recognised though that these packages continue to evolve and will be used to influence further iterations of the various emerging transport strategies, such as the JLTP, LCWIP and BSIP discussed above.

[9] Short journeys are defined as those under 3 miles.