# Coach Strategy (Phase 2) Feasibility Study - Strategic Gap 2

Western Gateway Sub National Transport Body

March 2025



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V2	23/12/2024	Updated report post WGSTB comments
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## **Executive Summary**

#### Background

The Western Gateway Sub-National Transport Body (STB) published its Coach Strategy in August 2023<sup>1</sup>. Its purpose is to capture the current state of play for the different types of coach services operating across the STB region<sup>2</sup> and to identify future improvements.

The strategy identified three transport corridors, strategic gaps as they are referred to, where there could be opportunities to enhance scheduled coach services to provide better public transport connectivity between the region's larger settlements and through rural communities. The Strategic Gap 2 corridor is the focus of this feasibility study report and links Cheltenham, Gloucester, Stroud, Wotton under Edge, Thornbury, Bristol and Bristol Airport (approximately 50 miles in length).

#### Aim

The aim of this feasibility study is to assess options for improving scheduled coach services in Strategic Gap corridor 2 and to determine if there would be sufficient passenger demand to sustain a new coach service.

#### Method

The Coach Strategy utilised data from National Highways' South West Regional Traffic Model to assess travel movements between key settlements, as a way of broadly gauging potential demand for coach travel. For the feasibility study, this has been supplemented with mobile phone data sourced from BT Active Intelligence Rail Portal via Network Rail. From this data source it has been possible to generate an estimate of passenger demand on different potential coach service routes.

Data has been sorted using Medium Super Output Area (MSOA) zoning. Six broad coach service routeing and stopping pattern concepts have been defined and assessed based on identified case study coach services operating in other areas. A two-stage optioneering exercise has been followed to explore potential types of services at both a conceptual level as well as comparing journey times based on more detailed stopping patterns.

This has highlighted the pros and cons of different types of services, including the opportunities of serving more poorly connected town/city suburbs and rural communities versus the need to use faster moving roads like the M5 with fewer stops to achieve a competitive journey time when compared to other modes such as car and rail.

At this stage, the estimated demand has not been segmented by passenger type or journey purpose, although it is appreciated this will be needed to help inform the type of service that could be provided i.e. hours of operation, locations served and fares.

#### **Key Findings**

The feasibility study has highlighted inconsistent levels of connectivity with particularly poor connections:

- centred around the towns of Stroud and Stonehouse;
- with rural communities along the A38 between Gloucester and Thornbury; and
- between settlements along the A46 including Nailsworth.

This reinforces the analysis set out in the Coach Strategy, which had identified a connectivity gap, and indicates a possible opportunity to improve connectivity with a new coach service. There are few inter-urban coach services running through the corridor, and those that do are long-distance services e.g. Birmingham to Bristol/Plymouth with very limited stops therefore even sizeable conurbations such as Cheltenham and Gloucester only receive infrequent

services on the north-south corridor. Inter-urban buses do not extend the length of the corridor, requiring users to interchange between at least two services thus pushing up overall journey time.

Large-scale developments are proposed at different points along the route, and some are located out-of-town but within easy reach of the motorway network. These developments will generate additional trips and will need some form of public transport connections to avoid being too car orientated. This may present an opportunity to generate patronage on coach services in the future.

The proposed local transport improvements and the scale of economic activity in the northern fringe area of Bristol (including Cribbs Causeway, Filton and University of West of England campus) indicate that this area is as important to serve as Bristol City Centre.

The comparison with rail has highlighted that it is already feasible to travel by public transport along some sections of the corridor within a reasonable amount of time and that it may be difficult for a coach to compete with such journey times, most notably between the centres of Gloucester, Cheltenham and Bristol.

There is however potential for a coach service to attract some passengers off rail services, particularly from the Stroud and Stonehouse area whose rail connectivity with Bristol is poor. A new Stroudwater Station proposal would effectively address a key issue highlighted in the Coach Strategy regarding a lack of direct rail connections between Stroud and Bristol. However, even with funding secured it is unlikely to be delivered in the short to medium term and would be more expensive than introducing a new coach service or enhancing existing coach services.

Public transport connectivity between parts of Gloucestershire and Bristol Airport are also poor, with limited direct connections therefore requiring people to interchange in Bristol City Centre.

Coach is cheaper than train and that appeals to some parts of the community however passengers need to book in advance to take full advantage of cheaper fares or discounted tickets.

#### **Route Options**

The corridor has been segmented into three geographical sections with sub-options as follows:

- Northern (Tewkesbury/Cheltenham to Stroud) 6 options
- Core (Central Stroud to Bristol)) 24 options
- Southern (Bristol City to the Airport) 2 options

Three main coach service routes have been assessed which reflect characteristics of route options considered as part of the optioneering process:

- **Collector Route** starts in the settlements around Stroud and Stonehouse and then takes a relatively fast route to Bristol using a section of the M5. It is a shorter route by not covering the northern segment and has an estimated journey time of around 1 hour 50 minutes.
- **Corridor Route** starts at the northern part of the corridor in Cheltenham and covers more locations but with less divergence from main roads like the M5, so fewer stops in between and has an estimated end-to-end journey time of around 2 hours.

• **Rural Route** - a slower route that aims to cover as many locations as possible, with less emphasis on faster journey times. It would have an estimated end-to-end journey time of around 2 hours and 15 minutes.

Two iterations of each route have been assessed which differ according to which route a coach would take through the Bristol Northern Fringe. Northbound and southbound routes are shown in two separate parts of the following table and show that both directions are balanced in terms of passenger demand.

Broad assumptions have been made regarding the proportion of existing road-based travel demand which could use the coach ranging from a conservative 0.5% of road-based demand to an ambitious 5%. It is considered that a 5% level of mode share is very unlikely to be achieved across much of the corridor, with a mode share of 0.5%-2% thought to be more realistic. A summary of estimated demand by direction and time period is shown below.

		Daily AM Peak		Daily Off Peak		Daily Weekend	
		0.5%	1%	0.5%	1%	0.5%	1%
		So	uthboun	d			
	Total Demand	13	26	49	98	49	99
Collector Route A	Services Per Period	1	1	1	2	1	2
	Max occupancy	26%	52%	98%	98%	99%	99%
	Total Demand	15	31	55	109	55	110
Corridor Route A	Services Per Period	1	1	2	3	2	3
	Max occupancy	31%	61%	55%	73%	55%	73%
	Total Demand	19	39	66	133	66	132
Rural Route A	Services Per Period	1	1	2	3	2	3
	Max occupancy	39%	77%	66%	88%	66%	88%
		No	rthboun	d			-
	Total Demand	11	23	50	100	50	100
Collector Route A	Services Per Period	1	1	2	3	1	2
	Max occupancy	23%	45%	50%	67%	100%	100%
	Total Demand	13	26	56	112	56	112
Corridor Route A	Services Per Period	1	1	2	3	2	3
	Max occupancy	26%	53%	56%	75%	56%	74%
	Total Demand	17	33	68	136	67	134
Rural Route A	Services Per Period	1	1	2	3	2	3
	Max occupancy	33%	67%	68%	91%	67%	89%

#### Summary of estimated demand (0.5% - 1% mode share) by time period

Higher levels of demand are estimated on the assessed Rural Route by virtue of the fact it would make additional stops and serve more of the corridor's population. It would improve rural connectivity between places which are currently poorly connected by inter-urban public transport. On the other hand, the longer journey time compared to the alternative routes may not be as attractive, in particular to regular commuters.

If the journey time could be tailored to be just under two hours then a two hourly frequency of service could potentially be achieved using just two coaches and this caters for a 2% modal

switch. Only one coach would be required for the less frequent services. Four coaches would be required for an hourly service, although the passenger demand estimates suggest this level of frequency would not be required outside of the weekday peak periods.

Clearly if journey time from end to end is more than two hours then either additional vehicles are required or an easy to remember clock-face departure pattern from the more significant stops/interchanges may have to be dispensed with. In any case further work would need to be done to assess the operational factors such as driver's shift changes and the need to take legal rest breaks.

#### Potential for further work on the following route options

The findings from the demand assessment reinforce assumptions that a new coach service would need to balance:

- the need to serve at least one or potentially two larger settlements outside of Bristol to generate sufficient patronage, including suburban areas, e.g. Cheltenham and Stroud;
- use of faster moving roads with fewer deviations to reduce the impact on journey time;
- rural connectivity by serving some but not all clusters of villages located between Cheltenham/Stroud and the Bristol Northern Fringe, therefore requiring the need to use slower moving roads;
- serving settlements along the A38, west of the M5, with a shorter detour than those located to the east of the M5 with poorer north-south connectivity.

#### **Main conclusions**

There will need to be sufficient passenger demand for a new coach service to sustain a service in the long-term. A high-level estimate of potential demand has been generated. More detailed assessment of the local market and the types of passengers to attract to the service will be needed.

**Operator(s) will need to undertake their own assessment and business case to determine that a new service is a viable commercial proposition in the context of their operational requirements**. This study has made assumptions around the number of coaches which could service a corridor route, however the specification of vehicles and routeing will be significantly influenced by an operator's existing fleet and depot facilities.

**Coordination will be required between the local transport authorities**. This will be essential in ensuring a new coach service is integral to the wider transport system, including the potential coordination of timetables between local bus services that might be used by some passengers to reach the nearest coach stop, and the potential for combined ticketing.

Local government capital spend may be required to deliver improvements to some existing bus stops.

A new coach service will require effective and targeted marketing. It will be important that a new coach service is promoted locally and across the corridor, through coordination between the operator and local authorities. This could comprise a poster campaign at existing bus stops; adverts in local media publications and online through social media; and potential incentives for passengers including free tickets or reduced fares within a promotional period.

#### **Next Steps**

As a next step, it is recommended that the findings of this feasibility study are shared with the local authorities, coach operators, Bristol Airport and DfT as part of the Western Gateway STB's Coach Forum.

If the study's assessment and recommendations for a new coach service find favour with operators, it is recommended they undertake their own assessment to consider the commercial viability of the route. This may lead to modification of the route characteristics to the assumptions and options considered in this study.

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## 1. Introduction

#### Western Gateway Sub National Transport Body Coach Strategy

- 1.1 The Western Gateway Sub-National Transport Body (STB) published its Coach Strategy in August 2023<sup>1</sup>. The overarching purpose of the strategy is to capture the current state of play for the different types of coach services that are operating across the STB region<sup>2</sup> and to identify future priorities for improving coach services.
- 1.2 The process of developing the Coach Strategy involved gathering data on the Western Gateway STB region's coach sector including scheduled coach service timetables, the locations of stops/interchanges, service fares and the operators who are based and/or operating services in the region including both scheduled services and for tours and private hire. The strategy also used data from National Highways' South West Regional Traffic Model to assess travel movements between key settlements across the region, as a way of gauging potential demand for coach travel.
- 1.3 Knowledge of the coach sector is constrained by a lack of consistent and detailed data so the development of the Coach Strategy sought to compile new datasets or make effective use of existing datasets to help develop a clearer picture of coaches currently serving the STB region.
- 1.4 The UK coach sector has been lacking attention at a national level and a clear vision and forward strategy for improvement, particularly when compared to other forms of public transport. In contrast, the bus sector has received increased attention in recent years through the publication of the government's National Bus Strategy (albeit this does cover some issues which relate to coach services) and initiatives including capping single bus fares to £3 (as of 1<sup>st</sup> January 2025).
- 1.5 Organisations including the Confederation for Passenger Transport (CPT-UK) are aiming to raise the profile of the coach sector, highlighting the importance of coach services for connecting people and places, and their significant contribution to the UK economy. The Coach Strategy has drawn from evidence and documents produced by the CPT-UK including its own Coach Strategy, 'Backing Britain's Coaches' which was published in 2021.
- 1.6 The Western Gateway STB Coach Strategy sets out the following five objectives:
  - Improve urban and rural coach connectivity across the Western Gateway including potential new coach routes, increased service frequencies and better integration with other transport modes, to facilitate more sustainable travel and help achieve modal shift from private car.
  - 2) Encourage consistent adoption of new technologies across the Western Gateway.
  - Develop easier and more seamless access to information about services, purchasing tickets and accessing coach services to make coaches a more attractive and inclusive mode of transport.

<sup>&</sup>lt;sup>1</sup> https://westerngatewaystb.org.uk/

<sup>&</sup>lt;sup>2</sup> The Western Gateway STB region includes Gloucestershire, the West of England Combined Authority, Wiltshire, Dorset and Bournemouth, Poole and Christchurch authority areas, and incorporates major settlements including Cheltenham, Gloucester, Bristol, Bath and Salisbury.

- 4) Improve coach stops, interchanges, drop-off and layover parking facilities, including better facilities for drivers, making them more attractive places to wait, rest and interchange.
- 5) Increase engagement and encourage more coordinated and transparent decision-making and action across the region to support the long-term resilience and vitality of the region's coach sector.
- 1.7 The strategy identified three strategic gaps or transport corridors where there could be opportunities to enhance scheduled coach services to provide better public transport connectivity between the region's larger settlements and through rural communities. This was based on data gathered on trip patterns and where in particular there are fewer or no direct rail services connecting places within the region.
- 1.8 The three strategic gaps as defined in the Coach Strategy are (in no order of priority):
  - Strategic Gap 1 South Coast to Central Route: An indicative corridor linking Bournemouth, Poole, Christchurch, Blandford Forum, Shaftesbury, Warminster, Frome, Bath and Bristol (approximately 68 miles in length)
  - Strategic Gap 2 Gloucestershire to Bristol Airport Link: An indicative corridor linking Cheltenham, Gloucester, Stroud, Wotton under Edge, Thornbury, Bristol and Bristol Airport (approximately 50 miles in length)
  - Strategic Gap 3 Gloucestershire to South Coast Route: An indicative corridor linking Cheltenham, Cirencester, Tetbury, Malmesbury, Chippenham, Melksham, Trowbridge and towards Bournemouth, Poole and Christchurch, with potential also to consider a branch towards Swanage and Weymouth (approximately 95 miles in length)
- 1.9 The exact definition of the corridors and the settlements that could be served by new or improved coach services would be explored further through feasibility studies. The corridors are shown indicatively in the figure below.



#### Figure 1 – Broad definition of Strategic Gaps 1-3

- 1.10 Each corridor needs further assessment to confirm the potential demand for new scheduled coach services, and to define the characteristics of services, including routeing and stopping pattern, frequency, specification of vehicle and target customer market(s) which will be influenced by the locations served.
- 1.11 To reflect the wider UK scheduled coach market, a new coach service on any of the three identified corridors is unlikely to be publicly subsidised and ultimately therefore it will be for private coach operators to determine if a new service would be commercially viable to operate.
- 1.12 Following publication of the Western Gateway STB Coach Strategy, it has been the intention of the STB to develop feasibility studies for each of the strategic gap corridors which will set out the evidence and establish a case for whether new coach services could be viable. These studies could then be presented to the local transport authorities and prospective operators through the newly formed Western Gateway STB Coach Forum.
- 1.13 Whilst services would most likely operate on a commercial basis, some public capital investment may be required for supporting infrastructure such as new or improved coach stops/interchanges, improved access to stops such as pedestrian crossings and footways, or in the marketing of new services.
- 1.14 Strategic Gap 2 has been selected as the first feasibility study to proceed, due to the initial evidence from the Coach Strategy indicating that there may potentially be strong passenger demand in particular between Stroud and Bristol, based on highway travel demand data extracted from National Highways' South West Regional Traffic Model.
- 1.15 Strategic Gaps 1 and 3 share some sections of route between settlements and therefore it is expected that these two corridors could be considered in parallel in a subsequent feasibility study anticipated to commence in late 2024.

#### Phase 2 scope and outline methodology

- 1.16 The core activities undertaken as part of this feasibility study are briefly summarised below and discussed in more detail in later chapters of this report.
  - i) Investigation of existing bus, coach, demand responsive transit and train service links within the corridor, and how this might influence the routeing and stops of a new scheduled coach service (see **Chapter 2** of this report).
  - Exploration of the core market(s) (groups of passengers defined by journey purpose/type of destination) that a new scheduled coach service route could target and therefore the types of destinations it could serve (also covered in Chapter 2 of this report).
  - iii) Research of case study scheduled coach services, the type of service they provide including the places served, vehicles used, service frequencies, stopping patterns and fares. Reference is also made to recent new bus services offering a more comfortable on-board experience more like that offered by a coach (see Chapter 3 of this report).
  - iv) Consideration of the level of fare that could be charged on a new coach service by presenting a comparison against existing long distance coach service fares and rail service fares (see **Chapter 4** of this report).
  - v) Consideration of planned major developments which could generate new demand and could be served by coach, as well as planned transport infrastructure improvements (see **Chapter 5** of this report).

- vi) Development of a set of coach service key requirements (see **Chapter 6** of this report).
- vii) Consideration of coach service routeing and stopping patterns in two main steps: firstly to reflect on the case study coach service routes to define a set of broad service stopping and routeing concepts; and secondly to assess stopping pattern configurations and compare estimated journey times to help identify the more optimal route from a journey time perspective (see **Chapter 7** of this report).
- viii) Estimation of potential coach service passenger demand utilising mobile phone data sourced from BT via Network Rail, and assessing a range of corridor routes and stopping patterns drawing from the options considered in Chapter 7 (see **Chapter 8** of this report).

## 2. Geographical Context

#### **Main Settlements and Trip Attractors**

- 2.1 Strategic Gap 2 corridor covers the following local authority areas:
  - North Somerset

Within Gloucestershire County Council area:

- Tewksbury Borough Council
- Gloucester City Council
- Cheltenham City Council
- Stroud District Council
- Forest of Dean District Council
- Cotswold District Council

Within the West of England Combined Authority area:

- South Gloucestershire Council
- Bristol City Council
- 2.2 At the northern end of the corridor, the key settlements that could be served by a new coach service are Tewkesbury, Gloucester and Cheltenham.
- 2.3 Tewkesbury is a small, historic market town which sits on the rivers Avon and Swilgate (the River Severn lies a short distance west of the town) and has a population<sup>3</sup> of around 16,000, including the adjoining Northway parish and Ashchurch.
- 2.4 The town has grown from its compact, historic core to comprise several distinct neighbourhoods or suburbs including Priors Park and Walton Cardiff to the south and New Town and Northway to the east (the latter two sit either side of the M5). The main industrial areas close to Tewkesbury are clustered around Ashchurch close to the M5, which is approximately 1.5 miles to the east of Tewkesbury town centre. The town is home to several visitor attractions including the 12<sup>th</sup> century Tewkesbury Abbey.
- 2.5 The town's railway station is located in Ashchurch which is around 2 miles to the east of the centre of Tewkesbury.
- 2.6 Around 11km south of Tewkesbury is the historic spa town of Cheltenham which is located on the western edge of the Cotswolds and has a population of just under 120,000. Cheltenham has grown into an important local and regional hub for retail, key services and leisure, and is a popular visitor destination being famous for hosting the Cheltenham Festival, one of the most prestigious events in the horse racing calendar. It is also home to the British Government Communications Headquarters (GCHQ), a major employer located on the western side of the town. The main commercial areas of the town are located on the northern side, generally clustered around the A4019 linking to the M5.
- 2.7 Montpellier is an attractive shopping district in Cheltenham, located to the south of the town centre and known for its boutiques, gardens, cafés and bars, and it also contains the University of Gloucestershire's Park Campus.

<sup>&</sup>lt;sup>3</sup> All population estimates presented in this report have been sourced from https://citypopulation.de/en/uk/southwestengland/

- 2.8 Cheltenham Spa railway station is located to the southwest of the town centre, with good rail connections to London, Birmingham and Bristol, but around a half hour walk from the town centre. In contrast, Cheltenham's Royal Wells Coach Station sits within a 5-minute walk of most of the town centre.
- 2.9 There is a separate bus/coach interchange at Arle Court which is on the outer edges of Cheltenham towards Gloucester, sitting just east of the M5 / A40 junction. As well as containing a Park and Ride, Arle Court serves coach services heading to London, the North and the Southwest, as well as some local bus services.



Figure 2 – Transport interchanges in Cheltenham

- 2.10 Gloucester lies approximately 8 miles to the southwest of Cheltenham on the River Severn, with only a narrow stretch of green belt and Gloucestershire Airport separating the outer suburbs of the two settlements. Being slightly larger than Cheltenham with a population of just over 130,000 (including the suburbs of Brockworth and Quedgeley), Gloucester is also home to several historic landmarks and visitor attractions including Gloucester Cathedral and its historic port which has been transformed into a vibrant waterfront area with shops, restaurants and museums.
- 2.11 Gloucester has far more urban sprawl than Cheltenham; suburbs in the south of the city such as Quedgeley, Tuffley and Upton St Leonard's stretch much further away from the city centre than the suburbs around Cheltenham, with for example the southernmost edge of Quedgeley being over 4 miles from Gloucester city centre. Brockworth is more distinct, lying on the opposite side of the M5, and houses the city's largest industrial area.
- 2.12 Gloucester's transport provision is more centrally located with the railway station and the bus/coach station located next to each other, in the centre of the city and next to Gloucestershire Royal Hospital. The bus/coach station is known as Gloucester Transport Hub and provides local bus services to Gloucester, its suburbs and towns further away like Stroud and Stonehouse. There is also a Park and Ride in the southern suburbs at Waterwells.
- 2.13 Figure 3 shows the locations of transport interchanges and other notable locations in Tewkesbury, Cheltenham and Gloucester.



#### Figure 3 – Public Transport provision in Tewkesbury, Cheltenham and Gloucester area

- 2.14 Moving directly south down the corridor, 8 miles from Gloucester are the towns of Stroud and Stonehouse. As the M5 moves in a more south westerly direction after Cheltenham, these towns are located to the east of the M5, with Stonehouse approximately 2 miles from junction 13 of the M5 and Stoud around 5 miles.
- 2.15 Starting from the M5 there is an industrial cluster at Oldends and a large development underway of at least 1,350 homes, a new school and employment spaces at Great Oldbury<sup>4</sup>.
- 2.16 Stonehouse itself is a small town, with a population of just over 8,000. The town has a railway station that has direct services to Gloucester, Cheltenham, London Paddington, Swindon and Stroud. Importantly, there are no direct rail services heading southwards towards Bristol.
- 2.17 Further east along the river Frome and the Stroudwater navigation is Stroud, a market town nestled in the Cotswold Hills. Stroud is positioned at the divergence of the five Golden Valleys<sup>5</sup>, geographically constrained by steep valley sides. A series of closely spaced smaller towns and villages cluster around Stroud, including Minchinhampton, Chalford, Bussage, Brimscombe, Ebley and Nailsworth. Although the population of Stroud itself is 26,000, when including these satellite suburbs, towns and villages, the total population of the area around Stroud and Stonehouse is nearly 60,000.
- 2.18 Stroud is characterised by its vibrant arts and crafts scenes and environmental sustainability; the area's Forest Green Rovers football club has been cited as the world's first carbon-neutral football club<sup>6</sup>.
- 2.19 Stroud has a railway station on the same line as Stonehouse and has the same direct connections towards London and to Gloucester and Cheltenham. However, like Stonehouse the town has no direct rail connection to Bristol. There is also a

 <sup>&</sup>lt;sup>4</sup> New development at Great Oldbury, available at <a href="https://www.stroudnewsandjournal.co.uk/news/22289112.plans-submitted-200-homes-great-oldbury-stonehouse/">https://www.stroudnewsandjournal.co.uk/news/22289112.plans-submitted-200-homes-great-oldbury-stonehouse/</a> [accessed 01/02/2024]
 <sup>5</sup> Stroud and the Golden Valleys, available at <a href="https://www.cotswolds.info/places/stroud/index.shtml">https://www.stroudnewsandjournal.co.uk/news/22289112.plans-submitted-200-homes-great-oldbury-stonehouse/</a> [accessed 01/02/2024]
 <sup>5</sup> Stroud and the Golden Valleys, available at <a href="https://www.cotswolds.info/places/stroud/index.shtml">https://www.cotswolds.info/places/stroud/index.shtml</a> [accessed 01/02/2024]

 <sup>&</sup>lt;sup>5</sup> Stroud and the Golden Valleys, available at <a href="https://www.cotswolds.info/places/stroud/index.shtml">https://www.cotswolds.info/places/stroud/index.shtml</a> [accessed 01/02/2024]
 <sup>6</sup> The Forst Green Rovers Story, available at: <a href="https://www.fifa.com/fifaplus/en/articles/forest-green-rovers-environment-green-league-one-dale-vince">https://www.fifa.com/fifaplus/en/articles/forest-green-rovers-environment-green-league-one-dale-vince</a> [accessed 01/02/2024]

transport interchange at Stroud Merrywalks for local bus routes and some coach services heading to or from London.

2.20 The small town of Nailsworth is 3.5 miles south of Stroud along the Nailsworth valley and has a population of just under 6,000. It is not located on the rail network (a separate branch line railway used to connect Stonehouse, Stroud and Nailsworth but closed in the late 1940s), with transport connections focused upon the winding A46 and local bus service routes.





- 2.21 Almost directly west of Nailsworth is the cluster of settlements of Cam, Dursley and Woodmancote. The population of Cam is just under 8,000, and the population of Dursley and Woodmancote is similar (which also encompasses a wider rural area). Outside of Cam there is Cam and Dursley railway station, where regular services are available to Gloucester, Bristol and Worcester, although the station is a half hour walk from Lower Cam and an hour's walk from Dursley and therefore is most accessible by bus or car.
- 2.22 There are several small settlements that sit either side of the M5 or A38 leading down from Gloucester towards Thornbury, including the villages of Whitminster (near Stonehouse), Slimbridge, Cambridge, Newport, Stone and Falfield. These settlements are small, with their combined populations adding to just under 4,000, and dispersed along the A38 corridor which runs parallel to the M5. Public transport connections here are infrequent and slow, but they benefit from their proximity to the major roads.
- 2.23 On the other side of the M5 to Falfield, the southernmost settlement of the cluster mentioned above, are the closely spaced villages of Charfield, Kingswood and the market town of Wotton-under-Edge. These settlements are in Stroud District and on the edge of the Cotswolds, with Wotton-under-Edge being a landmark on the Cotswold Way National Trail before the path reaches Dursley and Stroud.
- 2.24 This collection of settlements is divided by the South Gloucestershire-Stroud district border, with Charfield falling into South Gloucestershire and Kingswood and

Wotton-under-Edge being in Stroud District. The population of this area totals 11,338, with just under 5,000 of that from Wotton-under-Edge, whilst Charfield has a population of just under 3,000. Currently, transport connections to the area are limited to slow rural bus services. A new station at Charfield is proposed, with a target opening date of Spring 2027, which will provide regular and direct train connections to Bristol and Gloucester, on the same line as Cam & Dursley station to the north and Yate to the south<sup>7</sup>.

- 2.25 Yate is a larger town to the north-east of Bristol that, over time, has coalesced with the town of Chipping Sodbury, giving a total population for the area of around 33,000. In Yate there is a large industrial area located on the western side of the town including the Beeches Industrial Estate.
- 2.26 Divided by a thin stretch of the Bristol Green Belt, Yate is only 10 miles from Bristol City Centre and is well connected with the city. Yate has a railway station which, like Cam & Dursley, is served by regular trains to Bristol Parkway, Bristol Temple Meads, Gloucester, Bath and Worcester, with stops also in suburban areas of Bristol. Further, a new Yate Park and Ride opened in 2021 and is served every half an hour by a bus connection to Bristol City Centre, and an hourly bus connection to Bristol Parkway, Stoke Gifford, Filton and Cribbs Causeway in the North Bristol Fringe<sup>8</sup>.
- 2.27 Thornbury, to the west of the M5 and A38, is a market town in the Severn Valley, and is located around 11 miles north of Bristol City Centre. Like Yate, it is a medium sized town with a population of around 14,500 and a small industrial sector. It has direct bus connections into Bristol however the town does not lie on the rail network (a branch line used to extend from Yate to Thornbury, and a section of it still exists as a freight only line serving Tytherington quarry which is located to the east of the town).



Figure 5 - Overview of the central section of the study area

Source: using base mapping supplied by  $\ensuremath{\mathbb{O}}$  OpenStreetMap (and) contributors, CC-BY-SA

<sup>&</sup>lt;sup>7</sup> Charfield Train Station: <u>https://beta.southglos.gov.uk/charfield-train-station/</u> [accessed [02/02/2024]

<sup>&</sup>lt;sup>8</sup> Yate Park and Ride: https://travelwest.info/park-ride/yate-park-ride/ [accessed 02/02/2024]

- 2.28 The North Bristol Fringe encompasses the outer suburbs of Bristol that are confined by the M4 and the M5 in the north and the South Gloucestershire – City of Bristol border to the south. The key areas are Patchyway, Bradley Stoke, Little Stoke, Cribbs Causeway, Stoke Gifford, Filton, Frenchay and Emersons Green.
- 2.29 The northernmost part if this area is Bradley Stoke, which contains a large residential area as well as significant employment centres in and around the Aztec Business Park, accessible from Junction 16 of the M5. Moving southwest, Cribbs Causeway is a non-residential area dominated by the Cribbs Causeway retail park area, which can be accessed via Junction 17 of the M5.
- 2.30 Moving east from Cribbs Causeway are the areas of Patchway, Filton and Little Stoke, which all flank the former Filton Airfield site; a historical brownfield aviation site that is in the process of being transformed into Brabazon, a new urban community that will contain 2,675 new homes, 62 acres of employment space and a new train station that will be able to reach Bristol Temple Meads in 15 minutes. Pre-existing significant employment centres around the Filton area include the large Rolls Royce, GKN Aerospace and Airbus complexes.
- 2.31 East of Filton is Stoke Gifford, a large residential area that also contains Bristol Parkway railway station, which lies on the South Wales Main Line. Bristol Parkway was one of the first park and ride railway stations when it was opened in 1972 and, as well as offering regular services to Bristol Temple Meads, serves trains that reach Manchester, Scotland, Cornwall, South Wales and Weymouth on the south coast of England. A park and ride site served by local buses is also located in Stoke Gifford.
- 2.32 South of Bristol Parkway is the Frenchay area which also contains the University of the West of England campus, a Ministry of Defence site and Bristol Business Park. Emersons Green is the main northeastern suburb of Bristol which is confined by the A4174 and the M4, and is predominantly residential.



#### Figure 6 - Key employment and development centres in the North Bristol Finge

- 2.33 The City of Bristol unitary authority begins just south of UWE Frenchay Campus and continues to the southernmost suburbs of Whitchurch and Hartcliffe, as well as being bounded by the River Avon in the south-east as it flows from Bath to Bristol and then into the River Severn.
- 2.34 The Bristol city area is the 11<sup>th</sup> most populous area in the UK, with a population of just under 500,000 (excluding the northern fringe area and suburbs to the east including Kingswood) making it the most populous area in the south west of England.
- 2.35 The economy of Bristol consists of industries such as electronics and creative media, and it is the epicentre of the region's aerospace sector.
- 2.36 The City of Bristol region has a major railway station at Bristol Temple Meads, which is just to the south east of the city centre and provides services to the south west of England, London, Wales, Manchester and Birmingham, as well as suburbs in the city region like Bedminster Montpelier and Clifton Down.
- 2.37 More central is Bristol coach station, positioned on the edge of the Bristol Shopping Quarter at the convergence of the A38 and the A4044, giving fast access, including bus priority lanes on the A4044, to the M32, the main road out to the M4 and the M5.
- 2.38 There are fewer local suburban railway stations in the south of the city compared with the north. Bedminster and Parson Street stations, to the south west of the centre on the Bristol to Taunton line are the only examples of such stations.
- 2.39 The A38 continues through the city centre and, following a similar south-westerly bearing out of the city, eventually reaching Bristol Airport which lies approximately four miles from the edge of Bristol and seven miles from the city centre.
- 2.40 Bristol Airport handles around 9 million passengers per year, making it the 8<sup>th</sup> busiest airport in the UK, serving predominantly short-haul routes via suppliers such as easyjet and Ryanair<sup>9</sup>. The airport is an important hub within the region. A Civil Aviation survey in 2015 found that 76.4% of passengers using the airport had an origin/destination in the south west of England, and 19.5% of those surveyed had an origin/destination in Wales<sup>10</sup>. The nearest commercial airports from all directions to Bristol Airport are:
  - Cardiff 43km
  - Exeter 87km
  - Bournemouth 90km
  - Southampton 106km
  - Birmingham 137km
  - Heathrow 156km
  - Luton 170km
- 2.41 The northernmost part of the study area around Tewkesbury is in fact located closer to Birmingham Airport than Bristol Airport.

 <sup>&</sup>lt;sup>9</sup> UK airport data: <u>https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/</u> [accessed 06/02/2024]
 <sup>10</sup> CAA passenger survey report, pg 17 <u>https://www.caa.co.uk/media/fojdkxew/caa-passenger-survey-report-2015.pdf</u>

<sup>[</sup>accessed 06/02/2024]

#### Major transport connections and interchanges

#### **Highway Network**

- 2.42 The Strategic Gap 2 corridor is on a broad north-south orientation and therefore the study is mostly concerned with transport links which serve this broad movement. The corridor does however intersect several major interurban routes running broadly east-west including the M4, A40 and the South Wales Main Line railway.
- 2.43 Interurban road connectivity in the corridor is dominated by the M5 which connects Birmingham and Exeter. It enters the study area to the east of Tewksbury which is connected at the M5 Junction 9 Ashchurch Interchange.
- 2.44 The M5 then routes between Cheltenham and Gloucester, with Junction 10 Withy Bridge acting as a northern gateway to Cheltenham via the A4019; Junction 11 Golden Valley Junction connecting with the A40 which runs east-west connecting London, Oxford and Cheltenham to the east and South Wales and Gloucester to the west; Junction 11a which is located on the eastern outskirts of Gloucester near Brockworth; and Junction 12 Quedgeley Interchange which acts as a southern gateway into Gloucester.
- 2.45 The M5 then runs southwards towards Bristol with junctions serving Stroud (13), Falfield and Charfield (14) before reaching the large M4/M5 Almondsbury interchange (15). The A419 provides the main connection between the M5 at Junction 13 and Stroud which is approximately 4 miles from the motorway, and extends, via Cirencester, towards Swindon.
- 2.46 The M5 skirts around the west of Bristol with junctions at Almonsbury and Bradley Stoke (16), Cribbs Causeway and Patchway (17), a connection to the M49 (18a, which links the M5 with the M4 Prince of Wales Bridge) and Avonmouth, Shirehampton and Clifton (18).
- 2.47 The M5 crosses the River Avon before reaching Junction 19 which connects into the town of Portishead on the Severn Estuary. The M5 then runs past Clevedon and Weston-super-Mare, heading onwards towards Exeter.
- 2.48 Running parallel to the M5 for approximately 20 miles between Quedgeley (south of Gloucester) and Almondsbury is a section of the A38. This road runs through an assortment of villages including Whitminster, Falfield and Rudgeway. It also runs past Thornbury and Alveston. At the northern end of the corridor, the A38 runs through Gloucester and Tewksbury before running onwards towards Worcester. The A38 forms one of the main radial routes into Bristol City Centre before extending out to the south-west of the city past Bristol Airport towards Bridgwater and Taunton.
- 2.49 The A46 also runs north-south through part of the corridor, connecting Cheltenham, Stroud, Nailsworth and the M4 at Junction 18 Tormarton Interchange. It then runs southwards away from the corridor towards Bath.
- 2.50 The A46 connects with the A432 which runs through Chipping Sodbury, Yate and into Bristol via the suburbs of Downend and Fishponds.
- 2.51 The B4058 and A4060 provide an alternative route to the A46 running between Nailsworth and Yate via Wotton-under-Edge, Kingswood and Wickwar.
- 2.52 The M4 runs across the north of Bristol through South Gloucestershire, connecting with the short M32 which runs into the centre of Bristol.

2.53 The M32 has several intermediate junctions including Junction 1 at Begbrook, and a bus-only junction which is close to the University of the West of England Frenchay campus.

#### **Coach Network**

- 2.54 The most dominant providers of scheduled coach services in the regional corridor are National Express and Megabus.
- 2.55 The main coach stops and interchanges in the corridor are Bristol Airport, Bristol City Centre (which contains the coach station used mainly by National Express services), Gloucester Transport Hub, Cheltenham Coach Station (Royal Crescent) and Cheltenham Arle Court.
- 2.56 Other examples of coach stops in Bristol include A4044 Bond Street (adjacent to Cabot Circus), Black Boy Hill, Clifton Down, University of Bristol, UWE Frenchay Campus. These stops are only served by a limited number of less frequent coach services; for example, the National Express 040 service has 32 services a day from Bristol to London, but only 5 of these services call at Black Boy Hill, Clifton Down and the University of Bristol, and only 6 of the 32 services call at UWE.
- 2.57 In south Cheltenham there is a stop on Bradley Road (Carlton Kings) and there are stops in Chalford and Stroud (Merrywalks).
- 2.58 Coach stops in Cheltenham (Charlton Kings), Stroud (Merrywalks), Chalford (London Road) and Gloucester (Longlevens) are generally served by routes to locations outside of the study area, e.g. National Express 401, 444 and 445 services, which head to London and consequently tickets are only available to London, and not for journeys within the study corridor.
- 2.59 There are not many routes that serve both an origin and a destination in the corridor itself. If departing from Bristol City Centre for example, it is only possible to buy a ticket to Cheltenham on the National Express 100 service, Arle Court on the Megabus M34N service, or Bristol Airport on the Megabus Falcon, if using coaches exclusively. A similar pattern is observed on the National Express and Megabus networks for the other locations named previously, other than between Gloucester Transport Hub and Cheltenham centre, where there is good connectivity along the A40 corridor as well as direct trains.
- 2.60 A summary of the current coach routes available in the region can be found in Appendix A.1.

#### Inter-Urban Bus Network

- 2.61 The main operators for local bus services within the corridor are First West of England and Stagecoach West.
- 2.62 The northern part of the corridor is predominantly served by Stagecoach West, with regular services between the corridor's northernmost town of Tewkesbury and transport hubs in Gloucester, Cheltenham and Cheltenham Arle Court. The A40 corridor between these main interchanges is well served by fast and regular interurban bus services.
- 2.63 Moving south from Gloucester, Stroud Merrywalks is the key interchange for interurban services connecting towns and villages in Stroud district, such as Stonehouse, Nailsworth, Cam and Dursley to the larger settlements of Cheltenham and Gloucester, as well as providing a gateway for bus services to South Gloucestershire. Local services around Stroud are provided by Stagecoach West and Cotswold Green.

- 2.64 Further south of Cam and Dursley, the bus network becomes more fragmented, possibly due to the presence of the Gloucestershire-South Gloucestershire border and to the south of this border, bus services are provided mainly by the First West of England subsidiary and fall within the wider Bristol city region.
- 2.65 From Cam and Dursley southern bus connections to Thornbury are elongated by detours to the villages of Falfield, Stone and Berkeley to the east of the M5 (via the 62 bus, a Taylors Travel service) and Charfield, Kingswood and Wotton-under-Edge to the west of the M5 (via the 60 bus, a Stagecoach West service).
- 2.66 Furthermore, direct bus connections to the city of Bristol are only available from as far north as Thornbury, with all locations north of here requiring transfers to travel onto Bristol.
- 2.67 Thornbury itself is well connected, with the T1 bus service providing regular and relatively fast connections to the centre of Bristol, as well as main employment areas in the north of Bristol and satellite towns such as Almondsbury and Alveston.
- 2.68 The southern section of the corridor is centred on Bristol. The Metrobus scheme across Bristol introduced faster, commuter style buses from 2018, with three routes in operation by 2023 and one of these routes (M3) having an additional faster peak time service<sup>11</sup>. The aim of these services is to connect suburbs and Park & Ride services to the city centre more quickly than the previous bus network. The key extents of these services include Cribbs Causeway and Lyde Green Park and Ride in the north of Bristol. Hengrove Park and Long Ashton mark the extents of the Metrobus network in the south of Bristol.
- 2.69 Connections between the airport and Bristol City centre are fast and regular, thanks to the Bristol Airport Flyer bus and the Megabus Falcon coach service, the latter of which travels onwards towards Plymouth via Taunton.
- 2.70 This part of the study corridor is also served by the U1 Unibus that extends to Bristol veterinary school south of the airport, and to the University of Bristol and Bristol City Centre at its northern end.
- 2.71 A summary of the key inter-urban bus routes available in the region can be found in Appendix B.1.

#### **Demand Responsive Transit**

- 2.72 The Robin is a bookable Demand Responsive Transit (DRT) bus service introduced by Gloucestershire County Council in 2022 supported by the Government's Rural Mobility Fund. Like many other DRT services, the Robin provides connections between rural areas which often have infrequent or no fixed bus routes available, and therefore can significantly improve access to services and the wider transport network.
- 2.73 The Robin currently operates across two zones: the Cotswolds North zone which is largely to the north of the A40, east of Cheltenham, including places like Bourtonon-the-Water, Stow-on-the-Wold and Chipping Campden; and the Forest of Dean zone which is south of the A40 but west of the River Severn including places like Cinderford, Lydney and Chepstow. Given the extents of these operating zones, the Robin is unlikely to be of significance to the study corridor in terms of providing access to any new or improved inter-urban coach services running from Stroud, Tewksbury, Cheltenham and Gloucester towards Bristol.
- 2.74 Further south, West Link DRT operates across three zones: a North Zone covering a large area to the north and east of Bristol including Thornbury, Charfield, Yate, Chipping Sodbury, Wick and Swainswick; a South Zone to the south and west of

<sup>&</sup>lt;sup>11</sup> https://travelwest.info/metrobus/, https://en.wikipedia.org/wiki/MetroBus (Bristol)

Bristol including Portishead, Clevedon, Bristol Airport, Axbridge, Chew Magna, Radstock and Midsomer Norton; and a Future Travel Zone covering Filton and Bradley Stoke (the North and South Zones overlap around Keynsham and the South and Future Transport Zones overlap around Avonmouth).

2.75 WestLink acts as an important feeder service to more strategic transport links which are unlikely to serve most small rural settlements north or south of Bristol.

#### Rail Network

- 2.76 The majority of rail services within the corridor are operated by Great Western Railway (GWR), with additional services operated by CrossCountry Trains (CCT). Furthermore, Gloucester and Cheltenham Spa sit on the western edge of the Transport for Wales rail network.
- 2.77 At the northern end of the corridor, Ashchurch for Tewksbury station lies approximately 2 miles from the centre of Tewksbury and is served by approximately one train an hour running northwards towards Worcester and southwards to Cheltenham Spa, Gloucester and eventually Bristol Temple Meads. CCT services call less frequently, and link Nottingham, Derby, Birmingham and Worcester to the north and Cheltenham, Gloucester, Chepstow, Newport and Cardiff to the southwest.
- 2.78 Cheltenham Spa station is on the same rail corridor and is also served by direct GWR services towards London Paddington, as well as more CCT services including those running to Manchester and Aberdeen in the north and Plymouth in the south.
- 2.79 Gloucester has a similar frequency of services to Cheltenham, albeit with fewer CCT services and more GWR services including those to destinations east/southeast of Bristol including Bath, Bradford-on-Avon, Trowbridge, Westbury and Frome which run via Bristol.
- 2.80 Gloucester and Cheltenham each have only one station. The outskirts of Gloucester, including the adjoining town of Quedgeley, the suburbs of Matson and Abbeydale, and the adjoining village of Brockworth, are all located 4 miles or more from Gloucester railway station therefore placing reliance on private car, taxi or local bus services to make the journey to the station.
- 2.81 The Golden Valley line connects Cheltenham, Gloucester and Swindon via Stroud. The line diverges off the main Birmingham to Bristol route just north of Stonehouse. Unlike the larger settlements to the north, Stonehouse and Stroud are not directly linked by train to Bristol to the south but are served by direct hourly services towards London Paddington via Swindon. Very infrequently there are direct services linking Stroud to destinations south of Swindon including Chippenham, Trowbridge, Westbury and Salisbury.
- 2.82 Back on the Birmingham to Bristol main line, there are intermediate stations at Cam & Dursley with an hourly service in each direction (the station sits remotely from the villages it serves); and Yate with a slightly higher frequency of services including those heading towards Westbury, Frome and occasionally Weymouth (this station lies 1.2 miles west of Yate town centre).
- 2.83 The Birmingham to Bristol line then joins the Great Western Main Line as it heads into the northern part of Bristol via Bristol Parkway. This station is very well served by a mixture of train services, including mainline GWR intercity services running between London and South Wales, as well as GWR services running southwards into Bristol Temple Meads and northwards to Worcester via Cheltenham, and CCT services operating between Plymouth and Scotland.
- 2.84 There are four stations between Bristol Parkway and Bristol Temple Meads, these being Filton Abbey Wood, Ashley Down, Stapleton Road and Lawrence Hill.

- 2.85 Bristol Temple Meads is the largest station in the corridor with GWR and CCT services linking to London Paddington, Bath, Gloucester, Cheltenham, Cardiff, Plymouth, Weston-super-Mare, Manchester and Scotland.
- 2.86 The Severn Beach branch line extends north and then west from Bristol and runs via the suburbs of Sea Mills and Shirehampton, Portway Park and Ride (which opened in 2023), Avonmouth and terminating at Severn Beach to the north-west of Bristol. Services run the full length of the branch line approximately once an hour, although a more frequent service runs as far as Avonmouth, and some services extend through Bristol Temple Meads to Weston-super-Mare.
- 2.87 Heading south-westwards there is the main Bristol to Exeter main line with stations within southern Bristol located at Bedminster and Parsons Street. The line then continues on towards Weston-super-Mare (via a loop off the main line), Bridgewater and extending towards Taunton and Exeter.
- 2.88 Areas immediately south of Bristol, including where Bristol Airport is located, are not served by rail. There is approximately a 23-mile gap between the Bristol to Exeter main line at Weston-super-Mare and the Great Western Main Line at Bath. Railway lines once occupied this gap, including a second Bristol-Bath railway link and routes via Shepton Mallet, Cheddar, Wells, Radstock and Congresbury to name but a few places which are no longer on the national rail network. The nearest railway stations to Bristol Airport are Nailsea and Backwell (approximately 2.8 miles) and Yatton (5 miles).
- 2.89 Another area notable for a lack of rail services is the town of Thornbury and the nearby villages of Alveston and Tytherington.
- 2.90 There are several notable planned rail projects which are highlighted later in this report.
- 2.91 Table 1 summarises the connectivity between key settlements and Bristol within the corridor. This demonstrates that whilst they are located closer to Bristol, the towns of Stonehouse and Stroud have much longer rail journey times when compared to Tewkesbury, Cheltenham and Gloucester.

Origin	Destination	Crow fly distance	Fastest	Slowest	Frequency	Changes
Tewkesbury	Bristol Temple Meads	42 miles	58 mins	1 hr 11 mins	2 an hour	0-1
	Bristol Parkway	37 miles	44 mins	59 mins		0-1
Cheltenham	Bristol Temple Meads	38 miles	39 mins	1 hr 5 mins	2-4 an hour	0
	Bristol Parkway	33 miles	28 mins	49 mins	2-4 an hour	0
Gloucester	Bristol Temple Meads	32 miles	47 mins	57 mins	3 an hour	0
	Bristol Parkway	27 miles	32 mins	39 mins	3 an hour	0
Stonehouse	Bristol Temple Meads	24 miles	1 hr 22 mins	1 hr 38 mins	2 an hour	1
	Bristol Parkway	20 miles	1 hr 4 mins	1 hr 40 mins	2 an hour	1
Stroud	Bristol Temple Meads	26 miles	1 hr 27 mins	1 hr 35 mins	3 an hour	1
	Bristol Parkway	21 miles	1 hr	1 hr 16 mins	2-3 an hour	1
Cam & Dursley	Bristol Temple Meads	19 miles	34 mins	42 mins	2 an hour	0
	Bristol Parkway	15 miles	20 mins	24 mins	3 an hour	0

#### Table 1 – Rail Connectivity to Bristol stations

- 2.92 Building upon the above assessment of rail connectivity, the following image shows the area that can be covered in 60 minutes by car compared with 90 minutes by public transport.
- 2.93 This highlights that whilst large settlements such as Cheltenham and Gloucester can be reached by public transport in under 90 minutes, there are large rural areas in between, including the towns of Stroud and Stonehouse which cannot, and this also includes villages along the A38 between Gloucester and Thornbury such as Stone and Falfield, and the A46 leading down from Stroud through Nailsworth.
- 2.94 Stroud and Stonehouse are located 8 and 12 miles closer to Bristol than Gloucester and Cheltenham respectively.
- 2.95 In these areas, for journeys into Bristol, car would be a more attractive mode as it would offer significantly shorter journey times, facilitated by convenient access to the M5.



# Figure 7 - Coverage of the region, comparing 90 minutes on public transport with 60 minutes of driving

#### Summary

- 2.96 There are good north-south highway links through the corridor, mostly notably the M5 and A38 which run broadly parallel. There are also good rail connections, but the level of connectivity along the corridor is variable, with settlements on the Bristol-Birmingham main line enjoying shorter journey times and direct services into Bristol.
- 2.97 North-south connectivity away from the A38, M5 and Birmingham-Bristol Main Line is poorer, with reliance upon less direct public transport requiring an interchange between trains, and this is most notable for Stroud and Stonehouse. Road connections are poorer, with the A46 being the main alternative. However, this road

whilst offering a scenic route, is undulating and winding, and therefore may be less suitable for long distance travel.

- 2.98 There are few inter-urban coach services which run through the corridor, and those which do are long-distance services with very limited stops in the main hubs and infrequent services. Inter-urban buses do not extend the length of the corridor, requiring users to interchange between at least two services.
- 2.99 This assessment has highlighted inconsistent levels of connectivity within the corridor, in particular centred around the towns of Stroud and Stonehouse, more rural communities along the A38 between Gloucester and Thornbury, and settlements along the A46 including Nailsworth.
- 2.100 This reinforces the analysis set out in the Coach Strategy, which had identified a connectivity gap and indicates that there could be a key opportunity to improve connectivity with a new coach service.

## 3. Cost of travel

- 3.1 A comprehensive assessment of journey fares between different origins and destinations across the STB area is provided in the Coach Strategy, although fares are likely to have changed since the data was compiled in 2022.
- 3.2 This chapter includes a comparison of fares by different modes between key origins and destinations within the study corridor.

#### **Travelling by Public Transport**

- 3.3 A comparison has been made of fares offered on the various public transport modes within the corridor for a selection of key journeys.
- 3.4 It should be noted that at the time of writing, many local bus service fares are capped at £3 for a single journey (as of 1<sup>st</sup> January 2025)<sup>12</sup>
- 3.5 Whilst not all bus companies and routes are included, a comprehensive number of local bus services are covered by the scheme within the corridor and also includes the Falcon service operated by Stagecoach South West which utilises coach vehicles.
- 3.6 It is possible therefore that passengers could transfer between connecting bus services, therefore making longer journeys across the corridor, at a fairly low cost.
- 3.7 As noted earlier in the report, there are no bus services which extend the length of the corridor and given the distances between many of the settlements within the study area, it is likely that at least three bus services would be needed to make a journey from the northern end of the corridor to the southern end, and this would take a considerable amount of time.
- 3.8 Because of the limited number of scheduled coach services operating along the corridor, fares for a small selection of applicable routes are summarised below.
  - Cheltenham Arle Court-Bristol Coach Station (National Express 100 or 106): £6.60-£7.20 for a single ticket; £13.20 for a standard (non-refundable) return ticket; or £17.40 Fully Flexible return ticket.
  - Cheltenham Arle Court– Bristol Bond Street (Megabus M19): £7.99 + £2.00 seat booking for a single ticket; and £14.99 for a return ticket (all booking fees included).
- 3.9 Although operating to slightly different destination points, the two example coach services offer similar journey times and reasonably comparable fares. It also highlights that very cheap fares are offered for a single journey which might be relevant to less frequent travellers using coaches such as students and people travelling on holiday, who are less likely to be making a return journey within the same day.
- 3.10 Given their low frequencies, many coach services do not operate on a turn-up-andgo basis, therefore planning a journey and booking a ticket in advance is advised. It is possible that cheaper fares can be obtained when a journey is booked further in advance of the day of travel.
- 3.11 As a comparison to the above coach services, the typical fares offered for a journey by train are presented below for journeys between Cheltenham, Stroud and Bristol:

<sup>12</sup> https://www.gov.uk/government/speeches/national-bus-fare-cap [accessed 12/12/2024]

- Cheltenham Spa Bristol Temple Meads (Great Western Railway): £7.50-£11.50 for a single ticket; £12.80-£20.00 for a return ticket.
- Stroud Bristol Temple Meads (Great Western Railway): £21.90-£30.40 for a single ticket; £26.80-£35.10 for a return fare (the price variation appears to be dictated by the route taken, with the cheaper fares available if a passenger transfers in Gloucester and the more expensive fares if a passenger transfers in Swindon).
- 3.12 Rail is evidently more expensive than coach. When comparing the two modes, passengers may be willing to pay a higher fare for the benefit of accessing more frequent services and a shorter station-to-station journey time (approximately 20 to 25-minute journey time saving), although for many people coach might not be considered a suitable option given services are infrequent.
- 3.13 It is important to note that some of the corridor's railway stations are not centrally located. For example, Bristol Temple Meads station is located on the edge of the city centre and around a 20-minute walk from the core shopping quarter, unlike the more centrally located coach interchange. It is a similar case in Cheltenham town centre.
- 3.14 The average cost per mile for the example coach services is around 24p per mile, compared to 58p per mile for the train journey. This does not factor in additional costs for accessing rail or coach stations/stops if another mode is required or if someone drives and parks at the station where a parking tariff may be applied.

#### Travelling by car

- 3.15 Another important comparison to make is with a journey made by car. Whilst a new coach service could draw some patronage away from rail by offering a potentially cheaper travel alternative for passengers, from the perspective of encouraging sustainable travel, there may also be opportunity to attract people out of their cars.
- 3.16 However, it will be difficult for a journey by public transport to compete with the car on door-to-door journey times, given that potentially two or more public transport services and walking at either end may be required to complete the same journey.
- 3.17 A journey by car from outside of Cheltenham Spa railway station to Bristol Temple Meads in the weekday morning period would take between an estimated 1 hour and 1 hour 50 minutes depending on the level of traffic congestion and route taken. Google Journey Planning recommends a route largely using the M5, then M4 and M32.
- 3.18 Between Stroud station and Bristol Temple Meads it is estimated to take between 55 minutes and 1 hour and 40 minutes with either a route via the M5 or A46 (via Nailsworth) towards the M4 and M32. The estimated journey time ranges give a strong indication of the potential levels of traffic congestion and delays on sections of these routes.
- 3.19 The cost of a journey could be viewed in different ways. When considering the cost of travel, many people will only factor in the cost of fuel. Based on an estimated 40 miles per gallon for an average ICE car<sup>13</sup> (noting hybrid cars and electric can achieve much higher equivalent mileage) and an average petrol and diesel price of 152 pence/litre<sup>14</sup>, the following costs are estimated:

<sup>&</sup>lt;sup>13</sup> https://www.swanswaygarages.com/blog/what-is-a-good-mpg-for-a-used-car-in-the-uk/

<sup>&</sup>lt;sup>14</sup> https://www.drivesmart.co.uk/runningcostscar.aspx

- Cheltenham Spa to Bristol Temple Meads (43 miles): £7.46
- Stroud to Bristol Temple Meads (35 miles): £6.08
- 3.20 This would appear to suggest travelling by car is cheaper than by public transport, particularly from the Stroud area and if carrying multiple passengers.
- 3.21 When factoring other costs including maintenance, vehicle tax, vehicle depreciation and insurance, the calculations can become more nuanced depending on an individual's circumstances. Cost of vehicle depreciation would be directly applicable to someone who has purchased a vehicle outright, but it would be factored into monthly payments on a business or personal contract hire arrangement and will depend on the contract term.
- 3.22 The following example cost of driving have been calculated using HMRC approved mileage rate for cars and vans<sup>15</sup> (up to 10,000 business miles in a tax year) which account for the cost of owning and operating a vehicle, including fuel, depreciation, insurance and road tax:
  - Cheltenham Spa to Bristol Temple Meads (43 miles): £19.35
  - Stroud to Bristol Temple Meads (35 miles): £15.75
- 3.23 Additional costs could potentially be incurred from parking a car, with a daily cost of parking in Bristol city centre being in the region of £18 for a day<sup>16</sup>.
- 3.24 People commuting by car may however have access to free parking at their place of employment, and this is more likely in areas outside of the city centre.
- 3.25 Park and Ride offers a cheaper way of parking to access the city centre by bus. There is no charge for parking but a bus fare does apply. Using the Park and Ride may increase journey times taking into account the time it would take to park and board a bus, however many bus routes in Bristol can take advantage of bus priority lanes which help reduce journey times.

#### Summary

- 3.26 Generally speaking, coach is cheaper than train however passengers need to book in advance to take full advantage of cheaper fares or discounted tickets. It is likely however that because rail and coach stop at more limited places, another mode of travel would be needed to access them, for example driving/parking, getting a lift by car, taxi, local bus, cycle or walk.
- 3.27 Whilst driving may be viewed as cheaper based on the cost of fuel, when factoring in the full running costs of a car, the cost is more comparable with rail and coach. From the perspective of introducing a new coach service within the corridor, cost of travel will of course be a key factor in people switching to coach from another mode.
- 3.28 Longer distance coach services which run on an infrequent basis are less likely to be used by frequent travellers such as commuters. Passengers may potentially be planning journeys well ahead of time. Such bookings can give operators greater certainty of the level of demand and provides them more flexibility to offer cheaper tickets.
- 3.29 A new coach service operating within the study corridor however may be attracting a mixture of passengers and journey types, for example people who use coach
- <sup>15</sup> https://www.gov.uk/government/publications/rates-and-allowances-travel-mileage-and-fuel-allowances/travel-mileage-and-fuel-rates-and-allowances

<sup>&</sup>lt;sup>16</sup> https://www.bristol.gov.uk/residents/parking/where-to-park-in-bristol/west-end-long-stay-car-park

infrequently (e.g. for holidays and day trips) and those who use coach more frequently (e.g. commuters).

3.30 Therefore, it will be significant that, whilst fares are competitive to rail, given the reduced certainty of the number of passengers who may be boarding a coach service on any given day, it may not be commercially sustainable to offer very reduced fares to the same extent as those available on long-distance routes.

# 4. Future developments and transport schemes

4.1 This section of the report summarises housing targets and key planned developments situated within the corridor which could have an influence on travel demand and patterns and could become important trip attractors which could be a market for a new coach service. This chapter also describes planned future transport schemes within the corridor.

#### Housing targets

- 4.2 On 30 July 2024, the Ministry of Housing, Communities and Local Government published proposed changes to the National Planning Policy Framework (NPPF), that sets the overall framework for planning policy nationally. Housing is a key priority for the new government, and their targets for new homes changes the quantity and distribution of where housing will be built. Obligatory house building targets for local authorities will be reintroduced.
- 4.3 Nationally, the housebuilding target has been increased from 305,000 dwellings to 370,000 dwellings per year (+21.3%), in order to meet the 1.5 million homes to be delivered over the next five years. The figures for the Western Gateway constituent authorities are shown in table # below (the local authority areas most relevant to the

Strategic Gap 2 corridor are highlighted with a Symbol.

## Table 2 – Comparison between Western Gateway STB constituent planning authority housing targets based on previous method versus the proposed method

	Previous method (pre-2022)	Proposed method (2024)	% change
Bath and North East Somerset	717	1,466	+104.5
Bournemouth, Christchurch & Poole	2,806	2,962	+5.6
Bristol City	3,378	3,057	-9.5
Dorset	1,793	3,230	+80.1
Gloucestershire	3,216	4,620	+43.7
Cheltenham	545	833	+52.8
Cotswolds	504	979	+94.2
Stroud	620	844	+36.1
Forest of Dean	330	597	+80.9
Gloucester	663	732	+10.4
Tewkesbury	554	635	+14.6
North Somerset	1,324	1,587	+19.9
South Gloucestershire	1,317	1,717	+30.4
West of England Combined Authority	5,412	6,240	+15.3
Wiltshire	1,917	3,476	+81.3

4.4 The above table indicates that all but one local planning authority area will need to cater for additional homes per annum based on the proposed method, with several authorities experiencing very significant increases of over 80%. Within the Strategic

Gap 2 corridor, the most significant increases are occurring in Stroud and South Gloucestershire. A small decrease is proposed in Bristol City.

#### Major proposed developments

#### West of Cheltenham urban extension

- 4.5 Two land allocations have been secured for 3,000 homes and 45 hectares of employment land as part of the West of Cheltenham urban extension<sup>17</sup>. Development would broadly sit between the existing urban boundary of Cheltenham, the M5 and A40, and straddle the A4019 around Ucklington. As part of the development, there is an ambition to make M5 Junction 10 an all-movement junction currently only north-facing slip roads are provided.
- 4.6 Development in this location would benefit from convenient access to the M5, but would be around 2 miles from Cheltenham Spa railway station and 3 miles from the town centre. Some southern parts of the development will be located quite close to Arle Court, therefore benefiting from access to bus and coach services.

#### **Cotswold Designer Outlet, Tewkesbury**

- 4.7 Cotswold Designer Outlet is currently under construction next to M5 Junction 9 and the A46. It is due to open in Spring 2025 and is expected to host a range of fashion, lifestyle, homewares and sports retail brands akin to Bicester Village in Oxfordshire. It is estimated that the outlet could generate around 500 new jobs and attract 3.6 million in visitor footfall<sup>18</sup>.
- 4.8 It has the potential to become a major visitor attraction from the surrounding area and with it being located just off the M5 it is expected to attract many trips by car. The site is also very close to Ashchurch for Tewkesbury railway station, and the A46 running past the site is currently served by the Stagecoach 42 bus service linking Cheltenham, Tewkesbury and Ashchurch.
- 4.9 The outlet's potential level of attraction for both shoppers and employees over a wide area could make it a suitable place for a coach service to stop, particularly if a coach service can provide a link to places not as well connected to the location by rail. The site's close proximity to the M5 could mean a reduced detour for a coach routeing for example between Tewkesbury and Cheltenham.



Figure 8 – Artist Impression of the proposed Cotswold Designer Outlet Source: https://cotswoldsdesigneroutlet.com/

<sup>&</sup>lt;sup>17</sup> https://www.cheltenham.gov.uk/info/61/climate\_and\_sustainability/1652/connecting\_cheltenham\_strategy\_report/16

<sup>18</sup> https://cotswoldsdesigneroutlet.com/

#### Eco-Park, near Stroud

- 4.10 Covering 40 hectares of land beside the M5 at Junction 13 near Stroud, the planned Eco-Park development will comprise commercial offices and sporting facilities, specifically a new stadium for Forest Green Rovers who will relocate from their current stadium in Nailsworth. It is estimated the development could generate up to 4,000 jobs. On the development's promotional website<sup>19</sup>, it is indicated that on match days the developer plans to subsidise buses from Nailsworth, Stroud and Stonehouse, and trial a bus service from Cam and Dursley train station which will be the nearest station on the Birmingham-Bristol main line.
- 4.11 The Eco-Park's potential level of attraction for employees as well as spectators and visitors to the stadium could make it a suitable place for a coach service to stop, particularly given its proximity to the M5. The development could generate demand across 7 days a week, with the proposed commercial offices being the main source of demand during weekdays and the stadium (on match days) at weekends.



Figure 9 – Artist Impression of the Eco-Park Stadium Source: Forest Green Rovers Football Club - https://www.fgr.co.uk/news/zaha-hadid-architects

#### Land North West of Stonehouse

- 4.12 700 homes are proposed as part of a draft strategic site allocation on land north west of Stonehouse. The development would be accessed via the large-scale west of Stonehouse development at Oldends, which is already being built out. Development in this location would have convenient access to the M5 at junction 13 as well as the A38 near Fromebridge Mill.
- 4.13 The development would be located nearly 2 miles from Stonehouse station which, as noted elsewhere in this report, is not on the Bristol to Birmingham main line. Potentially therefore, residents may have preference to travel southwards to Cam & Dursley railway station which is on the main line.

#### Wisloe

4.14 A 1,500 new settlement is proposed at Wisloe which is located between the A38 and M5, east of Slimbridge and Cambridge and north of Lower Cam<sup>20</sup>. The development will also comprise a new primary school and community facilities. It is envisaged as a long-term project, with build-out expected to occur between 2026 and 2030. Whilst in a rural location, the development will be located within 0.5 miles of Cam & Dursley railway station, therefore providing good access to key destinations north and south including Gloucester and Bristol.

<sup>&</sup>lt;sup>19</sup> https://www.fgr.co.uk/eco-park

<sup>20</sup> https://www.wisloe.co.uk/index.php

#### Land south of Charfield

4.15 A large development across around 41 hectares of land is proposed immediately to the south of Charfield. The development is expected to comprise around 525 new homes as well as schools and a neighbourhood centre. Charfield is a village with limited amenities therefore it is likely that residents of this development would need to make trips to other settlements. Charfield is located 2.5 miles from M5 Junction 14. As noted later in this chapter, a new railway station on the Bristol to Birmingham main line is proposed in the village.

#### **Brabazon, north Bristol**

- 4.16 A large-scale, mixed-use development is proposed in the northern fringe of Bristol at Brabazon. It is expected to support 30,000 new jobs and comprise a large new urban park, a new social hub housed within a former aircraft hangar; a new 19,000-capacity YTL Arena; and 6,500 new homes<sup>21</sup>. The site is located to the west of the A38 Gloucester Road which leads into Bristol City Centre from the M5.
- 4.17 This will complement major employers in the nearby area including Airbus, Rolls-Royce and GKN. Masterplan approval was granted in early 2024.



Figure 10 – Artist Impression of the proposed Brabazon development Source: YTL Developments, YTL Group - https://www.brabazon.co.uk/visit/

- 4.18 In combination with existing concentrations of employment and retail in the surrounding area, including at Cribbs Causeway, the Brabazon development could be a significant attractor for trips not only from within Bristol but also places to the north along the study corridor. The site will be very well connected by rail to the local area and locations east and west along the South Wales main line, but will not be as easy to reach by rail from the north like Cheltenham and Gloucester. Good bus connections will exist as far north as Thornbury.
- 4.19 The site will however benefit from good road connections, notably the M5 which can be reached to the east via the A38 or to the west. Given the concentration of trip attractors, this area could be an important stopping point for coach services routeing into and out of Bristol although it would dictate the route go via the A38 as opposed to the quicker M32 which is further to the east.

#### **Bristol Airport**

- There are proposals to expand Bristol Airport. A planning application<sup>22</sup> was 4.20 submitted to North Somerset Council in 2018 to expand capacity from the current limit of 10 million passengers per annum (mppa) to 12mppa<sup>23</sup>. This included terminal expansion, improved public transport options, road infrastructure, and enhanced environmental projects.
- 4.21 It is estimated this would generate 800 additional jobs at the airport itself as well as a further 5,000 jobs regionally.
- 4.22 North Somerset Council refused the planning application in early 2020. Bristol Airport submitted an appeal to the Planning Inspectorate in late 2020 and a public inquiry occurred in 2021.
- 4.23 In February 2022, the Planning Inspectorate announced its decision to allow Bristol Airport's appeal to expand capacity.
- 4.24 In the meantime, a new bus/coach interchange is under construction at the airport which will incorporate additional bays for services. The new interchange is scheduled to open in Summer 2025. The new interchange may facilitate further changes to public transport services, building on the introduction of new National Express routes linking Birmingham, Cheltenham, Bristol to the north and Devon and Cornwall to the south.



4.25 A map showing the locations of planned developments is presented below.

Figure 11 – Locations of key developments

22 https://n-

somerset.moderngov.co.uk/CeListDocuments.aspx?CommitteeId=149&MeetingId=568&DF=10%2f02%2f2020&Ver=2 [accessed 12/12/2024] <sup>23</sup> https://www.bristolairport.co.uk/corporate/about-us/our-future/
#### Future transport schemes

#### A38 North Corridor and Park and Ride

- 4.26 In the A38 North Corridor, that links North Bristol with Almondsbury and Thornbury, bus priority measures are under investigation as part of a multi-modal corridor on the A38, with the outline business case giving a baseline completion date of August 2025.<sup>24</sup> A prospective coach route that would serve some of these areas would be able to make use of the bus priority lanes proposed in this outline business case, resulting in improved journey times for the coach service, particularly in peak hours. This could make the A38 more competitive on journey time compared to the M32.
- 4.27 The Infrastructure and Investment Delivery Plan also makes reference to 'new rapid bus services', 'a possible mass transit route' and a potential Park and Ride site on the A38.
- 4.28 A new coach service could help provide some of the capacity for a rapid transit scheme into Bristol City Centre, and the Park and Ride site could provide a potential interchange with the coach service<sup>25</sup>.
- 4.29 In North Bristol, the area that includes the North Fringe and the A38 / Gloucester Road corridor), an additional metrobus service (M4) was introduced in 2023. This service provides east to west connectivity in the Northern area of Bristol between two main attractors in the area; Cribbs Causeway and Bristol Parkway railway station. The service will be altered to run through the Brabazon development once this has been completed<sup>26</sup>.
- 4.30 A coach service entering North Bristol and following a central route towards Bristol City Centre could have an interchange with this service, as the two attractors at Cribbs Causeway and Bristol Parkway station are a significant detour for a coach service that is aiming to go to Bristol City Centre. Thus, an interchange with the M4 metrobus service could give coach users from further afield, for example in Stroud or Stonehouse, orbital accessibility to attractors in the North Bristol area, with minimal impact to other passengers travelling onwards to Bristol City Centre.
- 4.31 Moreover, the Infrastructure and Investment Delivery Plan also describes bus enhancement measures along key routes for improved bus speed and reliability from the North Fringe to the City Centre<sup>27</sup>. Some of these measures have been introduced already, such as along the A4174 and the bus only slip-road by Stapleton allotments, and some are more longer-term proposals or aspirations, such as the A38 Gloucester Road corridor improvements which are described as the 2<sup>nd</sup> priority on the Transport Corridor Improvements website.
- 4.32 A potential new coach service would benefit significantly from these corridor improvements, as it would improve journey times of the coach service and also allow the coach to serve large attractors in the area, such as UWE and Bristol Business Park, with equivalent journey times at peak hours when compared to a vehicle using the M32.
- 4.33 Also of note are some other active but early-stage plans, such as the introduction of more first/last mile connectivity, alongside improved interfaces with other modes of transport at Filton Abbey Wood and Bristol Parkway. A new coach service could be

<sup>27</sup> WECA – Infrastructure & Investment Delivery Plan (2021) Page 11, available at: <u>https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/10/Infrastructure\_Topic\_Paper</u> - Infrastructure\_Issues\_and\_Options\_Sept\_20211.pdf [accessed 31/01/2024]

 <sup>&</sup>lt;sup>24</sup> Atkins A38 Multi-modal corridor scheme – Outline Business Case, the delivery programme is on page 11. Available at: <u>https://www.westofengland-ca.gov.uk/wp-content/uploads/2022/06/A38-Multi-modal-Corridor-OBC.pdf</u> [accessed 31/01/2024]
 <sup>25</sup> WECA – Infrastructure & Investment Delivery Plan (2021) Page 17, available at: <u>https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/10/Infrastructure\_Topic\_Paper\_-Infrastructure\_Issues\_and\_Options\_Sept\_20211.pdf</u> [accessed 31/01/2024]

<sup>&</sup>lt;sup>26</sup> M4 Metrobus, available at: <u>https://travelwest.info/metrobus/m4/</u> [accessed 31/01/2024]

incorporated as part of the improved interface measures or be linked by the first/last mile connections.

4.34 The MetroWest Phase 2 proposal in this area, to reopen the line to Henbury and North Filton, will provide better links to the west of the North Fringe, potentially highlighting the necessity of the coach to choose a more central or eastern route, rather than competing with new train services in this part of Bristol.

# MetroWest Phase 1

4.35 The MetroWest Phase 1 project is proposing to re-open the Portishead railway line to passenger train services. The plans include a new rail station at Portishead and the reopening of the former station at Pill. The project is subject to funding and meeting all the regulatory and technical requirements.

# **MetroWest Phase 2**

4.36 The MetroWest Phase 2 project is proposing to re-open the Henbury Line to an hourly spur passenger rail service and increase service frequencies to Yate to a half-hourly service. The plans include new rail stations at Henbury, North Filton and Ashley Down. This project is also subject to funding and meeting all the regulatory and technical requirements.

# **Charfield Railway Station**

4.37 A new railway station is proposed in Charfield, approximately halfway between Cam & Dursley and Yate stations on the Birmingham to Bristol line. It will serve not only the village of Charfield but also other small settlements including the market town of Wotton-under-Edge and the village of Kingswood. The station is not programmed to open until 2027 and is subject to funding.

# **Stroudwater Railway Station**

- 4.38 Stonehouse Town Council and Stroud District Council are promoting a project to reopen Stroudwater Station at Bristol Road in Stonehouse. The old station closed in 1965. A new station would be located on the Bristol to Birmingham main line and provide a direct link to Bristol as noted earlier, Stonehouse and Stroud stations are not located on the main line.
- 4.39 The proposal received recognition from national government in the form of a £50,000 award in October 2021 from the Department for Transport's Restoring Your Railways Fund.
- 4.40 The town council's website estimates that a new station would serve 12,000 people who live within a mile and 22,000 within two miles.
- 4.41 A Strategic Outline Case for the station was prepared in 2022 and it is reported that there is a strong strategic and economic case for the station served by one or two trains per hour. The status of the project is unclear, given the Government announced in July 2024 that it was cancelling the Restoring Your Railway Fund.
- 4.42 The proposed station has significance to this study as it would provide more direct rail links to Bristol from Stroud, albeit the station would be located over 3 miles from Stroud Town Centre and would require passengers to use another mode of transport to reach the station.

# Summary

4.43 In summary large-scale developments are proposed at different points along the route, and some are located out-of-town but within easy reach of the motorway

network and easily accessible by key local roads. Whilst connecting key population centres will be critical to generate passenger demand, particularly for more traditional commuting and centre-to-centre journeys, these other locations could generate additional demand potentially outside of weekday peak periods.

- 4.44 Transport infrastructure improvements offer the potential to facilitate faster and more reliable journeys into Bristol city centre, and better local connections across the northern fringes of the city. Proposed rail stations are subject to funding and are expensive projects to bring forward.
- 4.45 The Stroudwater station proposal would effectively address a key issue highlighted in the Coach Strategy regarding a lack of direct rail connections between Stroud and Bristol. However, even with funding secured it is unlikely to be delivered in the short or even medium term. A new coach service therefore could offer a more affordable approach to addressing connectivity between Stroud, Stonehouse and Bristol, and could be delivered in the short term subject to whether an operator would deem such a service to be commercially viable. Furthermore, a coach service would be able to route through the centres of Stroud and Stonehouse, whereas the proposed station would be over 3 miles from Stroud town centre.
- 4.46 The proposed local transport improvements in the northern fringe of Bristol and the scale of economic activity would indicate that this area is potentially as important to serve as Bristol City Centre.

# 5. Scheduled Coach Service Case Studies

- 5.1 The study corridor is currently served by some long-distance coach services operated by the likes of National Express and Megabus. These services tend to be infrequent, stopping at very few places, and linking major urban centres rather than smaller more rural communities along the corridor.
- 5.2 The study corridor is comparatively short in length compared to the very long distances that these types of scheduled coach services operate over. Coaches running through Cheltenham can be travelling from as far north as Newcastle and Huddersfield.
- 5.3 To help guide the consideration of a potential new coach service, a series of case study routes have been identified which showcase different characteristics of services such as the locations served and stopping patterns. Services have been categorised as:
  - **'Frequent Journey' services**, primarily those serving the London or larger settlements and used by commuters, other regular travellers as well as occasional users;
  - **'International Gateway' services** specifically catering for airport travellers and these would be applicable to the study corridor with the presence of Bristol Airport.
  - **'Long Distance' services** a small selection of long-distance coach services operating within the corridor are also identified in this section because they present some unusual characteristics in terms of suburban stops in Bristol, albeit on an infrequent basis.

# 'Frequent Journey' Coach Services

# Centaur (Kent)

- 5.5 Centaur provides a commuter service from Kent to London, with particular focus on the medium-sized towns of Sevenoaks, Tonbridge and Tunbridge Wells. The Centaur service is promoted for its "door to door" service offer that routes through residential suburbs, with the aim of providing a stop within a few minutes' walk of most people in the areas Centaur serves.
- 5.6 The main selling points of Centaur's service are:
  - Convenience and comfort The "door to door" service which, from many locations, is quicker than the equivalent journey by train<sup>28</sup>. Ticket holders are also guaranteed a seat and Wi-Fi on every service, as the operator claims the specification (capacity) of vehicle used can be adapted from within the operator's fleet to suit demand.
  - Pricing the coach service boasts more favourable prices than the equivalent train journey, with the average commuter using the service saving £2,000 per year, according to the Centaur website<sup>29</sup> and a day return ranging between £16.50 and £23 (a standard train ticket from Tonbridge is £22.80 each way<sup>30</sup>). The service also has a variety of flexible ticket options available that reduce

<sup>28</sup> https://www.centaurtravel.co.uk/commute-by-coach/whats-it-like

<sup>&</sup>lt;sup>29</sup> https://www.centaurtravel.co.uk/commute-by-coach/whats-it-like

<sup>&</sup>lt;sup>30</sup> Trainline ticket search - Anytime day single for £22.80, or £45.60 for an anytime travelcard. Search performed using <u>https://www.thetrainline.com/en-us</u>, for a journey from Tonbridge to Canary Wharf on the 14<sup>th</sup> February 2024. The equivalent search for Sevenoaks is £17.30 for a single and £34.60 for a return.

prices further, catering to the more flexible nature of modern-day working patterns albeit services are concentrated on the weekday AM and PM peak periods . For example, 10 and 40 ticket bundles can be bought to use in 3 months, or a Flexi ticket with 1, 2 or 3 days per week travel is available.

- Better for the environment the Centaur website also highlights the environmental benefits of travelling by coach, claiming a 35% reduction in CO<sub>2</sub> emissions when compared with National Rail<sup>31</sup>.
- Journey times the ability of coaches to use priority bus lanes along the journey also makes for a journey that is 20% quicker than the equivalent car journey, and as the services traverse suburbs to pick up passengers, it is believed to be quicker than train from many pick-up locations.
- 5.7 Pick up stops are spaced between 400m and 1.5km apart, depending on how densely populated an area is, and the drop off locations in central London are at the main employment hubs such as Canary Wharf and the City of London.
- 5.8 Centaur run three services, the 786, 788 and the 789, with each serving a slightly different route after beginning in Paddock Wood.
- 5.9 The 786 has three morning services and after a couple of pickups in Paddock Wood and Pembury, it skirts around the suburbs of Royal Tunbridge Wells, ending with four stops on the main road in the outer suburb of Southborough. From here, the service stops once in Tonbridge and once in Sevenoaks before heading to London<sup>32</sup>.
- 5.10 The 788, with two services every morning, covers the areas of Tunbridge Wells that the 786 does not, starting with the western suburbs of Rusthall and Langton Green, then onto Tunbridge Wells. The second morning service, the 788b, also stops in Southborough and has one stop in Tonbridge and one in Sevenoaks<sup>33</sup>.



Figure 12 - Pick up locations for Centaur commuter coach services

<sup>&</sup>lt;sup>31</sup> Greenhouse Gas reporting: Conversion factors 2019. Coach journeys produce 27 g CO2 per passenger km, where as National rail produces 41g CO2 per passenger km. Available from: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019

<sup>&</sup>lt;sup>32</sup> Centaur 786 Timetable, accessed 24/01/2024: https://www.centaurtravel.co.uk/media/pdf/786-pdf-timetable-v14-702.pdf

<sup>&</sup>lt;sup>33</sup> Centaur 788 Timetable, accessed 24/01/2024: https://www.centaurtravel.co.uk/media/pdf/788-pdf-timetable-v6-625.pdf



# Figure 13 - Drop off locations for Centaur commuter services Greenline 755 (Bedfordshire)

- 5.11 Greenline (owned by Arriva) offers the 755 commuter service that is complimentary to the pre-existing airport link with Luton Airport, the 757. The 755 service goes through the northern Luton suburbs of Leagrave, Marsh Farm and Warden Hill followed by the town centre before joining the M1 and going to central London, with drop off stops at Brent Cross, Finchley Road, Baker Street, Marble Arch and Victoria. There is only one intermediate collector stop on this route, between St Albans and Watford in Bricket Wood on the A405. Significantly, this stop allows for very efficient access back onto the M1 and the M25 and is optimised so as not to disrupt journey times.
- 5.12 Only one early service in the morning makes the faster commuter journey, excluding the detour to the airport. The second 755 service acts as a bus linking the same suburbs with Luton train station, perhaps suggesting the service is less able to compete on price and journey times with train. This service then goes on to serve Luton Airport before it heads into London.
- 5.13 A single ticket on this journey costs £11.50, with a 2-trip return ticket priced at £17.50. As with Centaur, 4 week and annual tickets are available for reduced prices, but fewer options are available and they are less obviously marketed towards a flexible commuter, rather just as an additional service to the airport link.
- 5.14 As with the Centaur service, the Greenline route is operating within a corridor which is also well connected by rail. A rail journey from Luton to London St Pancras takes around 32 minutes. The coach takes passengers to a more central area of London via Baker Street and Victoria, which may negate the need for some passengers to change between a train and the London Underground network if their ultimate destination is in this part of London (the train route from Luton routes through the City and onwards towards Gatwick Airport and the south coast of England).





# **Oxford Tube (Oxford)**

- 5.15 Although not specifically a commuter service, the Oxford Tube provides a cheap and efficient link between Oxford and London that follows the M40.
- 5.16 The service is very regular, with a coach every 20 minutes, 24 hours a day and 7 days a week, and services increasing to every 10 minutes at peak times.
- 5.17 Oxford, the main source of passenger demand outside of London, has numerous pick up stops in the city and on the London Road out towards Oxford Brookes University and the suburb of Headington. The final Oxford stop is the Thornhill Park and Ride, on the way to the M40.
- 5.18 From here, intermediate stops are only available at Lewknor and Hillingdon, both at stops that do not take the coach significantly off its main route along the M40/ A40. The Lewknor stop is in a remote location only accessible by car or local bus.
- 5.19 In the morning, an hourly service stops at High Wycombe Park and Ride, which is also a very short detour from the M40.
- 5.20 The main drop off points are in London, with all services stopping at Marble Arch and London Victoria, with 3 services an hour stopping at Holland Park in West London and one service an hour going to Baker Street instead of Holland Park.
- 5.21 Most notably, four services a day, all in the morning peak between 06:00am and 09:00am, begin in the rural town of Carterton and call at other towns such as Witney to the north west of Oxford. These services do not go into Oxford at all and rejoin the route described above at Thornhill Park and Ride, highlighting a faster

commuter service for those living further afield than Oxford, removing the long detour into the city centre and retaining competitive journey times<sup>34</sup>.

5.22 Ticketing for the Oxford Tube is simple, with an adult single for £13 and a return for £20, with a bundle of 12 tickets for £100 also available. Reduced tickets are available for Oxfordshire to High Wycombe (£8), and High Wycombe to London (£10 single), but these are the less frequent services that differ to the core route.



# Figure 15 - Oxford Tube service iterations

5.23 The Oxford to London corridor is well served by different modes of transport. As well as coach, there are two rail routes into London, one via Bicester and High Wycombe to London Marylebone, and one via Reading and Slough to London Paddington.

Arriva X1 and Stagecoach MK1 (Luton/Luton Airport-Milton Keynes)

- 5.24 The Luton-Milton Keynes corridor is already well-served by passenger transport and is also linked by the M1 and A5, both forming part of the Strategic Road Network.
- 5.25 Arriva has operated traditional bus services between the towns for many years, and these services tend to serve all stops along the route, including within the urban areas and in villages in between. The F70/F77 routes via Dunstable and Leighton Buzzard, smaller market towns between Luton and Milton Keynes.
- 5.26 Stagecoach had operated a coach service (X99 and prior to that the VT99 under Virgin Trains branding) for many years between Luton Airport, Luton Town Centre and Milton Keynes, until it reconfigured the service as part of a wider service remodelling in the wider region in 2023.
- 5.27 The MK1 service now operates using low-floor double decker buses and is combined with a bus route from Bedford to Luton, forming a large V-shape route covering around 40 miles in total. Whilst the bus service uses a section of the M1 to reduce journey times, within the urban areas it calls at a limited number of stops. Crucially, on route into Milton Keynes it stops at a large industrial park, Magna Park, which attracts a lot of employees from the Luton area.
- 5.28 Arriva launched a new coach service between Luton Town Centre and Milton Keynes in July 2024, therefore competing directly with the Stagecoach MK1 bus service. The new coach service uses a small fleet of single decker Temsa HD12 coaches equipped with wheelchair accessibility.
- 5.29 The services run on an hourly basis and unlike the MK1 bus, do not use the M motorway1, but route into Milton Keynes via the A5 trunk road and therefore serve different employment and leisure areas including the city's sports stadium. Neither

<sup>&</sup>lt;sup>34</sup> Oxford Tube Timetable available at: <u>https://tiscon-maps-</u> stagecoachbus.s3.amazonaws.com/Timetables/Oxford\_Timetables/Oxford\_Tube\_current.pdf [accessed 25/01/2024]

does the coach service link directly with Luton Airport which is interesting considering it operates using coaches instead of buses with more luggage capacity, and instead terminates at the town centre bus interchange where passengers can travel onwards to the airport via Arriva's local bus services operating within Luton. The use of coach vehicles would appear to be an effort to differentiate the service from the rival MK1 and Arriva's own stopping bus services running between Luton and Milton Keynes.

5.30 The X1 operates over 21 miles which is a similar distance between Stroud and Bristol City Centre.



#### Figure 16 – Image of the competing MK1 Stagecoach and X1 Arriva services

**Source:** busandtrainuser.com https://busandtrainuser.com/2024/07/23/mk1-on-the-m1-v-x1-on-the-a5/

# Stagecoach X5 and 905 (Oxford-Bedford-Cambridge)

- 5.31 The trend to replace coaches with buses is also evident with Stagecoach services operating between Oxford and Cambridge. Stagecoach currently operates two long-distance bus routes between Oxford and Cambridge the X5 (Oxford to Bedford) and 905 (Bedford to Cambridge). The service used to operate as a single service between Oxford and Cambridge as the X5, and used coach vehicles, but is now operating using low-floor double decker buses.
- 5.32 The overall distance between Oxford and Cambridge of both bus routes combined is around 80 miles, the same distance between Tewkesbury and Bristol Airport at either end of the study corridor. It is understood the bus services still operate on a limited stop basis, similar to the coach service that used to operate, to provide a more attractive journey time.

#### **International Gateway Services**

# Falcon (Bristol)

5.34 The Megabus Falcon is a longer distance route that serves the south west of England, linking Plymouth and Exeter with Bristol and Bristol Airport. The service is

marketed primarily as an airport link, but also provides links between more rural locations with Bristol, Exeter and Plymouth.

- 5.35 The service runs 24 hours a day and boasts 20 services a day, 7 days a week. Generally, coaches run every hour, other than i the morning and evening peak hours, where the interval between services is 1 hour and 15 minutes.
- 5.36 Other than the coach stops in Bristol and Plymouth, the intermediate coach stops along the route are optimised to avoid diverting the coach away from faster main roads and into towns. For example, the two stops available in Exeter are at Sowton Park and Ride and at Miller and Carter coach stop near the Honiton Park and Ride. Most notably, both of these stops are within a kilometre of the M5.<sup>35</sup>
- 5.37 The Falcon service also serves smaller settlements in the same way, such as Cullompton, Wellington and Taunton, where stops are located just off junctions of the M5 or adjacent to service stations.

# Greenline 757 (Luton)

- 5.38 The Greenline 757 service is the Luton airport coach link and the main service of which the 755 commuter service is an extension. There is a service every hour, beginning at Luton Station and stopping at Luton Airport before its way into London. Between 08:05 and 10:35 and 14:05-19:05 there are two services an hour, but one of these services begins at Luton Airport and does not detour to Luton Station or the town centre<sup>36</sup>.
- 5.39 Ticketing is the same as the 755 service mentioned previously, with a single ticket costing  $\pounds$ 11.50 and a return costing  $\pounds$ 17.50.<sup>37</sup>

# Stansted A21 (Stansted)

- 5.40 The Stansted A21 service is an airport coach link that enters north-east London via the M11 and serves Stratford and London Liverpool Street Station only. It is run as a collaboration between Megabus and Airport Bus Express Ltd.
- 5.41 The A21 has services every 30 minutes throughout the day and runs 24 hours a day, with less frequent services at night<sup>38</sup>.
- 5.42 The cheapest advance tickets are available for £9 each way, but price increases are observed as the date of travel draws closer. A single for the next day adds £7 to the price of a ticket<sup>39</sup>.
- 5.43 There are no intermediate stops outside of London, however the service calls at Stratford and London Liverpool Street, both of which are served by the competing Stansted Express rail service, with fast links available across London from here. Stratford is also the location of Westfield Shopping Centre, an attractor in its own right.
- 5.44 Moreover, other services provided by National Express are available from Stansted Airport with more stopping options in London. The A6 services routes through the northwest of London, with drop offs in the suburbs of Golders Green, Finchley Road

https://uk.megabus.com/?originId=56&destinationId=385&departureDate=2024-01-27&totalPassengers=1 [accessed 25/01/24] <sup>39</sup> Ticket prices for single journeys can be found using this search tool https://uk.megabus.com/?originId=56&destinationId=385&departureDate=2024-01-27&totalPassengers=1 [accessed

<sup>&</sup>lt;sup>35</sup> Megabus Falcon Timetable, accessed on 24/01/2024: https://uk.megabus.com/globalassets/falcon/falcontimetable.pdf
<sup>36</sup> Greenline timetable available at <u>https://www.intalink.org.uk/services/e2b69968-5605-4439-a3e6-bf1ca307fbc6</u> [accessed 25/01/2024]

<sup>&</sup>lt;sup>37</sup> Greenline fares can be found here: <u>https://www.arrivabus.co.uk/buy-</u>

tickets/region/greenline/zone/grn001?utm\_source=Green%20Line%20Promo%20Box&utm\_medium=757%20Tickets&utm\_ca mpaign=green\_line\_promo\_box\_757\_tickets [accessed 25/01/2024] <sup>38</sup> An older timetable can be found here <u>https://www.airportbusexpress.co.uk/Images/Linee/Orari/Timetable-Stansted-Airport-</u>

<sup>&</sup>lt;sup>38</sup> An older timetable can be found here <u>https://www.airportbusexpress.co.uk/Images/Linee/Orari/Timetable-Stansted-Airport-London.pdf</u> [accessed 25/01/2024] but search results for London to Stansted have the same frequencies when using https://uk.megabus.com/?originId=56&destinationId=385&departureDate=2024-01-27&totalPassengers=1 [accessed 25/01/24]

https://uk.megabus.com/?originId=56&destinationId=385&departureDate=2024-01-27&totalPassengers=1 [accessed 25/01/2024]

and St John's Wood before heading to Baker Street, Marble Arch and London Victoria Coach station. The A8 serves a similar purpose in the northeast of London, with stops at Stratford, Bow, Mile End, Whitechapel and London Liverpool Street, after which the coach heads to Shoreditch and Bethnal Green<sup>40</sup>.

#### Long Distance Coach

#### MegaBus M19

- 5.45 Megabus operates a long-distance route, the M19 service, between Glasgow and Cardiff which makes stops in Cheltenham (Arle Court) and Bristol City Centre.
- 5.46 Megabus had until late 2024 operated other services but many have been discontinued, for example the M34 between Birmingham and Bristol which also stopped at Cheltenham Arle Court.

#### National Express 100, 102, 104, 106 service

- 5.47 In late 2024 National Express substantially enhanced its 100, 102, 104 and 106 services, introducing an additional stop at Bristol Airport. The timetable (as of March 2025) is presented in Appendix L.
- 5.48 The service runs up to 8 services a day in each direction which link Cheltenham or Gloucester with Bristol City Centre and Bristol Airport. The 100 links Birmingham and Bristol Airport (with one service a day extending to/from Weston Super Mare), 102 links to Plymouth, and 104 and 106 to both Plymouth and Penzance. The 100 operates more frequently than the other services and in combination, the groups of services offer a 1-3 hour frequency through large parts of the day.
- 5.49 Cheltenham Arle Court is served more frequently than the town centre Royal Wells bus station, and Gloucester is served only once a day.
- 5.50 There can be up to a 30 minute dwell time at Bristol coach station, which substantially increases the journey time from Cheltenham to Bristol Airport and this could detract passengers from using the service for shorter journeys whereas for a longer distance journey from Birmingham to Devon and Cornwall this is unlikely to have such a big impact and would potentially of benefit for some passengers to disembark for a short break on what would be a very long journey.

# National Express 040 (Weston-super-Mare – London)

- 5.51 National Express also operates the 040 service that begins in the corridor. This service is described as the Weston-super-Mare to London route when, in reality, this is a coach service that has three different iterations of the core route that runs between Bristol and London.
- 5.52 The 040 runs 32 services from Friday through to Sunday, with 22 services on Tuesdays, Wednesdays and Thursdays, suggesting a different customer base due to the focus on weekend services than the coach routes described in the commuter sections, where the focus was on weekday availability<sup>46</sup>.
- 5.53 Perhaps more notable is how the stopping patterns change; the service only begins in Weston-super-Mare once per day, with all other services starting in Bristol. Moreover, 5 services a day on Friday to Monday, start in suburban Bristol at White Tree, with preceding stops at Black Boy Hill, Clifton Down and the University of Bristol before reaching Bristol coach station, where it then goes to the University of the West of England, before heading to London. All other 26 services start at Bristol

<sup>46</sup> The National Express 040 timetable can be found here:

<sup>&</sup>lt;sup>40</sup> Coach links to Stansted Airport can be found here: <u>https://www.stanstedairport.com/getting-to-and-from/by-bus-and-coach/</u> [accessed 25/01/2024]

https://timetables.nationalexpress.com/routes/NX/040/Weston\_super\_Mare-London/I/pdf [accessed 31/01/2024]

coach station and end in London, with 4 of these also calling at the University of the West of England.

#### Other example services

#### Belles Express coach – Gloucester-Bristol

- 5.54 Stagecoach West launched a coach service linking Gloucester Transport Hub, Waterwells Park and Ride, AZTEC West business park, Cribbs Causeway, Filton College, MoD Abbey Wood and UWE Frenchay Campus in 2014. The service operated on an hourly basis and was aimed at commuters, offering cheaper fares than an equivalent rail trip.
- 5.55 The service offered something similar to the type of service explored in this study, in particular addressing a connectivity gap between Gloucestershire and key commuter destinations in northern Bristol.
- 5.56 The service was subsequently discontinued in September 2016 according to references made in BusUKforums<sup>47</sup>. It was reported to be unsustainable due to low frequency and a lack of awareness among key employers and employees it was targeting in the Bristol Northern Fringe<sup>48</sup>.

#### easyBus – Milton Keynes to the northern outskirts of London

- 5.58 easyBus briefly operated a 15-seater mini-coach service between Milton Keynes and Hendon (north London) with the aim of offering more attractive fares for costsensitive travellers<sup>49</sup>.
- 5.59 A quirk of the service was that in order to reduce operation costs and avoid busier roads leading into central London, the service terminated in Hendon in northern London (approximately 7 miles from Central London) with onward connections via the London bus and Underground networks. The service also kickstarted a fares competition with National Express, with so-called 'fun fares' as low as £1 being offered. The service was introduced in 2004 but was withdrawn in 2006.
- 5.60 The fact the service did not route all the way into central London could have contributed to low patronage. Furthermore, Hendon is not a particularly prominent or well-known destination in northern London, being a half hour journey on the Underground and no significant employment areas in the immediate vicinity aside from Brent Cross shopping centre.

# Leeds-Harrogate-Rippon – Transdev electric, 'luxury' inter-urban bus service

5.61 A fleet of electric double-decker buses has been introduced on route 36 linking Leeds and Ripon, a 27-mile cross-country journey. Particular attention has been given to enhancing the customer experience by providing a more luxurious interior with both USB and wireless mobile devise charging, audio-visual passenger information, wheelchair bays and a 2+1 seating configuration on the upper deck with reclining seats with armrests<sup>51</sup>.

(alexander-dennis.com)

<sup>&</sup>lt;sup>47</sup> https://www.railforums.co.uk/threads/stagecoach-west-south-west-south-wales-fleet-news-discussion.104054/page-17 <sup>48</sup> https://www.stroud.gov.uk/media/jksfmypr/00405b-stagecoach-g1.pdf

<sup>49</sup> https://www.theguardian.com/business/2004/aug/19/transportintheuk and 49

https://www.telegraph.co.uk/finance/2892984/Stellos-vows-OFT-complaint-amid-intercity-bus-fare-war.html <sup>51</sup> Transdev Blazefield unveils next-generation Alexander Dennis Enviro400EV for iconic route 36 | Alexander Dennis



Figure 17 – Interior of the upperdeck on Transdev's Witchway bus

Source: Jonathan Welch - CBW (cbwmagazine.com)

5.62 In an article published in Coach and Bus Weekly<sup>52</sup>, Ray Steening who has had responsibility for marketing the new bus service was quoted as saying "Routes like the 36 are a local bus, but what's the difference between a bus and a coach? They are still passenger carrying vehicles, but one is seen as a bit more luxurious than the other. There's no reason a bus can't be luxurious if that's appropriate to the market it's operating in".

#### Summary

- 5.63 A range of coach service case study routes have been identified which represent different types of services and passenger markets catered for. The following key features and observations have been identified through these case studies:
  - Coach services do not need to route into the centre of towns and cities, although this may affect patronage and if they do not terminate in urban centres, they need to connect with high quality local transport services on the outskirts or within the suburbs.
  - Some long distance and frequent traveller coach services are promoted as
    offering a 'door-to-door' service by calling at closely spaced stops closer to
    people's homes in suburban areas, much like a local bus service, and then
    making fewer stops between settlements by utilising faster moving roads like
    motorways.
  - Some services make stops in more remote areas including at service stations and adjacent to motorway junctions where there are no formal park and ride facilities, but would provide access to more rural communities if people can get a short lift by car, taxi or local bus to the stop.
  - Service routeing and stopping patterns can vary throughout the day so a single service may call at different stops at different points of the day. This indicates that service timetables can be geared towards particular passenger markets, for example serving suburban residential stops in the early morning (outbound) and late evenings (return) would be catering for commuters, however the core part of the journey linking the main urban centres is unchanged throughout the day and would serve a wide variety of journey purposes.

- Operators are experimenting with different configurations of vehicles to provide the most cost-effective service, although it may also be influenced by what vehicles the operator has at its disposal within its fleet.
- Whether a bus vehicle or coach vehicle may matter less to customers, with Stagecoach replacing coaches for buses even on longer distance routes; Arriva choosing a coach vehicle to differentiate its service from Stagecoach's competing, limited-stop bus-based service; and the Harrogate Bus Company launching a fleet a luxury double-decker buses whose internal configuration blurs the boundaries between a bus and a coach from a passenger experience perspective.
- 5.64 A set of key coach service features have been identified from the case studies above which are listed out below. It may not be achievable for a service to cover all these features, however they are important considerations in the definition of key requirements for a new coach service in the corridor, and the consideration of coach service route options and stopping patterns:
  - Accessing the heart of major urban centres and key gateways including airport.
  - Avoiding some busy urban centres or congested routes if connections can be made by high quality local transport links.
  - Offering competitive journey times and/or fares compared to rail.
  - Serving suburbs to provide more of a door-to-door service.
  - Providing incentives to passengers who book tickets in advance including reduced fares and a guaranteed seat.
  - Serving a limited number of more rural, smaller communities.
  - Providing an agile service pattern and timetable, tailored to different passenger markets throughout the day and week.
  - Offering a comfortable journey experience which is better than a bus.
  - Using faster moving roads in less densely populated areas to reduce journey times over longer distances.
  - Offering ticket bundles/carnet tickets for more regular travellers.

# 6. Coach Service Key Requirements

- 6.1 A set of key requirements have been developed to shape the assessment of new coach service options.
- 6.2 In developing these requirements, reference has been made to the Western Gateway STB Long Term Strategic Transport Plan 2024-2050 to consider the overarching priorities and policies that the STB seeks to achieve. This plan has been published since the Coach Strategy was published in 2023.
- 6.3 It will be vital that any type of coach service improvement being considered in this study aligns with the STB's strategic priorities. The STB aims to prioritise and help facilitate schemes and policies which:
  - 1) Have significant impact beyond local boundaries
  - 2) Require cross-boundary co-operation and/or delivery
  - 3) Improve access to regionally or nationally significant destinations
  - 4) Improve access to regionally or nationally significant gateways
  - Overcome a severance or connectivity issue that unlocks regional benefits or resilience
  - 6) Facilitate strategic movement between the Midlands and South Coast
- 6.4 A new coach service running through the corridor would help to meet all of these aims, for example (1) providing improved transport connections between several key settlements and rural communities; (2) requiring coordination between local authorities as well as the private sector; (3) improving access to major urban centres including Bristol; (4) providing better access to Bristol Airport; (5) addressing pockets of poor connectivity within the corridor, specifically Stroud/Stonehouse-Bristol as well as between rural communities and the city; and (6) potentially enabling better longer-distance connectivity through better connections to other transport services at key interchanges.
- 6.5 The Long Term Strategic Transport Plan sets out a series of policies or actions which the STB will use to guide its priorities for the future. The following STB policies are more significant in relation to the assessment of coach service improvements within the corridor:

#### Theme 1: Sustainable growth and economy

- **Policy S4:** Where evidence and local policy supports the introduction of additional measures to manage vehicle traffic and support a shift to sustainable modes, we will work with Local Authorities to ensure a cross-boundary and joined up approach is taken.
- **Policy S6:** We will work with our Local Authorities and key stakeholders to manage seasonal peaks in travel demand, including provision of electric vehicle charging points, enhanced and new regional rail, bus and coach services and improvements to the Strategic and Major Road Networks.
- **Policy S8:** We will work with local and national partners, including other STBs, to improve access to ports and airports for both goods and passengers to/from destinations throughout the UK.
- **Policy S9:** With reference to the forthcoming expansion of Bristol Airport and associated facilities, we will work with key stakeholders to improve public transport connections to the airport from across the region and beyond, maximising the opportunities offered by the forthcoming public transport interchange (opening 2025) to support sustainable growth in passenger

numbers, enable a shift to sustainable modes and bring connectivity benefits to the wider area.

#### Theme 3: Access to services and opportunities

- Policy A6: We will work with coach operators and Local Authorities via our South West Coach Forum to enhance the role of coach in the regional transport offer, take forward the interventions identified in our 2023 Coach Strategy and establish the feasibility of new strategic coach routes. We will work with Bristol Airport and other partners to maximise coach connection opportunities offered by the forthcoming public transport interchange.
- **Policy A8:** We will work with National Highways to shape and deliver regional priorities as part of current and future Road Investment Strategies including M4 to Dorset Coast and Stonehenge, and existing schemes including A417, A303, M5 Junction 9 and Strategic Road Network Urban Areas (Bristol). We will also support Local Authorities to identify and deliver appropriate schemes on the Major Road Network and prepare for future funding opportunities. These schemes should also provide improvements for walking, wheeling and public transport.
- 6.6 The following requirements have been defined which have been informed by the evidence originally set out in the Coach Strategy and earlier in this report, as well as the STB's strategic policies.

Requirement	Justification
(a) To provide an attractive alternative to the private car	The success of a new coach service will be influenced by its ability to attract existing car and rail users. It may also facilitate journeys which currently people are not undertaking because the lack of public transport is a connectivity barrier.
(and potentially also rail) for inter-urban journeys	Providing affordable fares and offering competitive journey times will be key factors in attracting demand, as well as providing new or better connections between places which are not easy to travel between at present.
(b) To enhance rural connectivity, particularly in places which are poorly served by public transport connections to larger settlements, as well as key visitor attractions	Aside from the larger settlements within the corridor, there are many smaller rural communities which are not as well connected by public transport, particularly to large settlements including Bristol. Residents in these areas may therefore be very dependent on the private car to the nearest large settlement and service centre, or would need to use more than one public transport mode to complete a journey which could increase journey time and cost.

#### Table 3 – Key Requirements for a new coach service

(c) To help facilitate interchange between coach and other modes of travel including local bus, Demand Responsive Transit and cycle	In order to achieve a competitive journey time compared to other inter-urban modes of travel, a coach service is unlikely to be able to connect lots of different places or make frequent stops. It will be important therefore that coach stops are well connected to other modes, especially where a feeder mode of travel may be required, e.g. cycling, a local bus, DRT or catching a lift by car, as well as major transport interchanges including large railway stations. This could be particularly relevant in places which currently do not have transport interchanges or bus/coach stations, such as in smaller settlements and in rural areas.
(d) To enhance inter-urban, public transport connectivity within suburbs of larger settlements, therefore reducing the number of travel modes to complete journeys	Whilst coaches are more likely to make fewer stops, there may be opportunity to provide stops in suburban areas of larger settlements, including both residential and non-residential areas including large business parks, as a means of improving direct public transport links and reducing the need to interchange or use another form of transport to access a station or stop which is located too far away to walk to/from. Coach also offers the flexibility of varying the stopping pattern and route to cater for different users, e.g. more stops in the AM/PM peaks for commuters.
(e) Provide direct connectivity to major destinations and gateways including Bristol Airport	There is opportunity to enhance connectivity to Bristol Airport and other major destinations outside of Bristol City Centre from areas north of Bristol. Currently journeys from this area to these key destinations may require travelling on two or more forms of public transport and may make travelling by car the default choice.

# 7. Coach Service Route Optioneering

- 7.1 A process of optioneering has been undertaken which considers the characteristics of the study corridor including existing public transport provision; road connectivity; and reflecting on the findings from the review of coach service case study routes and the key principles which have emerged from that review. Optioneering has been undertaken across two main stages:
  - (a) An initial concept stage where general configuration of services, including broad stopping patterns, has been considered to determine the main type of service which could operate within the corridor; and
  - (b) A more detailed optioneering assessment using estimated journey times as the main comparator between different service stopping configurations.

#### Initial concept stage

7.2 Six broad coach service concepts have been developed. Whilst not intended to accurately depict the sequence of settlements along the study corridor, some important parallels can be drawn such as the 'Large Origin Town' representing Stroud, Gloucester and/or Cheltenham, and 'Major Destination City' being Bristol.



Figure 18 - Concept 1 – Express service concept with limited stops

- 7.3 Concept 1 represents an express service with limited deviation away from the fastest, shortest route and serving few places. This concept would minimise journey time but would not be as accessible, increasing passengers' reliance upon using a feeder mode or travelling further on foot to access the nearest stop which is served by the coach service.
- 7.4 This concept would be similar to existing longer-distance coach services operating through the corridor, but potentially with some additional rural stops (noting that neither Megabus and National Express services stop in the rural areas between Gloucester, Cheltenham, Stroud and Bristol.
- 7.5 Being a limited stop, faster service, this concept route could be more attractive to commuters and people travelling for business who tend to be more time sensitive.

# Concept 2



Figure 19 - Concept 2 – Express/Semi-Fast service with more frequent stops in larger settlements and limited stops in between

- 7.6 Concept 2 is broadly modelled on commuter coach services described in Chapter 6 of the report, with a collector stage in a large origin town (e.g. Cheltenham or Stroud) which may comprise several stops including the town centre but crucially also some suburban stops providing a 'door-to-door' type service.
- 7.7 Several route stops could feature between the origin town and the large destination city (Bristol) but the emphasis on this intermediate section would be on running a quick service so accessibility to the service in the rural area would be fairly limited, perhaps through the provision of a stop close to a motorway junction or at a rural mobility hub which could serve the wider rural community through the provision of local bus and DRT services, and cycle routes.



Figure 20 - Concept 3 – Semi-Fast service with more frequent stops in larger settlements and in rural areas

7.8 Concept 3 could be a hybrid of either Concepts 1 or 2, the main difference being that more rural places are served in between. This might dictate that a slower and more circuitous route would be taken with fewer opportunities to use faster roads, however the coach would plug connectivity gaps by providing direct connections between places which are currently poorly served by public transport.



Figure 21 - Concept 4 – Express/Semi-Fast mixed service with more frequent stops in several larger settlements and limited stops in between

- 7.9 Concept 4 is a hybrid of Concept 2 and is not a model adopted by case study services assessed as part of this study. It recognises that somewhere like Cheltenham or Gloucester may represent a more logical northern terminus as they would provide a more substantial source of patronage, and that there would be a collector route serving several stops in the large origin town as a 'door-to-door' service.
- 7.10 However, a second large origin town would also be served, which could be Stroud. This would disadvantage passengers that would have boarded prior to the second origin town, as it would increase the coach journey time, but it would provide opportunity to pick up additional passengers.
- 7.11 The service would then run faster, connecting some smaller rural communities before entering Bristol, potentially stopping at a few locations as it heads towards the city centre.



Figure 22 - Concept 5 – Express/Semi-Fast mixed service with suburban terminus in large settlement

- 7.12 Concept 5 is similar to Concept 2, but instead of routeing all the way into Bristol City Centre and potentially onwards towards the airport, it would terminate at a location in northern Bristol which has good local connections into the city centre as well as other suburban locations including for example Cribbs Causeway and UWE Frenchay Campus. This concept draws from the easyBus example which had terminated in north London.
- 7.13 This concept would reduce the attractiveness for passengers wanting to travel centre-to-centre but would be attractive to people who would be prepared to interchange between modes and reach areas outside of the city centre without the need to travel in and back out again. Local bus connections around Bristol are high quality, offering radial and orbital routes which would avoid travelling via the city centre.
- 7.14 From an operational perspective, this concept would reduce the cost of running a service as it will reduce mileage and may reduce the number of vehicles required.

# Concept 6



# Figure 23 - Concept 6 – Modified long distance coach service route and stopping pattern

- 7.15 Concept 6 is more distinct as it would represent a modification of an existing longer distance coach route such as those operated by National Express and Megabus, which broadly follows the M5 corridor down from the West Midlands towards Devon and Cornwall. In most cases, these services currently stop at very few places Cheltenham Arle Court and then Bristol City Centre.
- 7.16 It is interesting to note that only coach services running east-west between Hereford and London route through the centres of Cheltenham and Gloucester. Similarly, services heading towards London from Bristol make a stop at the UWE Frenchay Campus but not the services running down from the West Midlands.
- 7.17 To maintain an efficient, fast service, the coach would not deviate significantly from the main road route. Stops would need to be found close to key M5 junctions which means they may not be in the centre or even on the edge of some urban areas. Consideration would therefore need to be given to how such remote stops would be accessed, for example if they are served by local buses, have footway and cycle route connections to nearby urban areas, or if car parking is provided so that the stops function like a Park and Ride facility.
- 7.18 With an improved transport interchange at Bristol Airport, there may be sufficient capacity to accommodate additional long distance coach services.
- 7.19 summarises the key pros and cons of the coach service concepts in addition to a simple Red Amber Green (RAG) assessment against the key requirements for a new coach service which are described in Chapter 6, whereby the following apply:
  - Green the coach service concept could fully or substantially achieve the requirement
  - Amber the coach service concept could partially achieve the requirement
  - Red- the coach service is unlikely to achieve the requirement

# Table 4 – Summary of pros and cons for each coach service concept

Concept 1 - Express service concept with limi deviation away from the fastest, shortest route ar	<b>ted stops:</b> An express service with limited ad serving few places.
Pros	Cons
<ul> <li>Faster service offering more competitive journey times compared with rail and car.</li> <li>Likely to be less costly to operate as the route would use main/fast roads for the shortest and most efficient journey time therefore requiring fewer vehicles.</li> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> </ul>	<ul> <li>Limited stops in towns and rural areas would mean people would have further to travel to access the service.</li> <li>Longer access times may make the service less attractive as it will create a similar situation to people needing to access a railway station.</li> </ul>
Coach Service Key Requirements	RAG rating
(a) attractive alternative to the private car	(Green) Could fully or substantially achieve the requirement
(b) rural connectivity & access to visitor attractions	(Amber) Could partially achieve the requirement
(c) facilitate interchange between coach and other modes	(Amber) Could partially achieve the requirement
(d) inter-urban connectivity within suburbs	(Red) Unlikely to achieve the requirement
(e) connectivity to major destinations and gateways	(Green) Could fully or substantially achieve the requirement
Stroud) which may comprise several stops includ suburban stops providing a 'door-to-door' type se Pros	ing the town centre but crucially also some rvice Cons
A collector convice nottorn will enhance	• Additional stans in suburbs sould make the
<ul> <li>A conjector service pattern will enhance accessibility for more people, with reduced distances to designated stops.</li> <li>Opportunity to create limited rural stops as mobility hubs actabased accession.</li> </ul>	<ul> <li>Additional stops in suburbs could make the service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads</li> <li>(although chosen route would likely be conved.)</li> </ul>
mobility hubs catorinent area.	<ul> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues</li> </ul>
Coach Service Key Requirements	RAG rating
(a) attractive alternative to the private car	(Green) Could fully or substantially achieve the requirement
(b) rural connectivity & access to visitor attractions	(Amber) Could partially achieve the requirement
(c) facilitate interchange between coach and other modes	(Green) Could fully or substantially achieve the requirement
(d) inter-urban connectivity within suburbs	(Green) Could fully or substantially achieve the requirement
(e) connectivity to major destinations and gateways	(Green) Could fully or substantially achieve the requirement
Continued overleaf	

**Concept 3 – Semi-Fast service with more frequent stops in larger settlements and in rural areas:** a hybrid of either Concepts 1 or 2, the main difference being that more rural places are served in between. This might dictate that a slower and more circuitous route would be taken with fewer opportunities to use faster roads

Pros	Cons
<ul> <li>A semi fast service would greatly enhance connectivity in places which are currently poorly connected by public transport.</li> </ul>	<ul> <li>By serving more places, the coach service journey time will be less competitive against other modes.</li> </ul>
	• Furthermore, to serve more frequent stops, the coach would not be able to make use of faster routes such as the M5.
Coach Service Key Requirements	RAG rating
(a) attractive alternative to the private car	(Amber) Could partially achieve the requirement
(b) rural connectivity & access to visitor attractions	(Green) Could fully or substantially achieve the requirement
(c) facilitate interchange between coach and other modes	(Green) Could fully or substantially achieve the requirement
(d) inter-urban connectivity within suburbs	(Green) Could fully or substantially achieve the requirement
(e) connectivity to major destinations and gateways	(Green) Could fully or substantially achieve the requirement
Concept 4 - Express/Semi-Fast mixed service settlements and limited stops in between: a h Cheltenham or Gloucester as the northern termin town also be served e.g. Stroud.	with more frequent stops in several larger ybrid of Concept 2 with a large origin town like us with collector stops, as a second large origin
Pros	Cons
<ul> <li>A collector service pattern across two urban areas will enhance accessibility for more people, with reduced distances to designated stops.</li> </ul>	<ul> <li>Two sets of collector stops in origin towns will increase the journey time and make the service less attractive to people travelling from more northerly origins.</li> <li>Additional stops in suburbs could make the</li> </ul>
<ul> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> </ul>	<ul> <li>service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads (although chosen route would likely be served by local buses as well).</li> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues.</li> </ul>
<ul> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> <li>Coach Service Key Requirements</li> </ul>	<ul> <li>service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads (although chosen route would likely be served by local buses as well).</li> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues.</li> <li>RAG rating</li> </ul>
<ul> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> <li>Coach Service Key Requirements         <ul> <li>(a) attractive alternative to the private car</li> </ul> </li> </ul>	<ul> <li>service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads (although chosen route would likely be served by local buses as well).</li> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues.</li> <li>RAG rating (Green) Could fully or substantially achieve the requirement</li> </ul>
<ul> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> <li>Coach Service Key Requirements         <ul> <li>(a) attractive alternative to the private car</li> <li>(b) rural connectivity &amp; access to visitor attractions</li> </ul> </li> </ul>	<ul> <li>service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads (although chosen route would likely be served by local buses as well).</li> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues.</li> <li>RAG rating (Green) Could fully or substantially achieve the requirement (Amber) Could partially achieve the requirement</li></ul>
<ul> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> <li>Coach Service Key Requirements         <ul> <li>(a) attractive alternative to the private car</li> <li>(b) rural connectivity &amp; access to visitor attractions                  <ul></ul></li></ul></li></ul>	<ul> <li>service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads (although chosen route would likely be served by local buses as well).</li> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues.</li> <li><b>RAG rating</b></li> <li>(Green) Could fully or substantially achieve the requirement</li> <li>(Amber) Could partially achieve the requirement</li> </ul>
<ul> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> <li>Coach Service Key Requirements <ul> <li>(a) attractive alternative to the private car</li> <li>(b) rural connectivity &amp; access to visitor attractions</li> <li>(c) facilitate interchange between coach and other modes</li> <li>(d) inter-urban connectivity within suburbs</li> </ul> </li> </ul>	<ul> <li>service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads (although chosen route would likely be served by local buses as well).</li> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues.</li> <li><b>RAG rating</b> (Green) Could fully or substantially achieve the requirement (Amber) Could partially achieve the requirement (Green) Could fully or substantially achieve the requirement</li> </ul>
<ul> <li>Opportunity to create limited rural stops as mobility hubs catchment area.</li> <li>Coach Service Key Requirements <ul> <li>(a) attractive alternative to the private car</li> <li>(b) rural connectivity &amp; access to visitor attractions</li> <li>(c) facilitate interchange between coach and other modes</li> <li>(d) inter-urban connectivity within suburbs</li> <li>(e) connectivity to major destinations and gateways</li> </ul> </li> </ul>	<ul> <li>service more costly to operate.</li> <li>It may not be efficient to route large coach vehicles along some suburban roads (although chosen route would likely be served by local buses as well).</li> <li>By serving more urban areas, a coach service could be more impacted by local congestion issues.</li> <li><b>RAG rating</b> (Green) Could fully or substantially achieve the requirement (Amber) Could partially achieve the requirement (Green) Could fully or substantially achieve the requirement (Green) Could partially achieve the requirement (Green) Could fully or substantially achieve the requirement (Green) Could fully or substantially achieve the requirement</li></ul>

**Concept 5 - Express/Semi-Fast mixed service with suburban terminus in large settlement:** similar to Concept 2 but it would terminate at a location in northern Bristol which has good local connections into the city centre as well as other suburban locations e.g. UWE Frenchay Campus

Pros	Cons
<ul> <li>Terminating in northern Bristol would reduce the journey time and reduce operational costs e.g. fewer vehicle miles</li> <li>Opportunity to enhance modal integration with high quality local transport network across Bristol.</li> </ul>	<ul> <li>Unclear on where the most suitable terminus in northern Bristol would be but there is unlikely to be one location that would suit everyone's needs.</li> <li>Cribbs Causeway shopping centre, proposed Brabazon development, Park and Ride, UWE Frenchay Campus could all be considered.</li> </ul>
Coach Service Key Requirements	RAG rating
(a) attractive alternative to the private car	(Green) Could fully or substantially achieve the requirement
(b) rural connectivity & access to visitor attractions	(Amber) Could partially achieve the requirement
(c) facilitate interchange between coach and other modes	(Green) Could fully or substantially achieve the requirement
(d) inter-urban connectivity within suburbs	(Red) Unlikely to achieve the requirement
(e) connectivity to major destinations and gateways	(Amber) Could partially achieve the requirement
modification of an existing longer distance coach ser Express and Megabus, which broadly follows the towards Devon and Cornwall	route such as those operated by National M5 corridor down from the West Midlands
<ul> <li>Pros</li> <li>Theoretically the easiest to introduce as it would represent a modification to existing services, assuming national operators would be willing to forgo journey time efficiency by making additional stops in places where passenger demand is less certain.</li> </ul>	<ul> <li>Cons</li> <li>It is unlikely that an operator would increase the frequency of an existing service or that additional stops would be served at all times of the day. This could put off some passengers who would be attracted by journey speed and a frequent and reliable service.</li> <li>Only a small handful of additional stops could be provided on an existing route. Some might be more remote, e.g. near M5 junctions.</li> <li>Bristol Airport would represent more of a detour for longer distance coaches travelling between the south west and Midlands regions. It may not be viable to serve the airport.</li> </ul>
Coach Service Key Requirements	RAG rating
(a) attractive alternative to the private car	(Amber) Could partially achieve the requirement
(b) rural connectivity & access to visitor attractions	(Amber) Could partially achieve the requirement
(c) facilitate interchange between coach and other modes	(Red) Unlikely to achieve the requirement
(d) inter-urban connectivity within suburbs	(Red) Unlikely to achieve the requirement
(e) connectivity to major destinations and gateways	(Green) Could fully or substantially achieve the requirement

- 7.20 The series of concepts demonstrate the wide variety of service configurations which could be considered for a new coach service within the study corridor. Whilst some parallels can be drawn with existing case study routes, the characteristics of the study corridor will have an influence on what type of service is feasible.
- 7.21 Concepts 2, 3 and 4 appear to align more closely with the key requirements for a new coach service. This would indicate that a service which can link some suburban areas and rural communities would be important, as well as connecting to major urban centres, areas of employment and international gateways.

#### More detailed optioneering

- 7.22 A key factor in providing an attractive service is that a coach can offer an attractive journey time when compared to either rail or car. This has been the key comparator between options in this second stage of optioneering.
- 7.23 To support the optioneering process, the study corridor has been split into three main segments. These segments broadly reflect the main movements and markets that were identified in the Coach Strategy. A core segment exists in the middle of the corridor extending between Stroud and Bristol, with trips between these two settlements having been highlighted in the Coach Strategy as showing strong potential for a new coach service.
- 7.24 A northern segment covers the larger settlements of Cheltenham and Gloucester, which from a service viability and operational perspective may represent more plausible anchors for a new coach service. The smaller settlement of Tewkesbury is also included in this segment.
- 7.25 A southern segment covers Bristol to Bristol Airport which is already well-served by bus and coach services but is not well connected to areas north of Bristol and is not served directly by rail.



Figure 24 – Coach Service Corridor Segments

7.26 The settlements contained in each segment are presented in the following table.

Route segment	Main stops used for optioneering (not all forming the same routes)
Northern segment	Tewkesbury (town centre or M5 Ashchurch Interchange), Cheltenham town centre, Arle Court (Park and Ride interchange), Gloucester city centre, Brockworth (Hucclote near M5 or Painswick Road), Stroud town centre (and potentially suburban stops)
Core segment	Stroud town centre (and potentially suburban stops), Stonehouse, Whitminster or Eastcote (M5 Junction 13), Cambridge (and Slimbridge), Newport, Stone, Falfield, Thornbury, Almondsbury, Alveston, Nailsworth, Lower Cam, Wotton-under-Edge, Yate, UWE Frenchay Campus, Bristol Parkway, Cribbs Causeway, Bristol City Centre
Southern segment	Bristol City Centre, Long Ashton / Ashton Gate, Bristol Airport

# Table 5 – Corridor segments for coach service optioneering

- 7.27 A process of identifying smaller settlements and potential stops has been undertaken within each segment. This has gone into a more detail than what had been assessed in the Coach Strategy.
- 7.28 The primary metric of assessing and comparing options at this stage has been estimated journey times. Journey times have been derived using online journey planning tools with a default dwell time of around 2 minutes applied at each stop to broadly reflect the time it may take for a coach to stop and (in some cases) for the driver to disembark to assist passengers boarding and load luggage into the hold.
- 7.29 It is recognised that online journey time estimation tools are typically simulated based on a car journey time and therefore may underestimate the journey time for a larger coach vehicle which cannot accelerate as fast as a car and may have a lower cruising speed on free-flowing roads, particularly narrower roads. In this respect, the estimated journey times may be considered optimistic, however the dwell time at some stops is unlikely to be as high as two minutes at all stops.
- 7.30 Journey times have been derived for each leg of a journey based on a weekday AM peak journey, therefore shorter journey times could be achieved outside of the peak periods.
- 7.31 A series of stopping-pattern options have been defined in each segment of the corridor. The precise locations of all stops have not been fully determined at this stage although in all cases it is assumed coaches would use existing bus service stops.
- 7.32 To reduce the complexity of the optioneering process and the possible number of option permutations, not all potential stops particularly those in the rural areas, have been defined, however the options defined should provide a sufficient indication of general routeing, the places that could be served, and estimated journey time.

# **Northern Segment Options**

- 7.33 Within the northern segment, six core route configurations have been identified, with the northernmost beginning/end point for the service being either Tewkesbury, Cheltenham Town Centre or Gloucester City Centre.
- 7.34 All routes are assumed to route towards Stroud Town Centre. Three service route options call at Cheltenham Arle Court Park and Ride and three in Brockworth

(assumed to use existing bus stops on the A38 Painswick Road) which would represent a suburban stop thus providing more of a 'door-to-door' type service.

7.35 The comparison between options is summarised in Table 5 below. The black circles represent stops which are listed on the left-hand side. The journey time from the preceding stop is shown next to each circled stop. The total number of stops and estimated journey time is shown at the bottom of each route along with approximate route distance. At the bottom of the table is a percentage comparison between the estimated journey and timetabled rail journey times for a sample of journeys.

	N1		N2		N3		N4		N5		N6			
Northern Segment	Stops	JT (Mins)												
Tewkesbury Town Centre		0		0				0						
Cheltenham Town Centre (Coach Station)				24		0		24		0				
Arle Court Park & Ride, Cheltenham		18	Ó	14	Ó	14	Π							
Gloucester City Centre	Π		Ò	15	Π							0		
Brockworth (A38 Painswick Road, Garage)		11	Т			11					Ó	16		
Stroud Town Centre (A46 Merrywalks)	Ó	19		25	Ó	19		32		32		19		
No. of Stops   Journey Time (Minutes)	4	47	5	76	4	43	3	55	2	32	3	34		
Distance (miles)	24.6		24.6		27.2		16.9		2	2.5	13	8.8	14	1.2
Rail journey time - Ashchurch for Tewkesbury- Stroud: 49 minutes (Station-to-Station)		-5%		55%				12%						
88 minutes (Town Centre-to-Town Centre)		-47%		-14%				-38%						
Rail journey time - Cheltenham-Stroud: 38 minutes (Station-to-Station)						12%				-17%				
69 minutes (Town Centre-to-Town Centre)						-38%				-54%				
Rail journey time - Gloucester-Stroud: 16 minutes (Station-to-Station)												113%		
25 minutes (City Centre-to-Town Centre)												36%		

# Table 6 – Northern Segment Option Comparison

- 7.36 The journey distance ranges from 14.2 miles to 27.2 miles depending on the route taken. Estimated journey times range from 32 minutes (Cheltenham-Stroud non-stop) to 76 minutes (Tewkesbury to Stroud calling at Cheltenham Town Centre, Arle Court and Gloucester City Centre).
- 7.37 For the options commencing in Cheltenham or Gloucester there would be opportunity for the service to also call at a series of collector stops within the suburbs of the town, thus providing more of a door-to-door service. In Cheltenham a service could call at areas to the east and south of the town which are further from the town centre like Prestbury and Charlton Park (noting that National Express services heading towards Swindon already make occasionally stops in Charlton Kings in the south of the town).
- 7.38 In Gloucester a service could call at areas such as Longford, Innsworth and Longlevens on the way towards the city centre or Linden, and Quedgeley on the way out of the city centre.
- 7.39 This could potentially add an additional 10-25 minutes of journey time depending on the route and number of stops.
- 7.40 The non-stop Cheltenham-Stroud option offers a 6-minute estimated journey time saving for the equivalent station-to-station journey time, and a Tewkesbury-Stroud via Arle Court and Brockworth offers a 2-minute estimated journey time saving. However, most options generate much longer journey times compared to the

equivalent station-to-station journey times, highlighting that this segment is quite well served by fairly frequent and reasonably fast rail services.

#### **Core Segment Options**

- 7.41 Within the core segment, twenty-four route configurations have been identified, all commencing in Stroud Town Centre and terminating in Bristol City Centre.
- 7.42 The large number of options has come about due to the longer length of this segment, and the potential alternative north-south road corridors available including the A38, A46 and M5.
- 7.43 Up to eleven intermediate stopping locations have been assumed, although the number of intermediate stops served ranges from none to eight (it would be unlikely that a service could route via all eleven intermediate locations as some are on parallel, alternative routes to each other).
- 7.44 Five broad routeing corridors have been identified which are described in the table below along with the corresponding segment options.

Segment Corridor	Main roads on corridor	Segment options
Corridor A	M5-M4-M32	C1, C2, C3, C4, C6, C9
Corridor B	A38-M5-M4-M32 (or other main routes into Bristol)	C5, C7, C8
Corridor C	M5-A38	C10, C11, C12, C13, C14, C18, C20
Corridor D	A46-A432-various local routes into Bristol	C15, C17, C19, C21, C22, C24
Corridor E	A38 with detour via Lower Cam and adjoining villages	C16, C23

#### Table 7 – Core Segment routeing corridors

7.45 The broad alignments of the segment corridors are shown in Figure 25.





**Note:** there are different permutations on some local sections of routes along each corridor which are not all shown on the map above

- 7.46 End-to-end journey distances range from 31.8 miles to 43.6 miles. Estimated journey times range from 55 minutes (non-stop service from Stoud town centre to Bristol city centre) to 134 minutes (calling at eight intermediate stops).
- 7.47 The full comparison is presented in Table 8 overleaf.

# Table 8 - Core Segment Option Comparison

Corridors-within-Segment:	C1	C2	2	C3	C	4	C5	C	6	C7	C	8	C9	Q	C10	C11	C	C12	C13		C14	C1	5	C16	C1	17	C18	C1	9	C20		C21	C2	2	C23	C24	4
Core Leg	Stops (I	JT Mins) Sto	ps (Mins)	Stops (N	JT /lins) <sup>Sto</sup>	ops (Mins	s) Stops	JT (Mins) St	ops (Mins	s) Stops	JT (Mins) Sto	ops (Mins	) Stops	JT (Mins) S	tops (Mins)	) Stops	JT (Mins) Si	tops (Min	ns) Stops	JT (Mins)	Stops (Mi	JT lins) Sto	ps (Mins)	Stops (	JT Mins) Sto	ps (Mins)	Stops	JT (Mins) Stop	JT (Mins	s) Stops	JT (Mins)	itops (Mi	T ins) <sup>Stop</sup>	JT ps (Mins	Stops (	JT Mins) Stop	JT (Mins)
Stroud Town Centre (A46 Merrywalks)		0	0		0	0		0	0		0	0		0	0		0	0		0		0	0		0	0		0	0		0		D	0		0	0
Stonehouse (A419 Bristol Road)						10		10			10	10	Ó	10	10		10	10		10		10			10		Ó	10			10						
Nailsworth																							18			18	Π		18			1	8	18			18
Yate / Chipping Sodbury																										37											
Dursley / Cam / Lower Cam																									21											42	
Wotton-under-Edge / Kingswood / Charfield																							22	T					22			2	2	22			22
Stone								28			28	28													14						28					16	
Falfield								5			5	5								21	2	21	24		5			21	24		5	2	4	22		5	22
Thornbury Town Centre (Rock Street)			36		36	31			36			11		31	31		31	31		11		11	11		11			11			11		1	11		11	11
Alverston																Ó	8	8		8		8						8			8	<b>)</b>	в	8		8	8
Almondsbury															15		9	9		9		9						9			9	9	9	9		9	9
Cribbs Causeway shopping centre									24		22			24	10			10	)			10					Ó	10						10		10	10
UWE Frenchay Campus					26	26							T		18		26	18		26		18				30	Π					2	6	18	Ó	18	
Bristol City Centre	0	55	43	Ŏ	19	19		47	32		32	43		32	19	Ó	19	19	, Ŏ	19		19	43		43	19		32	47		57	1	9	19	Ŏ	19	32
No. of Stops   Journey Time (Minutes)	5	55	5 78	5 8	80	5 84	5	88	5 91	6	95	6 95	5	96	7 100	8	100	8 102	2 8	101	9 10	02 9	9 116	9	101	5 102	8	98 5	5 109	8	125	9 13	33 1	0 133	10	134 9	129
Distance (miles)	32		35	37		38	34	4	42	42	2	36	42		42	3	7	40	3	37	40		37	41		37	42		35	3	6	39		43	43		44
Rail journey time - Stroud-Bristol TM: 99 minutes (Station-to-Station)	-	45%	-21%	-2	20%	-15%	6	-11%	-8%		-4%	-5%		-4%	1%		1%	3%	6	2%	3	%	17%		2%	3%		-1%	10%		26%	34	!%	34%	:	35%	30%
114 minutes (Town Centre-to-City Centre)	-	52%	-32%	-3	0%	-26%	6	-23%	-20%	6	-17%	-17%	5	-16%	-12%		-12%	-119	%	-12%	-11	1%	1%		11%	-11%		-14%	-4%		9%	17	%	16%		17%	13%
Rail journey time - Stonehouse-Bristol TM: 95 minutes (Station-to-Station)						-12%	6	-7%			0%	-1%		1%	5%		5%	7%	6	6%	7	%			6%			3%			31%						
109 minutes (Town Centre-to-City Centre)						-23%	6	-19%			-13%	-13%	6	-12%	-8%		-8%	-7%	%	-8%	-6	5%			-7%			-10%			14%						

- 7.48 Estimated journey times on routes using Corridors A and B are more favourable compared to the equivalent station-to-station and urban centre-to-urban centre journey times by rail from either Stroud or Stonehouse to Bristol Temple Meads. A more direct service with very limited stops could offer a journey time which is 20% to 52% less than the equivalent rail journey time.
- 7.49 The analysis indicates that a coach would need to utilise a section of faster road, e.g. M5 and/or M32, within this segment to reduce journey times.
- 7.50 The potential journey time savings are reduced if a coach instead uses the A38 via the villages of Stone and Falfield, however it is still quicker than rail even when making a stop in the Bristol Northern Fringe such as Cribbs Causeway or UWE Frenchay Campus.
- 7.51 Making additional stops through the north of Bristol reduces the journey time savings further and, in some cases, would make a coach slower than the train from Stroud and in some cases also Stonehouse. This is relevant to services using Corridor C which could take a more circuitous route through the Bristol Northern Fringe.
- 7.52 This would indicate that it may only be possible for the coach to make one or possibly two intermediate stops within this area at locations which are well connected by local forms of transport.
- 7.53 Services which use Corridor D (via the A46) and Corridor E (via Dursley and Wotton-under-Edge) would be slower than the train by as much as 34%, especially where multiple stops are being made.
- 7.54 If Corridors A and B are more favourable in journey time terms, and that using a section of the M5 would appear to be essential to reducing journey time, this could reduce the number of rural settlements that a coach could serve along the A38. However, it may be possible to serve more rural settlements along the A38 as well as Thornbury. To minimise the impact to the overall journey time, the coach would need to make fewer stops heading into Bristol.
- 7.55 As discussed earlier in the report, Thornbury falls within the catchment area of Bristol's extensive metro bus network. If a coach service were to route via Thornbury, it would essentially be competing with higher frequency bus services operating between Thornbury, the Bristol Northern Fringe and city centre. To avoid service duplication, consideration would need to be given to either designating Thornbury as a stop where passengers can only alight when heading southwards, or board when heading northwards, or avoiding Thornbury altogether.
- 7.56 Option C7 on Corridor B represents a route which would use the A38 from its junction with the A419 near Stonehouse as far as Falfield, where it would join the M5 at Junction 14. It could then either route towards Cribbs Causeway using the M5 making this its main interchange point in the Northern Fringe, or route via the M4 and M32 and Filton Road to the UWE Frenchay Campus. This option offers a lower journey time to Bristol compared with rail from Stroud and Stonehouse (although only marginally from the latter based on a station-to-station journey times) whilst being able to serve more remote rural communities which currently do not have a direct link with Bristol.

# **Southern Segment Options**

7.57 The southern segment is simpler, with only two routeing options defined. The reason for this is that there is already good bus/coach connectivity between Bristol City Centre and Bristol Airport and fewer viable road corridors that a service is most likely to use to travel between them.

7.58 It has been assumed that the service would either travel directly between the city centre and airport, or make one intermediate stop in the southern part of Bristol, which for the purposes of this optioneering assessment was assumed to be around Ashton Gate. This was based on the most plausible sets of roads a coach would travel on between the city centre and the A38 leading out of Bristol to reach the airport. Estimated journey times are shown in the following table.

	S1		S2	
Southern Leg	Stops	JT (Mins)	Stops	JT (Mins)
Bristol City Centre		0		0
South Bristol - Ashton Gate				22
Bristol Airport		45		26
No. of Stops   Journey Time (Minutes)	5	45	5	50
Distance (miles)		37	2	12

# Table 9 – Southern Segment Option Comparison

- 7.59 The journey time is estimated to be around three quarters of an hour. However, shorter journey times could be achieved outside of the busiest peak periods.
- 7.60 This segment is well served by bus and coach currently. There is no comparison with rail as this mode does not connect with the airport.

# Full length of corridor assessment

- 7.61 The above assessment has considered the merits of options on each of the three segments independently. From the perspective of facilitating end-to-end connectivity along the length of the corridor, shorter journey times are likely to be even more pivotal, however this is not to suggest that the shortest journey time option (and therefore most likely an option with fewer stops) would need to be chosen across all three segments.
- 7.62 As had been noted with the coach service case studies discussed in Chapter 5 and reflected in the concepts described earlier in this chapter, a coach service could make a series of stops as a collector route in one segment and then make a faster journey with fewer stops in another segment.
- 7.63 Recognising that parts of northern segment are quite well served by inter-urban public transport, namely coach and rail services to Bristol from the three key settlements of Tewkesbury, Cheltenham and Gloucester, and that parts of the core segment are by comparison poorly served by inter-urban public transport, this could indicate that if the northern segment is served by a new coach service, it could make fewer stops here and make more stops in the core segment.
- 7.64 A combination of options N1, C7 and S1 across all three segments would generate an overall estimated journey time of around 3 hours and seven minutes.
- 7.65 By comparison today it would take an estimated 1 hour 56 minutes to 2 hours and 31 minutes to make a journey entirely by public transport between Ashchurch for Tewkesbury railway station and Bristol Airport, with the journey time dependent upon the desired arrival time, interchange time between modes and the number of modes used (journey planning using Google suggests as many as four public transport services being required to complete a journey).

- 7.66 The current journey time from Tewkesbury is significantly influenced by the fast journey time by rail.
- 7.67 The combination of C7 and S1 across the core and southern segments only would generate an overall estimated journey time of 2 hours and twenty minutes from end to end. By comparison today it would take an estimated 2 hours 26 minutes and 3 hours. This indicates that a coach service could be competitive on journey time compared to rail, and the advantage may be greater when factoring in journey times to access railway stations which are not all located in the centres of urban areas, Tewkesbury and Cheltenham being two notable examples.
- 7.68 The connectivity advantage of coach is enhanced even further when looking at the journey from one of the suburban or rural communities which could be served by a coach. For example, from Brockworth (Gloucester) in option N1 within the northern segment to Bristol Airport could take an estimated 1 hour and 58 minutes by a coach service (N1+C1+S1) compared with 2 hours and 15 minutes currently via three public transport services; and from Falfield the journey to Bristol Airport could take an estimated 1 hour and 32 minutes (C5+S1) compared to 2 hours and 30 minutes currently using four public transport services.
- 7.69 This demonstrates that whilst end-to-end journey times may be similar or slower than rail and car, within the segments there are opportunities to significantly enhance connectivity by providing new route options and significantly reduced journey times.

#### Summary

- 7.70 The optioneering process, looking both at broad routeing and stopping pattern concepts and more detailed comparisons of options based on estimated journey times, demonstrates the complexities of identifying an optimal coach service configuration. The comparison with rail journey times has highlighted that it is already feasible to travel by public transport along sections of the corridor within a reasonable amount of time and that it may be difficult for a coach to compete with such journey times.
- 7.71 However, coach could provide a step change in connectivity by serving suburban and rural locations which are currently not as well connected by public transport, in addition to some urban centres where more of the patronage is likely to be generated from and to.
- 7.72 The exact routeing of a coach service will have an influence on journey time. The assessment indicates that it will be important for a coach to take advantage of faster-moving roads however this may be at the expense of some rural communities. If a coach were to serve all rural communities, this will make the service much slower and less attractive to customers.
- 7.73 The routeing and stopping pattern of a coach service will also depend on passenger demand, which is considered in the next chapter of the report.

# 8. Travel Demand Assessment

- 8.1 The Western Gateway STB Coach Strategy had used National Highways' South West Regional Traffic Model to assess highway (car) travel demand across the region. This provided a very broad indication of travel movements occurring between key settlements and where the larger volumes of movements were estimated to occur.
- 8.2 The data suggested that Strategic Gap 2 included high volumes of trips between settlements, no doubt attracted along key routes such as the M5 and Birmingham-Bristol railway. Stroud-Bristol stood out as an origin-destination pairing where there appeared to be a higher volume of trips but where direct connectivity by public transport is poorer.
- 8.3 More detailed travel demand data has been sought to inform this feasibility study, enabling a more granular analysis of trips occurring between small and large settlements within the corridor including from more rural communities which had not been considered as part of the Coach Strategy's analysis.
- 8.4 Access has been provided via the STB to BT's Active Intelligence Rail Portal Data which uses mobile network data to build a detailed picture of how people move across the transport network both by road and also by public transport.
- 8.5 This chapter details the methodology used for using this data source alongside other data, as well as recognising some of the limitations. It then goes on to highlight how this data shows the level of potential demand for a new coach service in the corridor.
- 8.6 The broad steps followed in deriving coach service passenger demand estimates are summarised in Figure 26 below and described in more detail in subsequent sections of this chapter.



# Figure 26 – Methodological steps followed to estimate coach passenger demand

8.7 The BT Active Intelligence Rail Portal was used to establish what the current level of travel demand is in the corridor. Whilst broadly reflecting on the routeing and stopping pattern optioneering findings discussed in the previous chapter, the approach has been guided by passenger demand in exploring and determining

optimal coach service routes. Consideration has also been given to existing bus service provision with a view to plotting a route which does not duplicate existing services to a significant extent.

# Step 1: Corridor Definition: Identify 'in-scope' MSOAs covering settlements that would be served by proposed coach service

- 8.8 The first step was to identify the Medium Super Output Areas (MSOAs<sup>53</sup>) that fall within the corridor area, with a selection of MSOAs chosen because they contain settlements that are more likely to be served by a coach service which has been informed by the routeing options considered in the previous chapter.
- 8.9 Therefore, not all MSOAs within the corridor have been used as the basis of the data analysis.
- 8.10 The three most significant destination areas have been identified to help sort the data, with Bristol City centre, the Northern Fringe area of Bristol and Bristol Airport set as the main destinations of interest.
- 8.11 These three areas are considered to generate the most demand, e.g. a commuting trip towards them in the morning peak and away from them in the evening peak, and greater potential for other types of trips occurring, including students, leisure and international travel.
- 8.12 Three time periods were identified from the data set as being of relevance, these being the Weekday AM peak period, the Weekday off peak period and a weekend period.
- 8.13 The data was limited in the granularity that could be extracted to rail time periods, which equate to 4 weeks. This data was then collated together to give annual averages for the year ending on the 1<sup>st</sup> April 2024, which is the most recent year of data available.
- 8.14 A total of 65 MSOAs were captured as part of the demand assessment. These are shown in the following maps.

<sup>&</sup>lt;sup>53</sup> MSOAs, defined by the Office of National Statistics, comprise between 2,000 and 6,000 households and have a usually resident population between 5,000 and 15,000 persons.


Figure 27 – Map showing the MSOAs chosen for assessment - full length of corridor Source: using base mapping supplied by © OpenStreetMap (and) contributors, CC-BY-SA



Figure 28 – Map showing the MSOAs chosen for assessment in the northern segment Source: using base mapping supplied by © OpenStreetMap (and) contributors, CC-BY-SA



### Figure 29 – Map showing the MSOAs chosen for assessment in the core segment

Source: using base mapping supplied by © OpenStreetMap (and) contributors, CC-BY-SA



Figure 30 – Map showing the MSOAs chosen for assessment in the southern segment Source: using base mapping supplied by © OpenStreetMap (and) contributors, CC-BY-SA

- 8.15 Civil Aviation Authority (CAA) data showing the numbers and mode share of trips to Bristol Airport have been reviewed. Whilst the data has not been used to estimate travel demand for a new coach service, it has been used as a sense check to confirm that the road-based trip demand derived from the BT data source is broadly proportionate.
- 8.16 The CAA data indicates that the highest level of demand to the airport originates from Bristol followed by Wales (19% of total demand), Devon (10%), Somerset (9%) and North Somerset (6%). In the context of the Strategic Gap 2 corridors, Gloucestershire and South Gloucestershire areas combined generate 10% of demand to the airport which is notable. The existing mode share for bus/coach from Gloucestershire is 3.7% which is much lower than for example Devon with a 21.5% bus/coach mode share which is substantially further away from the airport.
- 8.17 Devon is served by several National Express as well as the regular Megabus Falcon route, so this demonstrates the significant influence that bus/coach services can have on mode share.
- 8.18 A snapshot of CAA data is presented in Appendix M.

### Step 2: Route Definition: confirm stopping pattern options and boarding / alighting assumptions

- 8.19 Three main types of coach service have been assessed which borrow features from the options considered in Chapter 7, but have been simplified in order to streamline the assessment of passenger demand:
  - **Collector Route**, that starts in the settlements around Stroud and Stonehouse and then takes a relatively fast route to Bristol. This would most closely resemble Concept 2 and Corridors A and B described in Chapter 7. It would be a shorter route by not covering the northern segment described earlier in the report. It would have an estimated journey time of around 1 hour 50 minutes.
  - **Corridor Route**, that starts at the northern part of the corridor in Cheltenham and covers more locations but with less deviance from main roads like the M5, so fewer stops in towns and villages in between. This would most closely resemble Concepts 1 or 5 and Corridors A and B described in Chapter 7 described in Chapter 5. It would have an estimated end-to-end journey time of around 2 hours.
  - **Rural Route**, which is a slower route that aims to cover as many locations as possible, with less emphasis on faster journey times. This would most closely resemble Concept 3 and Corridors B and E described in Chapter 5, starting in Cheltenham. It would have an estimated end-to-end journey time of around 2 hours and 15 minutes.
- 8.20 For assessment purposes, all routes are assumed to reach Bristol Airport.
- 8.21 Two stopping pattern iterations have been assessed for each coach service type the main variation being the route taken through the Bristol Northern Fringe. In practice there could be more potential iterations of route. However, for assessment purposes two options have been assessed, one via Patchway and Filton and one via Bradley Stoke. Both are assumed to route via the UWE Frenchay campus.

#### Table 10 – Main Stopping Locations Assumed for the Assessed 3 Coach Routes

Collector Route	Corridor Route	Rural Route
Minchinhampton	Cheltenham Town Centre	Cheltenham Town Centre
Nailsworth	Cheltenham Suburbs	Cheltenham Suburbs
Stroud	Brockworth	Brockworth

Stonehouse	Painswick	Painswick
Stonehouse - Great Oldbury	Stroud	Stroud
Stone	Stonehouse	Stonehouse
Thornbury & Falfield	Stonehouse - Great Oldbury	Stonehouse - Great Oldbury
Thornbury	Stone	Cam & Dursley
Alveston	Falfield	Wotton Under Edge
Almondsbury	Thornbury	Falfield
Patchway or Bradley Stock	Alveston	Thornbury
Filton or Stoke Gifford	Almondsbury	Alveston
Harry Stoke - UWE	Patchway or Bradley Stock	Almondsbury
Bristol CC	Filton or Stoke Gifford	Patchway or Bradley Stock
Bristol Airport	Harry Stoke - UWE	Filton or Stoke Gifford
	Bristol City Centre	Harry Stoke - UWE
	Bristol Airport	Bristol City Centre
		Bristol Airport

- 8.22 Main stopping locations were grouped and assumptions made regarding at which stop group the coach would permit both boarding and alighting and stop groups which permit either boarding or alighting only.
- 8.23 For example, services heading southbound into Bristol would permit boarding and alighting between stop groups as far as the Bristol Northern Fringe but would not permit boarding between the Bristol Northern Fringe and Bristol Airport as this leg of the journey is already well catered for by local bus services. The stopping patterns and stop groups are summarised in Appendix C. An illustrated example of where boarding and alighting is assumed to be permitted is shown in the figure below.

		Ston	Stop groups where	3
	Stopping Location	Group	alight	
	Minchinhampton	1	2&3&4	
Ĕ	Nailsworth	1	2&3&4	
ō	Stroud	1	2&3&4	Passengers can board in
q	Stonehouse	1	2&3&4	Stop Group 1 and alight in
Ĕ	Stonehouse - Great Oldbury	1	2&3&4	Stop Groups 2, 3 and 4
Š	Stone	2	3 & 4	
	Thornbury & Falfield	2	3 & 4	Passengers can Passengers
Ť	Thornbury	2	3&4	board in Stop Group
Â.	Alveston	2	3 & 4	2 and alight in Stop
-	Almondsbury	2	3 & 4	Groups 3 and 4
ы Н	Patchway	3	Destination Only	Passengers
ĕ	Filton	3	Destination Only	cannot board
o l	Harry Stoke - UWE	3	Destination Only	x in Stop Group
0	Bristol CC	4	Destination Only	3 and alight in
↓	Bristol Airport	4	Destination Only	Ston Group 4

Figure 31 – Example Boarding and Alighting Assumptions for Stop Groups

#### Step 3: Total travel demand: extract all travel demand from BT database for 'in-scope' MSOAs

- 8.24 Total Travel demand across <u>all modes</u> between the 65 'in-scope' MSOAs representing the stopping locations were extracted from the database for Weekday AM peak, Weekday Off-peak, Weekday PM peak and Weekend. The total travel demand from origin locations to the three main destination locations is summarised in Appendix D and E.
- 8.25 To Bristol City Centre, the largest proportion of total travel demand is, perhaps unsurprisingly, local trips occurring within the main Bristol urban area including the

Bristol Northern Fringe area. Trips originating outside of the main urban area account for only 6.25% of total annual road-based travel demand.

- 8.26 To the Bristol Northern Fringe, the proportion of trips originating outside of the main Bristol urban area is 9.6% of total annual total travel demand, with places like Yate, Thornbury and Alveston accounting for a large proportion of these trips.
- 8.27 To the MSOA that contains Bristol Airport, excluding internal trips, around 66% of demand is from the Bristol city area; around 17% from the Bristol northern fringe area; and around 17% from north of Bristol, in all cases from in-scope MSOAs only. Further travel demand is likely to occur from other places outside of the in-scope MSOAs used in this study.
- 8.28 As shown in Appendix F, the breakdown of demand by time period indicates higher volumes of trips occurring in the AM peak to Bristol City Centre, confirming the location as a key destination for commuting trips. Nevertheless, the data also indicates a pull in the opposite direction from locations such as Filton.
- 8.29 Total annual travel demand (all modes, excluding internalised trips) to the three main destination areas generated from the in-scope MSOAs is set out in Table 11, with the AM peak representing 07:00-09:59 (3 hours), the PM peak 16:00-18:59 (3 hours) and the Off-peak representing all other times during a weekday (18 hours).

	Period	Annual travel demand (all modes)	%
Bristol City	AM Peak	1,151,768	15%
Centre	Off-Peak	3,564,873	47%
	PM peak	1,309,267	17%
	Weekend	1,505,170	20%
Bristol Northern	AM Peak	2,370,484	15%
Fringe	Off-Peak	8,106,031	50%
	PM peak	2,593,027	16%
	Weekend	3,109,853	19%
Bristol Airport	AM Peak	97,939	9%
	Off-Peak	591,105	57%
	PM peak	136,375	13%
	Weekend	212,866	21%

### Table 11 – Total annual demand to the three main destination areas (all modes, excluding internalised trips within destination area

- 8.30 A key observation from the data is that there are high volumes of trips to the Bristol Northern Fringe which is likely to be influenced by the concentration of employment in this area and is proximity to the M5 and M4.
- 8.31 From places like Stone, Falfield, Stonehouse, Thornbury, Tewkesbury and Yate, the total travel demand to the Northern Fringe is at least twice that to Bristol City Centre. This is not true from all locations, with for example the travel demand from Cheltenham to Bristol City Centre and the Northern Fringe being quite similar.
- 8.32 The total travel demand to Bristol Airport is approximately 8% of demand to the Bristol City Centre area and 11% of demand to the Northern Fringe area. The percentage proportion of trips to Bristol Airport during the offpeak and weekend

periods is much higher than trips to the City Centre and Northern Fringe areas during these periods.

8.33 The top fifteen origin locations of trips to the three main destination areas are shown in Table 12.

	To Bristol City Ce	entre area	To Bristol Northern	Fringe area	To Bristol A	irport*					
	Origin	Annual Demand – all modes	Origin	Annual Demand – all modes	Origin	Annual Demand – all modes					
	♦Internal	35,714,591	▲ Internal	27,310,880	Internal	2,962,745					
	Total demand excl. internal trips	41,699,392	Total demand excl. internal trips	40,342,163	Total demand excl. internal trips	3,781,792					
1	▲ Almondsbury	896,492	♦Bristol CC	4,610,463	♦Bristol CC	505,921					
2	▲Harry Stoke - UWE	860,077	♦Southmead	3,421,862	▲ Almondsbury	56,137					
3	▲ Filton	715,760	∎Yate	965,570	♦Southmead	25,258					
4	▲ Bradley Stoke	555,076	■Alveston	825,855	▲ Bradley Stoke	21,369					
5	Patchway	531,213	♦Stoke Park	707,622	∎Yate	20,430					
6	Bristol Airport	486,578	■Thornbury	579,929	▲ Filton	17,783					
7	<b>▲</b> Hambrook	453,633	■Thornbury & Falfield	461,828	▲ Patchway	16,223					
8	∎Yate	406,739	■Rangeworthy	436,385	♦Stoke Park	13,792					
9	■Rangeworthy	144,780	Bristol Airport	155,434	▲Harry Stoke - UWE	13,146					
10	Alveston	137,846	∎Stone	150,476	▲ Hambrook	12,794					
11	▲ Stoke Gifford - BTM Station	119,155	■Cam & Dursley	130,210	∎Alveston	10,329					
12	■Thornbury	112,095	■Wotton Under Edge	127,803	∎Rangeworthy	9,746					
13	■Thornbury & Falfield	108,324	■Stonehouse - Great Oldbury	94,725	∎Stroud	7,727					
14	∎Wotton Under Edge	57,403	∎Stroud	59,406	Brookthorpe & Haresfield	7,174					
15	■Cam & Dursley	50,513	■Brookthorpe & Haresfield	57,906	∎Stone	6,885					
	<b>A</b>	In-scope MS	OAs located within the Br	istol Northern F	ringe area						
	-	In-scope MSOAs located north of Bristol									
	•	In-scope MS	In-scope MSOAs located within Bristol City Centre area								
	•	MOSA repres	senting Bristol Airport *								
	* The MSOA used to Winford, Felton and D	represent Brist )undry	ol Airport is large and incl	udes surroundir	ng villages including						

Table 12 – Top 15 Origin Locations of Trips to Key Destination Areas

- 8.34 Table 12 highlights the high proportion of total trips which are classed as internal (as defined by the zonal categorisation e.g. travelling within a single MSOA or between in-scope MSOAs categorised as Bristol City Centre)
- 8.35 Appendix G provides an overall matrix of percentages of trips (all modes) between origins and destinations. This provides a quick indication of the key movements between different parts of the corridor.
- 8.36 As would be expected, this indicates a higher percentage of total trips generated by locations that are closer. For example, higher proportions of trips occur between locations within the Northern Fringe, and between smaller villages and nearby settlements to Stroud.

Step 4: Road-based travel demand: sift out unapplicable modes, e.g. walk and rail (also review time of day and seasonality effects)

- 8.37 The total travel demand has then been disaggregated by mode, to consider the proportions classified as road-based, rail and walking. A summary by the 65 inscope MSOAs is presented in Appendix H. This shows that generally the roadbased mode accounts for between 85% and 94% of total travel demand. The proportions from within the Bristol urban area are generally lower than in locations further away.
- 8.38 Similarly, walking trips account for a slightly larger proportion of travel demand within the Bristol urban area. Rail demand represents a relatively small proportion of all trips, ranging from 0.01% (MSOA Tewkesbury 001) to 4.9% (from MSOA Bristol 034) and an average of 0.5%.
- 8.39 To consider potential seasonality effects, as shown in Appendix H, total road-based demand does not fluctuate significantly by rail period month. However, to Bristol Airport the proportion of road-based travel demand is marginally lower in the December-January period and marginally more pronounced in the August-September period which would align with the assumed peak season for holiday flights.

## Step 5: Route option demand: snap road-based demand estimates to each route option configuration. Apply mode share % assumptions to estimate passenger demand, no. of services and max occupancy estimates

- 8.40 Using the road-based travel demand for the in-scope MSOAs, an estimate has been made of the potential passenger demand which could be generated by a new coach service operating along the service route options.
- 8.41 As noted earlier, the road-based demand will already include a proportion of trips made by bus and coach, although given the limited provision of coach services, it is more likely that they will be bus trips.
- 8.42 The grouping of stops is intended to mitigate against the impact of this, by assuming trips can be made from stopping locations within one group to stopping locations in another group, but not within groups; the assumption being that there are local bus services which already link locations within each group, although the level of bus connectivity will vary.
- 8.43 In practice, depending on the type of coach service provided, it may be feasible for a service to both pick up and drop off passengers within stopping groups particularly if certain pairs of locations are not well connected by existing bus services.
- 8.44 The assessment of potential demand may therefore be considered conservative in this respect.
- 8.45 Four % mode share assumptions have been applied to the road-based travel demand to represent the proportions of trips which could be attracted to coach. The four mode share assumptions are 0.5%, 1%, 2% and 5%.
- 8.46 A pre-Covid estimation of proportion of vehicles made by 'inter-urban bus/coach' derived from the DfT's National Travel Survey is 4.51% for the South West<sup>54</sup>. This may be considered a high proportion in some areas and will be influenced by existing service provision.
- 8.47 For a new coach service to attract up to 5% of road-based travel demand between locations within the corridor is likely to require significant marketing and financial incentives such as free tickets or reduced fares. 0.5%-1% of road-based demand

<sup>&</sup>lt;sup>54</sup> NTS 9916c – average distance travelled by mode, with a 4.51% proportion of distance travelled on buses in the South West of England for 2018-2019.

may therefore be considered a more conservative level of estimated demand, and still likely to require substantial marketing and some incentives to boost patronage.

- 8.48 Separate demand estimates have been made for southbound and northbound services, recognising that whilst Bristol may be a major draw of demand, locations outside of Bristol also attract trips in the opposite direction.
- 8.49 Tables provided in Appendices J and K describe the estimated level of passenger demand generated at broad stopping locations along each defined coach service option route. Rows highlighted pink are not served by a particular route. Where zero demand is shown, this indicates where the stop only permits passengers to alight a coach service (as referred to in the stopping groupings shown in Appendix C).
- 8.50 A summary of total estimated coach service passenger demand is shown in Table 13 and Table 14 (southbound and northbound service demand respectively). These tables show total estimated passengers who would board a service at any stopping location. An estimate of the number of coaches that might be required to serve the level of passenger demand by time period, and the estimated maximum occupancy of a service, is also shown.
- 8.51 This has been based on a 50-seat capacity coach which relates to a more standard, single decker coach with a conventional 2+2 seating arrangement. It is unlikely that a larger coach would be suitable to serve this corridor route. Neither has the assessment considered the effect of using smaller midi-coaches which have capacities of around 30-35 seats, or mini-coaches/mini-buses which can seat around 12-19 passengers.

			Daily AM Peak (3 hours)				Daily O (18 h	ff Peak ours)		Daily Weekend (24 hours)			
		0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%
	Total demand over period	13	26	52	130	49	98	196	489	49	99	197	493
Collector Route - A	Services Per Period	1	1	2	3	1	2	4	10	1	2	4	10
	Maximum occupancy	26%	52%	52%	87%	98%	98%	98%	98%	99%	99%	99%	99%
	Total demand over period	11	21	43	106	43	86	172	431	46	92	184	459
Collector Route - B	Services Per Period	1	1	1	3	1	2	4	9	1	2	4	10
	Maximum occupancy	21%	43%	85%	71%	86%	86%	86%	96%	92%	92%	92%	92%
	Total demand over period	15	31	61	153	55	109	219	547	55	110	220	550
Corridor Route - A	Services Per Period	1	1	2	4	2	3	5	11	2	3	5	11
	Maximum occupancy	31%	61%	61%	76%	55%	73%	87%	99%	55%	73%	88%	100 %
	Total demand over period	13	26	51	129	49	98	195	488	52	103	206	516
Corridor Route - B	Services Per Period	1	1	2	3	1	2	4	10	2	3	5	11
	Maximum occupancy	26%	51%	51%	86%	98%	98%	98%	98%	52%	69%	83%	94%
	Total demand over period	19	39	77	193	66	133	265	663	66	132	265	662
Rural Route - A	Services Per Period	1	1	2	4	2	3	6	14	2	3	6	14
	Maximum occupancy	39%	77%	77%	96%	66%	88%	88%	95%	66%	88%	88%	95%
Rural Route - B	Total demand over period	17	33	67	167	60	120	241	602	63	125	251	627

#### Table 13 - Estimated coach passenger demand, estimated no. of services and maximum occupancy - Southbound

Services Per Period	1	1	2	4	2	3	5	13	2	3	6	13
Maximum occupancy	33%	67%	67%	84%	60%	80%	96%	93%	63%	84%	84%	96%

- 8.52 The table above indicates that the level of demand for the Collector Route (either A or B routeing options) is lower than the demand for the Corridor and Rural Routes.
- 8.53 Routeing via Patchway and Filton generates higher levels of estimated passenger demand than an alternative route through the Northern Fringe via Bradley Stoke across all options. This is reflective of the significant levels of employment in Filton and Patchway which include Cribbs Causeway.
- 8.54 The Rural Route generates the highest level of demand out of the three routes, although the service would be the slowest as it would be less likely to use the M5 and make more frequent stops on a more circuitous rural route if it were to serve all the locations included in the assessment.
- 8.55 The Corridor Route option is influenced by the fact it serves an additional origin town Cheltenham which slightly uplifts demand when compared to the Collector Route (which begins/ends in the Stroud area) but not to a significant degree.
- 8.56 Under a conservative 0.5% mode share scenario, there would not be enough demand to require more than 1-2 coaches within a time period. This would indicate a very low frequency and certainly not a turn-up-and-go style service. This may discourage people from using the service as the timing of the services would be less likely meet their needs or they would need to plan their journey further in advance. Under this scenario, even with a low frequency, coaches would be operating at very low occupancies.
- 8.57 At the opposite end of the scale, under a more ambitious 5% mode share scenario there could be sufficient demand for up to 3 coach services in the AM peak period on the Collector Routes, and the potential for 4 on the Corridor and Rural Routes if the Filton/Patchway routeing is adopted. This would suggest around an hourly frequency running through the peak periods.
- 8.58 The assessment has indicated that under certain scenarios and at certain time periods, coach services could operate at or close to 100% capacity. Whilst this would be encouraging from a commercial perspective, once the coach is full it may not be able to permit any additional passengers as standing passengers. This might depend on the configuration of the vehicle however most coaches are not designed to accommodate standing passengers and to use higher speed roads like the M5 all passengers will be required to be seated.
- 8.59 It should be noted that a coach with a larger seating capacity could be deployed, therefore providing additional flexibility. A larger vehicle may not be suitable to run on all roads, particular the Rural Route where the coach may be more reliant upon using narrower and more winding A, B and unclassified roads.
- 8.60 Demand outside of the peak periods is much lower than the peak periods on an average hour basis and will sustain a very low frequency service, e.g. 2-3 services throughout the off-peak period.
- 8.61 A further point to note is that this assessment has been based on road demand only. However, from some locations a new coach service may also have the potential to attract some existing rail passengers by offering more competitive fares, better journey times or linking to places more directly than a train, thus eliminating the need for catching a connecting bus. This would be most applicable to areas around Stroud and Stonehouse.

		Daily AM Peak (3 hours)					Daily Off Peak (18 hours)				Daily Weekend (24 hours)			
		0.5 %	1%	2%	5%	0.5 %	1%	2%	5%	0.5%	1%	2%	5%	
Collector Route - A	Total demand over period	11	23	45	113	50	100	201	502	50	100	200	500	
	Services Per Period	1	1	1	3	2	3	5	11	1	2	4	10	
	Maximum occupancy	23%	45%	90%	75%	50%	67%	80%	91%	100%	100%	100%	100 %	
	Total demand over period	11	21	43	106	44	87	174	436	47	93	186	466	
Route -	Services Per Period	1	1	1	3	1	2	4	9	1	2	4	10	
В	Maximum occupancy	21%	43%	85%	71%	87%	87%	87%	97%	93%	93%	93%	93%	
Corridor Route -	Total demand over period	13	26	53	131	56	112	225	562	56	112	223	558	
	Services Per Period	1	1	2	3	2	3	5	12	2	3	5	12	
	Maximum occupancy	26%	53%	53%	88%	56%	75%	90%	94%	56%	74%	89%	93%	
Corridor	Total demand over period	13	25	50	125	50	99	198	496	52	105	210	524	
Route -	Services Per Period	1	1	2	3	1	2	4	10	2	3	5	11	
	Maximum occupancy	25%	50%	50%	83%	99%	99%	99%	99%	52%	70%	84%	95%	
Burol	Total demand over period	17	33	67	167	68	136	272	680	67	134	268	670	
Route -	Services Per Period	1	1	2	4	2	3	6	14	2	3	6	14	
	Maximum occupancy	33%	67%	67%	83%	68%	91%	91%	97%	67%	89%	89%	96%	
Pural	Total demand over period	16	32	64	161	61	122	245	612	63	127	254	635	
Route -	Services Per Period	1	1	2	4	2	3	5	13	2	3	6	13	
В	Maximum occupancy	32%	64%	64%	81%	61%	82%	98%	94%	63%	85%	85%	98%	

#### Table 14 - Estimated coach passenger demand, estimated no. of services and maximum occupancy - Northbound

- 8.62 The northbound service assessment provides a similar picture. Encouragingly it indicates that whilst Bristol will be a major draw for trips heading southbound, there also appears to be trips attracted to locations in the core and northern segments of the study corridor. Therefore, the estimated demand is only marginally lower when compared to the southbound direction in the weekdays, and marginally higher at weekends.
- 8.63 This would appear to suggest it may be possible that the coach could achieve a similar level of occupancy in both directions at different points of the day which would enhance the commercial viability of the service.
- 8.64 As with the southbound service, in the northbound direction under a conservative 0.5% mode share scenario, a low service frequency and level of occupancy of services would be achieved. With an ambitious 5% mode share scenario there is the possibility for 100% service occupancy which for the reasons discussed earlier may not be operationally efficient.
- 8.65 If the journey time could be tailored to be just under two hours then a two hourly frequency of service could potentially be achieved using just two coaches and this caters for a 2% modal switch. Only one coach would be required for the less frequent services. Four coaches would be required for an hourly service.

8.66 Clearly if journey time from end to end is more than two hours then either additional vehicles are required or an easy to remember clock-face departure pattern from the more significant stops/interchanges may have to be dispensed with. In any case further work would need to be done to assess the operational factors such as driver's shift changes and the need to take legal rest breaks.

#### Limitations of the approach to the assessment

- 8.67 A key limitation to the assessment approach is the use of MSOAs as the basis for estimating passenger demand.
- 8.68 It has been assumed for assessment purposes that passengers would have the same level of access to a coach stop regardless of the size of MSOA and where they are travelling to and from within the MSOA, therefore distance to reach the stop, local transport provision and highway network congestion are not considered. In practice however, the level of access will vary across different parts of a MSOA and this is likely to influence passenger demand.
- 8.69 This is more relevant to the more rural parts of the corridor covering smaller settlements.
- 8.70 BT mobile network data is available at LSOA level which if used would allow a more detailed approach to assessing route and stopping pattern options, however it was considered this level of detail was not proportionate to the requirements of this feasibility study.
- 8.71 Consideration had been given to adjusting demand to identify the proportion of a larger, rural MSOA that would be more likely to access a coach based on the distribution of the population, however this approach was not adopted for this assessment.
- 8.72 BT mobile network data does not differentiate between different modes using a road (other than people walking) so the mode split between private motorised vehicle, bus and coach cannot be determined. The proportion of road-based movements between MSOAs which are currently undertaken by bus or coach could vary and will be influenced in part by the frequency services. To address this issue, and help ensure that the mode share estimates for coach are not overstated, some shorter distance trips between locations which are already served by local bus services have not been included in the passenger demand calculations (as shown in Figure 31).
- 8.73 The assessment does not take into consideration diversion factors (other than assuming demand moves from car to coach), fare and time elasticities, or any ramp up period for demand.
- 8.74 The assessment does not take into account any potential future increases in travel demand. The rationale for this is that the aim would be for a new coach service to be introduced in the short term and therefore there should not be reliance upon potential future increases in demand including that arising from planned developments, some of which may not come to fruition for several years.
- 8.75 The assessment does not take account of the effects of increased traffic congestion in the future which may influence journey times for coaches. It also does not take into consideration other operational requirements and costs, for example dead mileage at the start and end of operation where a coach would not be carrying passengers but still incurring running costs, which will be determined by where an operator's depot is located and could influence the specification of service including routeing and stopping pattern.

#### Summary

- 8.76 The data has given an insight into the potential demand in the Strategic Gap 2 corridor for a new coach service. Broad assumptions have been made regarding the proportion of existing road-based travel demand which could use the coach ranging from a more conservative 0.5% of road-based demand to a more ambitious 5%.
- 8.77 Three main routes with two iterations of routes through northern Bristol have been considered. There are different levels of demand estimated on each route, but the route and stopping patterns do not have a significant influence on overall levels of demand, based on the methodology applied here.
- 8.78 Higher levels of demand are estimated on the assessed Rural route by virtue of the fact it would make additional stops and serve more of the corridor's population. It would address rural connectivity in places which are currently more poorly connected by inter-urban public transport, although this would lead to a longer journey time and higher operating costs (higher mileage, potentially more vehicles and drivers).
- 8.79 The assessment has been based on road demand only therefore, as noted earlier, there is potential a coach service could also attract some passengers off rail services. This would be most pertinent to Stroud and Stonehouse whose rail connectivity with Bristol is poorer than locations on the Birmingham to Bristol main line railway.
- 8.80 For larger settlements like Cheltenham and Gloucester, whilst they are well connected by rail to Bristol, residents living in the suburbs would need to travel to the stations, whereas there may be opportunity for a coach to stop closer to home.
- 8.81 To address route competition and duplication of existing local bus services, the assessment has assumed it would not be possible to use the coach to travel shorter distances within defined stop groups. This may not be practical to implement other than over longer distances. However, in many instances a passenger wanting to travel a shorter distance within a local area will most likely have an alternative bus already available, and that bus service may offer a higher frequency service than the proposed coach, and a lower fare.
- 8.82 To achieve higher levels of mode share closer to 5%, significant levels of marketing and incentives to passengers including free tickets or reduced fares within a promotional/launch period would be required, and potentially both 'carrot' and 'stick' measures to encourage mode shift from car. It is considered however that this level of mode share is unlikely to be achieved at least across much of the corridor, with a mode share of 0.5%-2% considered to be more realistic. The level of mode share could also vary by location, with some locations potentially achieving a level closer to 5%. However, this would be difficult to substantiate based on the level of detail available to this assessment.
- 8.83 Reflecting on the types of coach services and potential routeing options considered through Chapters 5-7 of this report, the findings from the demand assessment reinforce the assumptions around how to implement a more successful new coach service, it would need to carefully balance the following:
  - the necessity to serve at least one or potentially two larger settlements outside of Bristol to generate sufficient patronage, including suburban areas, these being Cheltenham and Stroud;
  - use faster moving roads with fewer deviations to help reduce the impact on journey time;

- address rural connectivity by serving some but not all clusters of villages located between Cheltenham/Stroud and the Bristol Northern Fringe, with those located along the A38 west of the M5 including Stone and Falfield representing a shorter detour than those located to the east of the M5 with poorer north-south connectivity;
- avoid duplication of existing bus services which should continue to provide local connectivity and more frequent stops.
- 8.84 Addressing a balance between these potentially competing requirements would meet more of the coach service requirements described in Chapter 6 of this report, although it will make it harder to promote a distinct service and may dilute the different passenger demand markets, e.g. commuters, students, day-trippers/leisure travellers, business travellers and airport users.
- 8.85 The demand assessment suggests that the service would be low frequency although at busier times consideration would need to be given to either serving the route by a larger capacity coach or increasing the frequency and use a smaller coach vehicle.
- 8.86 A more appropriate specification of coach vehicle would potentially be akin to the case study Arriva X1 and Greenline 755/757 service routes described earlier in this report, as opposed to the larger single or in some cases double decker coaches used by National Express and Megabus on their long-distance routes.
- 8.87 The demand assessment has indicated that a lot of demand would be generated in the traditional weekday peak periods, however there could be enough demand generated in the off-peak period and at weekends to help sustain the service at different points in a day and week.
- 8.88 The assessment indicates that there is unlikely to be sufficient demand to sustain a more frequent service, e.g. half hourly service or hourly service throughout the entire day. The service would certainly not operate on a turn-up-and-go principle like higher frequency local bus services.
- 8.89 This would make it more akin to long distance coach services which in most instances recommend passengers buy a ticket in advance. This would give the operator greater certainty on the expected level of demand for a service.
- 8.90 As a next step, it is recommended that the findings of this feasibility study are shared with the local authorities, coach operators, Bristol Airport and DfT as part of the Western Gateway STB's Coach Forum.

### 9. Conclusion and Next Steps

- 9.1 This report covers the findings of a feasibility study of the Strategic Gap 2 corridor which broadly links Tewkesbury, Cheltenham, Gloucester, Stroud, Bristol and Bristol Airport. This corridor was identified as one of three connectivity gaps in the Western Gateway STB's Coach Strategy (2023) where there are poorer inter-urban public transport links but an initial assessment of travel demand indicates there are notable movements of trips occurring along each corridor.
- 9.2 The study has taken a closer look at existing transport provision within the corridor, as well as highlight some potential large-scale developments and major transport schemes which could influence transport connectivity within the corridor.
- 9.3 The study has identified a range of case study coach service routes of differing characteristics, as a way of exploring the types of features a new coach service operating within the study corridor could emulate.
- 9.4 A set of key requirements for a new coach service has been developed, informed by the evidence around existing transport connectivity, case study routes, and the Western Gateway STB's Strategic Long Term Transport Plan policies.
- 9.5 Informed by the key requirements, a two-stage optioneering exercise has been conducted to explore potential types of services at both a conceptual level as well as comparing journey times based on more detailed stopping patterns. This has highlighted the pros and cons of different types of services, including the opportunities of serving more poorly connected town/city suburbs and rural communities versus the need to use faster moving roads with fewer stops to achieve a competitive journey time when compared to other modes.
- 9.6 Using mobile phone data sourced from BT via Network Rail, a stepped approach has been followed to generate estimates of passenger demand for different potential coach service routes. The demand data covers all journey purposes combined.
- 9.7 It is acknowledged that the assessment approach taken is simplistic; it does not take into consideration diversion factors (other than assuming demand moves from car to coach), fare and time elasticities, or any ramp up period for demand.
- 9.8 The study's findings do however provide clear indication there is potentially sufficient demand at different points of the day and week to sustain a low frequency service, considered at best an hourly service during the weekday peak periods only. This would be on a par with many express coach services for example National Express 100 has eight services a day with headways between services ranging from one hour to three hours.
- 9.9 As might be expected, the data estimates suggest there is a significant pull towards Bristol City Centre. However the northern fringe area of Bristol including large employment centres around Filton and Patchway also generate a reasonable level of demand.
- 9.10 A cautious approach has been taken to estimating demand, assuming a share of existing road-based demand only could switch to coach, rather than also assuming a shift from some existing rail trips (notably from Stroud and Stonehouse).
- 9.11 It has also been assumed that the coach service would not be used for shorter distance trips as these trips are more likely to be served by existing local bus routes. This also minimises issues with double-counting as local trips by public transport should form part of the road-based demand. It is possible therefore that a higher level of passenger demand could be generated.

9.12 The study has established a case for a new coach service. There are however several requisites for introducing a new coach service which may require additional investigation and discussions with key stakeholders including the local authorities and prospective coach operators.

### There will need to be sufficient passenger demand for a new coach service to sustain a service in the long-term

9.13 This study has generated a high-level estimate of potential demand based on a range of coach service corridor routes. It has not been possible at this stage to segment the estimated demand by passenger type or journey purpose, to better understand the type of service that could be provided, i.e. hours of operation, locations served, fares.

#### Operator(s) will need to undertake their own assessment and business case to determine that a new service is a viable commercial proposition in the context of their operational requirements

- 9.14 This study has made assumptions around the number of coaches which could service a corridor route; however the specification of vehicles and routeing will be significantly influenced by an operator's existing fleet and depot facilities, and their insight into what would make a viable commercial service which could be sustained in the long term.
- 9.15 It is understood that many operators will have their own methods and data sources for determining whether a new coach service or alterations to existing coach services (i.e. serving new stops and making significant detours) are viable.

#### Coordination will be required between the local transport authorities

- 9.16 This will be essential in ensuring a new coach service is integral to the wider transport system, including the potential coordination of timetables between local bus services that might be used by some passengers to reach the nearest coach stop, and the potential for combined ticketing. If a service was introduced in isolation and with poor connections to other modes of transport, it is unlikely to be successful.
- 9.17 The study has considered at a high level where a new coach service could potentially stop. In all cases there would be an existing bus stop facility. More detailed assessment would be needed once a route and stopping pattern is firmly established to determine if the existing facilities at the bus stops are sufficient. Improvements including provision of a timetable information board, shelter and seating may be needed.
- 9.18 Provision of such facilities is likely to be more important to coach users compared to bus users as services are more infrequent and passengers may be waiting longer for the service to arrive.
- 9.19 In more rural areas where some stops may have few facilities, there may be a need to develop rural mobility hubs which may also require access improvements including new pedestrian crossings, footways and cycle parking.
- 9.20 Local government capital spend may be required to deliver improvements to some existing bus stops.

#### A new coach service will require effective and targeted marketing

9.21 It will be important that a new coach service is promoted locally and across the corridor, through coordination between the operator and local authorities.

- 9.22 This could comprise a poster campaign at existing bus stops; adverts in local media publications and online through social media; and potential incentives for passengers including free tickets or reduced fares within a promotional period.
- 9.23 These types of promotional activities may need some level of public subsidy, notwithstanding any competition issues.
- 9.24 As a next step, it is recommended that the findings of this feasibility study are shared with the local authorities, coach operators, Bristol Airport and DfT as part of the Western Gateway STB's Coach Forum.
- 9.25 If the study's assessment and recommendations for a new coach service find favour with operators, it is recommended they undertake their own assessment to consider the commercial viability of the route. This may lead to modification of the route characteristics, assumptions and options considered in this study.

### Appendix A - Scheduled Coach Routes operating in Strategic Gap 2

Operator	Route Number	Route	Intermediate Stops	Frequency
Netional	040 (iteration 1)	Bristol Coach station- London Victoria	University of the West of England**, London Earl's Court	26 a day (Fri-Mon), with 4 of these stopping at UWE. Services are reduced Tues- Thurs
National Express	040 (iteration 2)	Bristol White Tree- London Victoria	Bristol (Black Boy Hill), Bristol (Clifton Down), University of Bristol, Bristol Coach Station, London Hammersmith	5 a day (Fri-Mon), 2 a day Tues- Wed
	040 (iteration 3)	Weston-super-Mare- London Victoria	Bristol Coach station, London Hammersmith	1 a day
National Express	401 (iteration 2)	London Victoria- Gloucester Transport Hub	Heathrow Airport, Swindon (Common Head), Swindon (Coate Water), Swindon (Queens Drive), Swindon Bus Station, Chalford, Stroud	3 a day
National Express	National 444 Express		Gloucester (Longlevens), Cheltenham (Arle Court), Cheltenham Bus station, Cheltenham (Charlton Kings), Cirencester, Cricklade**, Heathrow Airport**, London Earl's Court	12 a day (Fri-Mon), 9 a day (Tues-Thurs)
National Express	445 (iteration 1)	Hereford-London Victoria	Ledbury, Corse, Gloucester Transport Hub, Gloucester (Longlevens), Cheltenham (Arle Court), Cheltenham Bus station	2 a day
National 445 (iteration 2)		Hereford-London Victoria	Ross-on-Wye, Newent, Gloucester Transport Hub, Gloucester (Longlevens), Cheltenham (Arle Court), Cheltenham Bus station	2 a day
National	100 (iteration 1) Station-Bristol Coa station		Cheltenham Arle Court, Bristol Bus Station, Bristol Airport	7 a day
Express	100 (iteration 2)	Birmingham Coach Station-Weston-super- Mare	Cheltenham Arle Court, Bristol Bus Station, Bristol Airport, Weston-super-Mare	1 a day

National Express	102	Plymouth - Birmingham Coach station	Totnes**, Paignton, Torquay, Newton Abbot, Exeter, Exeter (Honiton Road), Bristol, Cheltenham Bus station**	2 a day
National Express	104	Penzance - Birmingham Coach station	Crowlas, St Erth, Hayle, Copperhouse, Camborne, Pool, Redruth, Truro, Newquay, Bodmin, Liskeard, Tideford, Landrake, Plymouth, Exeter Services, Exeter, Exeter (Honiton Rd), Taunton, North Petherton, Bridgwater, Bristol, Cheltenham	1 a day
National Express	106	Penzance - Birmingham	Crowlas, St Erth, Hayle, Copperhouse, Camborne, Pool, Redruth, Truro, Newquay, Bodmin, Liskeard, Tideford, Landrake, Plymouth, Exeter Services, Exeter, Exeter (Honiton Rd), Taunton, North Petherton, Bridgwater, Bristol, Cheltenham	1 a day
Megabus	M19	(Cardiff) - Bristol - Glasgow	(Cardiff) Bristol, Cheltenham, Birmingham, Manchester Airport, Manchester, Preston, Glasgow	1 a day

\*\*Service does not often stop here

\*\*\*The 401 has 2 other iterations, one that terminates at Swindon with a frequency of 5 a day, and one that skips Gloucester and Stroud and goes to Devizes and Trowbridge, with a frequency of 1 a day

# Appendix B – Inter-urban bus routes operating in Strategic Gap 2

Operator	Route Number	Route	Intermediate Stops	Frequency	Fares	Duration
Bristol Flyer		Bristol Bus station – Bristol Airport	Bristol temple Meads, Bedminster Parade, West Street / Parson Street Station	5x hour at peak times(Mon-Fri), 74x Day (Sat), 70x (Sun)	£9 for adults	37-48 mins
First	M4	Bristol Centre – Cribbs Causeway	UWE Frenchay Campus, BPW	Every 30 mins	£2	15 mins to UWE, 10 mins to BPW, 15 mins to Cribbs Causeway. <b>40</b> mins total
First	-M3 -M3x (straight to Emersons Green 4/day for commuters)	Bristol – Emersons Green (NW Bristol)		Every 20-25 mins	£2	15 mins to UWE, 20 mins to Emersons Green
First	M1	Cribbs Causeway – Hengrove Park (South Bristol)	Bradley Stoke, UWE Frenchay, Broadmead, Bristol Centre…	Every 15 mins	£2	20-30mins (30 in rush hour) to UWE, then 15-20 mins to Broadmead, 3 mins to Centre
First	1	Cribbs Causeway - Broomhill	Henbury, Clifton Down, Bristol City Centre	Approx. every 20 mins	£2	Slow stopping route
First	Т1	Bristol Centre - Thornbury	Harry Stoke (near BPW), Patchway Brook, Alveston, The Swan Almondsbury, Thornbury	, Every 20 mins weekdays	£2	17 mins to Harry stoke, then 5 mins to Patchway Brook, then 8 minutes to Almondsbury, 15 mins to Thornbury, 35-45 mins to Thornbury

Stagecoach	Bus 60	Thornbury - Dursley	Falfield, Chalfield, Kingswood, Wotton-under-edge, Woodfield, Upper Cam	Every 2 hours		About an hour in total. Thorn- Wotton 30-40 mins, then to Lower Cam 15 mins, then to upper Cam 4-6 mins, Dursley 4 min more. Total
Stagecoach	62	Stonehouse(near Stroud)-Gloucester	Stonehouse various stops, Dudbridge(Stroud), Stroud, Halfway Pitch, Tuffley(Gloucester suburb), Gloucester transport Hub			Stroud to Gloucester 30 mins, does not go until 0910
Stagecoach	66 gold	Stroud-Cheltenham	53 stops, Painswick, Abbeydale, Gloucester Business Park (outskirts), Brockworth			Total 50 mins but an hour+ on school runs.
Stagecoach	94	Gloucester- Cheltenham	Longlevens Elmbridge Road, churchdown, GCHQ (by Arle Court), Cheltenham	Every 10 minutes until the evening where it is 20 minutes		
Stagecoach	71	Gloucester- Tewkesbury	Twigworth, Norton, Coombe Hill, Walton Cardiff	Every 30-35 minutes		30-35 mins total
Stagecoach	41	Cheltenham- Tewkesbury		Every 30 mins		30 mins
South Gloucester Lynx	_	Bristol - Filton		Every hour	from £9	37 mins

### **Appendix C – Coach Service Route Option Definitions**

Coach Service Collector Route – option A (via Patchway) and option B (via Bradley Stoke)

Collector Route - A	Group	<b>Destination Of</b>
Minchinhampton	1	2&3&4
Nailsworth	1	2&3&4
Stroud	1	2&3&4
Stonehouse	1	2&3&4
Stonehouse - Great Oldbury	1	2&3&4
Stone	2	3&4
Thornbury & Falfield	2	3&4
Thornbury	2	3&4
Alveston	2	3&4
Almondsbury	2	3&4
Patchway	3	Dest Only
Filton	3	Dest Only
Harry Stoke - UWE	3	Dest Only
Bristol CC	4	Dest Only
Bristol Airport	4	Dest Only

Collector Route - B	Group	<b>Destination Of</b>
Minchinhampton	1	2&3&4
Nailsworth	1	2&3&4
Stroud	1	2&3&4
Stonehouse	1	2&3&4
Stonehouse - Great Oldbury	1	2&3&4
Stone	2	3&4
Thornbury & Falfield	2	3&4
Thornbury	2	3&4
Alveston	2	3&4
Almondsbury	2	3&4
Bradley Stoke	3	Dest Only
Stoke Gifford - BTM Station	3	Dest Only
Harry Stoke - UWE	3	Dest Only
Bristol CC	4	Dest Only
Bristol Airport	4	Dest Only

Coach Service Corridor Route – option A (via Patchway) and option B (via Bradley Stoke)

Corridor Route - A	Group	<b>Destination Of</b>
Cheltenham CC	1	2&3&4&5
Cheltenham Suburbs	1	2&3&4&5
Brockworth	1	2&3&4&5
Painswick	2	3&4&5
Stroud	2	3&4&5
Stonehouse	2	3&4&5
Stonehouse - Great Oldbury	2	3&4&5
Stone	3	4 & 5
Thornbury & Falfield	3	4 & 5
Thornbury	3	4 & 5
Alveston	3	4 & 5
Almondsbury	3	4 & 5
Patchway	4	Dest Only
Filton	4	Dest Only
Harry Stoke - UWE	4	Dest Only
Bristol CC	5	Dest Only
Bristol Airport	5	Dest Only

Corridor Route - B	Group	<b>Destination Of</b>
Cheltenham CC	1	2&3&4&5
Cheltenham Suburbs	1	2&3&4&5
Brockworth	1	2&3&4&5
Painswick	2	3&4&5
Stroud	2	3&4&5
Stonehouse	2	3&4&5
Stonehouse - Great Oldbury	2	3&4&5
Stone	3	4&5
Thornbury & Falfield	3	4&5
Thornbury	3	4&5
Alveston	3	4&5
Almondsbury	3	4&5
Bradley Stoke	4	Dest Only
Stoke Gifford - BTM Station	4	Dest Only
Harry Stoke - UWE	4	Dest Only
Bristol CC	5	Dest Only
Bristol Airport	5	Dest Only

Coach Service Rural Route – option A (via Patchway) and option B (via Bradley Stor
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Rural Route - A	Group	<b>Destination Of</b>
Cheltenham CC	1	2&3&4&5&6
Cheltenham Suburbs	1	2&3&4&5&6
Brockworth	1	2&3&4&5&6
Painswick	2	3&4&5&6
Stroud	2	3&4&5&6
Stonehouse	2	3&4&5&6
Stonehouse - Great		
Oldbury	2	3&4&5&6
Cam & Dursley	3	4 & 5 & 6
Wotton Under Edge	3	4 & 5 & 6
Thornbury & Falfield	4	5&6
Thornbury	4	5&6
Alveston	4	5&6
Almondsbury	4	5&6
Patchway	5	Dest Only
Filton	5	Dest Only
Harry Stoke - UWE	5	Dest Only
Bristol CC	6	Dest Only
Bristol Airport	6	Dest Only

Rural Route - B	Group	<b>Destination Of</b>
Cheltenham CC	1	2&3&4&5&6
Cheltenham Suburbs	1	2&3&4&5&6
Brockworth	1	2&3&4&5&6
Painswick	2	3&4&5&6
Stroud	2	3&4&5&6
Stonehouse	2	3&4&5&6
Stonehouse - Great Oldbury	2	3&1&5&6
	2	12526
Call & Dursley	3	40300
Wotton Under Edge	3	4&5&6
Thornbury & Falfield	4	5&6
Thornbury	4	5&6
Alveston	4	5&6
Almondsbury	4	5&6
Bradley Stoke	5	Dest Only
Stoke Gifford - BTM Station	5	Dest Only
Harry Stoke - UWE	5	Dest Only
Bristol CC	6	Dest Only
Bristol Airport	6	Dest Only

### Appendix D - Total Estimated Demand between origins and key destination areas- all modes

Origin Locations	Annual Demand	Bristol CC Demand	% Bristol CC	NF Demand	% NF	Airport Demand	% Airport	Combined Demand
Abbeymead & Abbeydale	4,554,721	10,726	0.2%	17,424	0.4%	3,300	0.1%	0.7%
Abbeymead & Abbeydale - Not Served	7,262,115	15,403	0.2%	19,968	0.3%	3,051	0.0%	0.5%
Almondsbury	16,197,169	896,492	5.5%	7,321,434	45.2%	56,137	0.3%	51.1%
Alveston	3,328,542	137,846	4.1%	825,855	24.8%	10,329	0.3%	29.3%
Bradley Stoke	8,714,180	555,076	6.4%	5,386,518	61.8%	21,369	0.2%	68.4%
Bristol Airport	6,742,991	486,578	7.2%	155,434	2.3%	2,962,745	43.9%	53.5%
Bristol CC	72,558,441	33,110,091	45.6%	4,610,463	6.4%	505,921	0.7%	52.7%
Brockworth	6,632,615	16,204	0.2%	31,240	0.5%	3,841	0.1%	0.8%
Brookthorpe & Haresfield	5,583,314	31,627	0.6%	57,906	1.0%	7,174	0.1%	1.7%
Cam & Dursley	4,777,553	50,513	1.1%	130,210	2.7%	6,518	0.1%	3.9%
Chalford	1,522,402	6,377	0.4%	7,136	0.5%	1,236	0.1%	1.0%
Cheltenham Arle Court	3,959,148	9,783	0.2%	13,661	0.3%	2,151	0.1%	0.6%
Cheltenham Town Centre	4,885,071	11,790	0.2%	8,127	0.2%	2,069	0.0%	0.5%
Cheltenham Suburbs	7,297,177	15,786	0.2%	14,081	0.2%	4,187	0.1%	0.5%
Cheltenham towards Brockworth	4,788,689	11,540	0.2%	15,503	0.3%	3,367	0.1%	0.6%
Filton	7,587,322	715,760	9.4%	4,048,685	53.4%	17,783	0.2%	63.0%
Hambrook	4,333,367	453,633	10.5%	1,856,539	42.8%	12,794	0.3%	53.6%
Harry Stoke - UWE	5,817,240	860,077	14.8%	2,688,836	46.2%	13,146	0.2%	61.2%
Minchinhampton	2,803,260	11,177	0.4%	12,693	0.5%	2,669	0.1%	0.9%
Nailsworth	2,407,358	14,369	0.6%	16,741	0.7%	2,151	0.1%	1.4%
Nympsfield	3,400,065	22,317	0.7%	37,532 1.1%		4,485	0.1%	1.9%
Painswick	3,017,626	8,191	0.3%	7,975	7,975 0.3%		0.1%	0.6%
Patchway	7,702,432	531,213	531,213 6.9% 4,673,334 60.7% 16,2		16,223	0.2%	67.8%	
Rangeworthy	4,571,037	144,780	3.2%	436,385	9.5%	9.5% 9,746		12.9%
Southmead	9,229,447	1,213,273	13.1%	3,421,862	37.1%	25,258	0.3%	50.5%
Stoke Gifford - BTM Station	2,002,068	119,155	6.0%	1,335,534	66.7%	5,056	0.3%	72.9%
Stoke Park	4,444,499	1,391,227	31.3%	707,622	15.9%	13,792	0.3%	47.5%
Stone	2,894,875	48,489	1.7%	150,476	5.2%	6,885	0.2%	7.1%
Stonehouse	3,232,895	19,938	0.6%	27,757	0.9%	2,631	0.1%	1.6%
Stonehouse - Great Oldbury	5,111,838	40,396	0.8%	94,725	1.9%	6,379	0.1%	2.8%
Stroud	11,548,788	47,601	0.4%	59,406	0.5%	7,727	0.1%	1.0%
Tewkesbury	7,584,600	22,806	0.3%	35,939	0.5%	4,807	0.1%	0.8%
Thornbury	2,875,550	112,095	3.9%	579,929	20.2%	6,160	0.2%	24.3%
Thornbury & Falfield	2,737,929	108,324	4.0%	461,828	16.9%	6,630	0.2%	21.1%
Wotton Under Edge	3,058,128	57,403	1.9%	127,803	4.2%	4,599	0.2%	6.2%
Yate	11,765,537	406,739	3.5%	965,570	8.2%	20,430	0.2%	11.8%

Bristol	Bristol	Bristol	North
CC	Northern	Airport	of
area	Fringe		Bristol
	area		area

### Appendix E – Origins of trips to key destination areas – ranked – all modes

Bristol CC Demand Origin	Number	%	Northern Fringe Demand Origin	Number	%	Bristol Airport Demand Origin	Number	%
Bristol CC	33,110,091	79.40%	Almondsbury	7,321,434	18.15%	Bristol Airport	2,962,745	78.34%
Stoke Park	1,391,227	3.34%	Bradley Stoke	5,386,518	13.35%	Bristol CC	505,921	13.38%
Southmead	1,213,273	2.91%	Patchway	4,673,334	11.58%	Almondsbury	56,137	1.48%
Almondsbury	896,492	2.15%	Bristol CC	4,610,463	11.43%	Southmead	25,258	0.67%
Harry Stoke - UWE	860,077	2.06%	Filton	4,048,685	10.04%	Bradley Stoke	21,369	0.57%
Filton	715,760	1.72%	Southmead	3,421,862	8.48%	Yate	20,430	0.54%
Bradley Stoke	555,076	1.33%	Harry Stoke - UWE	2,688,836	6.67%	Filton	17,783	0.47%
Patchway	531,213	1.27%	Hambrook	1,856,539	4.60%	Patchway	16,223	0.43%
Bristol Airport	486,578	1.17%	Stoke Gifford - BTM Station	1,335,534	3.31%	Stoke Park	13,792	0.36%
Hambrook	453,633	1.09%	Yate	965,570	2.39%	Harry Stoke - UWE	13,146	0.35%
Yate	406,739	0.98%	Alveston	825,855	2.05%	Hambrook	12,794	0.34%
Rangeworthy	144,780	0.35%	Stoke Park	707,622	1.75%	Alveston	10,329	0.27%
Alveston	137,846	0.33%	Thornbury	579,929	1.44%	Rangeworthy	9,746	0.26%
Stoke Gifford - BTM Station	119,155	0.29%	Thornbury & Falfield	461,828	1.14%	Stroud	7,727	0.20%
Thornbury	112,095	0.27%	Rangeworthy	436,385	1.08%	Brookthorpe & Haresfield	7,174	0.19%
Thornbury & Falfield	108,324	0.26%	Bristol Airport	155,434	0.39%	Stone	6,885	0.18%
Wotton Under Edge	57,403	0.14%	Stone	150,476	0.37%	Thornbury & Falfield	6,630	0.18%
Cam & Dursley	50,513	0.12%	Cam & Dursley	130,210	0.32%	Cam & Dursley	6,518	0.17%
Stone	48,489	0.12%	Wotton Under Edge	127,803	0.32%	Stonehouse - Great Oldbury	6,379	0.17%
Stroud	47,601	0.11%	Stonehouse - Great Oldbury	94,725	0.23%	Thornbury	6,160	0.16%
Stonehouse - Great Oldbury	40,396	0.10%	Stroud	59,406	0.15%	Stoke Gifford - BTM Station	5,056	0.13%
Brookthorpe & Haresfield	31,627	0.08%	Brookthorpe & Haresfield	57,906	0.14%	Tewkesbury	4,807	0.13%
Tewkesbury	22,806	0.05%	Nympsfield	37,532	0.09%	Wotton Under Edge	4,599	0.12%
Nympsfield	22,317	0.05%	Tewkesbury	35,939	0.09%	Nympsfield	4,485	0.12%
Stonehouse	19,938	0.05%	Brockworth	31,240	0.08%	Cheltenham Suburbs	4,187	0.11%
Brockworth	16,204	0.04%	Stonehouse	27,757	0.07%	Brockworth	3,841	0.10%
Cheltenham Suburbs	15,786	0.04%	Abbeymead & Abbeydale	17,424	0.04%	Cheltenham towards Brockworth	3,367	0.09%
Nailsworth	14,369	0.03%	Nailsworth	16,741	0.04%	Abbeymead & Abbeydale	3,300	0.09%
Cheltenham CC	11,790	0.03%	Cheltenham towards Brockworth	15,503	0.04%	Minchinhampton	2,669	0.07%
Cheltenham towards Brockworth	11,540	0.03%	Cheltenham Suburbs	14,081	0.03%	Stonehouse	2,631	0.07%
Minchinhampton	11,177	0.03%	Cheltenham Arle Court	13,661	0.03%	Nailsworth	2,151	0.06%
Abbeymead & Abbeydale	10,726	0.03%	Minchinhampton	12,693	0.03%	Cheltenham Arle Court	2,151	0.06%
Cheltenham Arle Court	9,783	0.02%	Cheltenham CC	8,127	0.02%	Painswick	2,097	0.06%
Painswick	8,191	0.02%	Painswick	7,975	0.02%	Cheltenham CC	2,069	0.05%
Chalford	6,377	0.02%	Chalford	7,136	0.02%	Chalford	1,236	0.03%
TOTAL	41,699,392	100%		40,342,163	100%		3,781,792	100%

Bristol	Bristol	Bristol	North
CC	Northern	Airport	of
area	Fringe		Bristol
	area		area

Coach Strategy - Phase 2 Feasibility Study

Project number: 60684169

### **Appendix F – Key Destination Demand Profile by time period – all modes**

	Bri	istol City Cen	tre Destinati	on	Bristol Northern Fringe Destination			Bristol Airport Destination				
Locations	AM Peak	Off Peak	PM Peak	Weekend	AM Peak	Off Peak	PM Peak	Weekend	AM Peak	Off Peak	PM Peak	Weekend
Abbeymead & Abbeydale	2,485	6,593	1,648	3,213	6,691	9,609	1,124	3,024	740	2,370	190	896
Abbeymead & Abbeydale - Not Served	2,971	9,906	2,526	4,440	4,891	12,540	2,537	3,612	471	2,321	259	812
Almondsbury	108,286	564,985	223,221	278,552	840,748	5,036,746	1,443,940	2,000,896	4,455	42,848	8,834	15,660
Alveston	33,082	77,258	27,506	35,042	151,763	514,871	159,221	204,191	1,226	7,975	1,128	2,847
Bradley Stoke	142,476	294,082	118,518	143,014	927,529	3,329,252	1,129,737	1,309,753	3,603	15,263	2,503	5,042
Bristol Airport	80,401	322,432	83,745	127,983	20,509	111,468	23,457	41,355	400,161	2,117,700	444,884	836,682
Bristol CC	4,388,615	21,398,830	7,322,646	8,286,003	667,125	2,883,536	1,059,802	1,128,658	53,777	351,542	100,602	130,283
Brockworth	3,782	9,547	2,875	4,039	8,569	17,857	4,814	4,542	683	2,943	215	917
Brookthorpe & Haresfield	5,708	20,282	5,637	8,982	12,008	37,834	8,064	13,157	1,075	5,609	490	2,064
Cam & Dursley	16,177	28,185	6,151	11,690	41,008	74,486	14,716	31,603	1,062	4,989	467	1,814
Chalford	2,220	3,296	861	1,219	2,523	4,193	420	1,630	272	933	31	328
Cheltenham Arle Court	2,547	5,400	1,836	2,348	3,827	7,603	2,231	2,190	282	1,775	94	646
Cheltenham CC	3,374	6,920	1,496	3,023	2,294	4,923	910	1,760	364	1,669	36	583
Cheltenham Suburbs	4,561	9,344	1,881	3,948	4,679	8,014	1,388	2,893	788	3,279	120	1,364
Cheltenham towards Brockworth	1,906	7,290	2,344	2,683	3,577	9,941	1,985	3,034	532	2,587	248	861
Filton	126,458	432,853	156,449	168,808	628,404	2,633,325	786,956	805,184	1,916	13,036	2,831	4,074
Hambrook	100,301	251,484	101,848	108,029	370,999	1,126,584	358,956	420,256	1,844	9,481	1,469	3,308
Harry Stoke - UWE	103,088	524,022	232,967	165,602	347,884	1,755,073	585,879	527,324	1,680	8,883	2,583	2,641
Minchinhampton	2,554	6,403	2,220	2,627	3,468	7,443	1,782	2,963	683	1,888	98	630
Nailsworth	2,659	8,398	3,312	3,624	4,297	10,540	1,904	3,906	300	1,723	128	655
Nympsfield	5,275	13,032	4,010	6,315	10,371	21,538	5,623	8,832	817	3,514	154	1,209
Painswick	1,493	5,510	1,188	2,231	1,984	4,973	1,018	2,014	488	1,517	92	702
Patchway	110,806	287,618	132,789	129,204	783,564	2,944,581	945,189	1,047,095	1,878	11,956	2,389	4,069
Rangeworthy	35,311	83,654	25,815	34,035	94,359	261,089	80,937	101,984	1,491	7,345	910	2,775
Southmead	261,223	707,137	244,913	272,687	607,411	2,124,254	690,197	756,213	2,886	18,679	3,693	6,031
Stoke Gifford - BTM Station	32,076	64,981	22,098	30,815	277,136	798,544	259,854	317,540	539	4,058	459	1,399
Stoke Park	236,682	879,099	275,446	360,386	122,762	446,967	137,893	182,486	1,710	10,020	2,062	3,484
Stone	11,494	28,624	8,371	11,853	35,899	87,208	27,369	39,457	980	5,550	355	1,902
Stonehouse	3,445	11,851	4,642	4,202	7,223	15,365	5,169	6,579	524	1,986	121	681
Stonehouse - Great Oldbury	9,285	23,633	7,478	10,791	20,134	60,594	13,997	25,980	959	5,033	387	1,741
Stroud	8,947	30,905	7,749	13,607	14,867	36,778	7,761	12,783	1,395	5,941	391	1,998
Tewkesbury	4,538	15,149	3,119	5,886	8,662	22,150	5,127	5,623	968	3,701	138	1,291
Thornbury	28,141	65,363	18,591	26,831	113,032	364,840	102,057	137,909	833	4,762	565	1,526
Thornbury & Falfield	33,192	58,409	16,723	26,690	114,009	281,175	66,644	114,720	1,105	5,138	387	1,718
Wotton Under Edge	13,640	30,877	12,886	14,695	33,533	73,255	21,015	31,121	758	3,414	427	1,277
Yate	101,722	241,532	63,485	102,840	243,345	580,524	141,701	232,298	4,153	14,910	1,367	4,818

Bristol	Bristol	Bristol	North
CC	Northern	Airport	of
area	Fringe		Bristol
	area		area

#### Assumptions:

• The annual AM peak passenger volume was factored by 202, assuming 252 working days in a year with 4 days a week spent commuting. This was to account for post Covid flexible working patterns. It is assumed the AM peak is 2-3 hours in length

- The annual off-peak passenger volume was divided by 252, assuming an off peak service that runs throughout the week, but with reduced or no services on national holidays, Sundays and one other day in the week depending on demand
- The annual weekend passenger volume was factored by 104, which accounts for 52 weekends in a year, each with 2 days to give a daily value

### **Appendix G – Origin Destination percentage of trips – all modes**

	O/D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	TOTAL
1	Abbeymead & Abbeydale	29.75	21.70	0.32	0.03	0.04	0.13	0.37	21.18	8.57	0.33	0.11	1.32	0.81	2.12	3.08	0.07	0.02	0.07	0.24	0.22	0.30	1.62	0.11	0.11	0.03	0.00	0.05	0.26	0.75	1.49	1.85	1.39	0.05	0.05	0.10	0.03	100
2	Abbeymead & Abbeydale - Not Served	17.21	41.33	0.29	0.05	0.06	0.09	0.40	12.92	5.99	0.65	0.20	1.85	0.81	2.07	3.55	0.06	0.03	0.05	0.32	0.24	0.54	1.33	0.07	0.21	0.03	0.01	0.06	0.40	0.89	1.92	2.18	1.76	0.10	0.09	0.13	0.12	100
3	Almondsbury	0.09	0.10	43.30	4.08	6.74	0.57	8.08	0.12	0.25	0.64	0.04	0.05	0.03	0.07	0.07	4.37	1.77	2.23	0.06	0.08	0.20	0.04	8.22	1.43	5.98	1.56	1.00	0.74	0.13	0.40	0.25	0.12	2.46	1.74	0.55	2.38	100
4	Alveston	0.03	0.08	14.65	30.93	5.10	0.39	4.80	0.09	0.25	0.86	0.02	0.03	0.01	0.05	0.06	2.06	1.20	1.11	0.05	0.06	0.22	0.05	4.10	3.26	2.08	0.83	0.40	2.14	0.16	0.68	0.18	0.10	12.49	7.45	0.84	3.15	100
5	Bradley Stoke	0.02	0.03	10.09	2.15	37.89	0.32	7.50	0.05	0.14	0.18	0.00	0.03	0.01	0.01	0.04	5.10	4.58	5.06	0.01	0.01	0.08	0.01	10.61	1.25	2.55	5.10	0.84	0.32	0.04	0.18	0.10	0.06	1.64	1.25	0.22	2.49	100
6	Bristol Airport	0.09	0.08	1.36	0.23	0.52	79.46	12.68	0.10	0.17	0.15	0.03	0.05	0.05	0.11	0.08	0.45	0.32	0.32	0.06	0.06	0.11	0.05	0.41	0.22	0.66	0.13	0.37	0.17	0.06	0.13	0.20	0.11	0.16	0.15	0.10	0.51	100
7	Bristol CC	0.02	0.03	2.17	0.33	1.26	1.28	81.40	0.03	0.09	0.11	0.01	0.02	0.02	0.04	0.03	1.48	1.03	1.70	0.03	0.03	0.05	0.02	1.19	0.34	2.58	0.26	2.43	0.13	0.04	0.09	0.10	0.04	0.27	0.22	0.13	0.92	100
8	Brockworth	12.02	10.13	0.27	0.06	0.08	0.09	0.32	44.82	6.75	0.46	0.24	1.83	1.19	4.15	6.03	0.06	0.04	0.06	0.25	0.16	0.38	1.96	0.16	0.18	0.05	0.01	0.06	0.28	0.62	1.35	1.74	1.73	0.09	0.09	0.11	0.09	100
9	Brookthorpe & Haresfield	6.54	6.60	0.79	0.21	0.32	0.24	0.94	8.77	33.90	2.48	0.37	1.24	0.79	1.90	2.30	0.17	0.09	0.13	0.72	0.78	2.04	3.49	0.25	0.50	0.12	0.03	0.10	1.25	3.61	8.30	6.60	1.68	0.30	0.32	0.46	0.31	100
10	Cam & Dursley	0.23	0.56	1.55	0.56	0.29	0.16	1.13	0.52	1.81	42.99	0.32	0.24	0.12	0.24	0.28	0.26	0.14	0.23	0.97	1.64	7.83	0.45	0.42	2.08	0.27	0.04	0.11	9.37	2.22	8.47	4.69	0.28	0.79	1.12	6.26	1.10	100
11	Chalford	0.26	0.64	0.35	0.06	0.04	0.10	0.49	0.92	1.00	1.17	23.39	0.28	0.33	0.62	0.60	0.05	0.04	0.02	9.38	4.43	2.48	10.55	0.06	0.14	0.03	0.00	0.04	0.36	2.92	2.08	35.76	0.31	0.07	0.05	0.49	0.15	100
12	Cheltenham Arle Court	1.42	2.91	0.22	0.04	0.09	0.10	0.39	3.71	1.71	0.44	0.15	25.82	4.47	20.97	10.16	0.10	0.03	0.06	0.25	0.17	0.35	0.67	0.07	0.12	0.04	0.01	0.05	0.24	0.51	1.03	0.93	4.04	0.10	0.10	0.12	0.06	100
13	Cheltenham CC	1.13	1.67	0.17	0.03	0.04	0.11	0.56	2.98	1.40	0.26	0.22	5.89	37.78	13.90	4.23	0.05	0.02	0.04	0.38	0.19	0.32	1.05	0.06	0.09	0.05	0.00	0.06	0.17	0.36	0.91	1.44	4.86	0.05	0.03	0.15	0.06	100
14	Cheltenham Suburbs	1.20	1.64	0.16	0.03	0.02	0.10	0.33	4.14	1.39	0.22	0.15	10.68	5.97	45.92	9.00	0.05	0.01	0.03	0.24	0.16	0.23	1.06	0.04	0.11	0.02	0.00	0.04	0.16	0.29	0.63	1.16	2.10	0.04	0.05	0.07	0.03	100
15	Cheltenham towards Brockworth	2.92	4.77	0.25	0.06	0.09	0.13	0.40	10.03	2.90	0.43	0.26	8.49	2.90	15.40	33.07	0.06	0.04	0.03	0.30	0.22	0.43	1.66	0.07	0.18	0.04	0.01	0.05	0.36	0.55	1.20	1.63	4.15	0.10	0.10	0.13	0.14	100
16	Filton	0.03	0.05	8.33	1.05	6.35	0.35	11.55	0.06	0.11	0.19	0.01	0.04	0.02	0.03	0.03	30.15	3.70	9.47	0.02	0.05	0.06	0.02	9.50	0.77	9.27	2.10	2.39	0.25	0.07	0.19	0.13	0.07	0.83	0.60	0.24	1.87	100
17	Hambrook	0.03	0.05	6.80	1.16	11.96	0.50	15.06	0.06	0.11	0.21	0.01	0.03	0.02	0.04	0.04	7.50	21.71	12.51	0.02	0.04	0.07	0.02	4.60	1.36	3.29	3.96	2.61	0.25	0.05	0.26	0.08	0.07	0.92	0.64	0.23	3.68	100
18	Harry Stoke - UWE	0.05	0.05	5.71	0.85	8.83	0.34	18.42	0.06	0.11	0.23	0.01	0.03	0.02	0.05	0.03	13.76	8.79	18.95	0.02	0.02	0.06	0.01	6.29	0.90	4.16	3.93	4.10	0.21	0.05	0.16	0.10	0.07	0.75	0.56	0.26	2.02	100
19	Minchinhampton	0.29	0.51	0.29	0.06	0.04	0.12	0.46	0.52	1.08	1.79	5.21	0.28	0.33	0.56	0.36	0.05	0.02	0.05	26.74	13.07	5.34	4.49	0.06	0.27	0.06	0.00	0.05	0.53	3.34	2.21	29.68	0.22	0.08	0.07	1.08	0.29	100
20	Nailsworth	0.26	0.40	0.42	0.09	0.05	0.11	0.66	0.38	1.20	3.36	2.58	0.24	0.18	0.38	0.31	0.12	0.05	0.05	15.05	27.91	6.53	2.95	0.06	0.65	0.11	0.00	0.08	0.82	3.18	2.66	25.00	0.18	0.12	0.13	2.72	0.72	100
21	Nympsfield	0.26	0.68	0.65	0.20	0.15	0.16	0.71	0.59	2.24	11.04	1.02	0.27	0.20	0.37	0.41	0.10	0.05	0.07	3.96	4.26	24.26	1.71	0.18	0.60	0.09	0.02	0.07	2.08	9.70	8.14	21.81	0.44	0.27	0.35	2.19	0.39	100
22	Painswick	1.57	1.74	0.17	0.06	0.02	0.09	0.31	3.60	4.71	0.73	5.22	0.61	0.75	2.12	1.83	0.04	0.04	0.02	4.20	2.57	2.12	31.61	0.03	0.16	0.03	0.00	0.05	0.29	2.16	1.81	29.41	0.53	0.04	0.09	0.36	0.07	100
23	Patchway	0.04	0.05	14.78	1.89	12.56	0.28	8.34	0.09	0.13	0.26	0.01	0.03	0.02	0.02	0.03	8.30	2.16	4.35	0.02	0.02	0.09	0.01	31.38	1.03	4.11	3.39	0.88	0.37	0.05	0.20	0.13	0.10	1.43	1.02	0.24	2.13	100
24	Rangeworthy	0.08	0.22	3.90	2.45	2.27	0.28	3.82	0.21	0.41	2.38	0.04	0.08	0.05	0.15	0.13	1.16	1.10	0.97	0.16	0.38	0.51	0.09	1.61	27.83	1.06	0.55	0.36	3.10	0.35	1.09	0.62	0.17	4.12	3.82	9.05	25.32	100
25	Southmead	0.01	0.03	12.45	1.05	3.36	0.51	21.48	0.05	0.08	0.20	0.01	0.02	0.02	0.02	0.02	9.85	1.77	3.50	0.02	0.04	0.06	0.01	5.00	0.71	31.73	0.91	2.83	0.27	0.03	0.13	0.09	0.03	0.82	0.70	0.19	1.97	100
26	Stoke Gifford - BTM Station	0.00	0.01	9.51	1.32	21.89	0.32	6.74	0.03	0.06	0.12	0.00	0.01	0.00	0.02	0.01	7.33	5.74	10.06	0.00	0.00	0.04	0.00	12.33	1.19	3.38	14.58	0.83	0.22	0.02	0.16	0.05	0.03	1.04	0.69	0.16	2.10	100
27	Stoke Park	0.06	0.09	4.80	0.53	2.63	0.62	41.82	0.10	0.16	0.23	0.02	0.06	0.05	0.08	0.05	5.86	3.24	5.93	0.05	0.07	0.11	0.05	2.32	0.63	6.24	0.61	20.36	0.20	0.07	0.19	0.23	0.10	0.39	0.35	0.22	1.41	100
28	Stone	0.25	0.53	2.83	2.31	0.85	0.29	1.88	0.51	1.65	15.80	0.17	0.23	0.14	0.31	0.40	0.53	0.25	0.30	0.48	0.65	2.56	0.30	0.86	4.65	0.59	0.14	0.17	34.67	1.36	6.22	2.30	0.54	2.72	3.92	6.09	2.29	100
29	Stonehouse	0.74	1.21	0.53	0.18	0.10	0.10	0.70	1.06	4.27	3.35	1.23	0.48	0.27	0.48	0.56	0.13	0.05	0.08	2.82	2.40	10.61	1.89	0.12	0.47	0.07	0.01	0.08	1.27	22.85	11.72	27.53	0.48	0.21	0.24	0.85	0.30	100
30	Stonenouse - Great Oldbury	1.00	1.70	1.08	0.49	0.33	0.18	1.00	1.49	6.71	9.00	0.62	0.61	0.37	0.73	0.82	0.26	0.16	0.18	1.32	1.39	6.57	1.14	0.33	1.08	0.20	0.07	0.11	3.95	8.48	31.95	11.37	0.83	0.63	0.86	1.46	0.78	100
31	Stroud	0.47	0.74	0.27	0.05	0.07	0.08	0.44	0.76	2.07	1.99	4.30	0.20	0.28	0.56	0.46	0.07	0.02	0.04	6.59	4.95	6.51	7.08	0.08	0.22	0.05	0.01	0.05	0.55	7.34	4.19	47.85	0.29	0.08	0.11	0.71	0.14	100
32	Tewkesbury	0.68	1.28	0.28	0.07	0.09	0.10	0.41	1.60	1.29	0.23	0.06	1.90	1.97	1.70	2.33	0.08	0.04	0.05	0.10	0.08	0.25	0.26	0.13	0.14	0.04	0.01	0.05	0.30	0.24	0.68	0.57	78.67	0.11	0.08	0.09	0.12	100
33	Thornbury	0.05	0.12	9.85	13.87	4.43	0.26	4.32	0.12	0.34	1.27	0.03	0.08	0.02	0.04	0.09	1.88	1.01	1.20	0.06	0.09	0.29	0.04	3.34	5.98	1.75	0.69	0.34	2.77	0.18	0.82	0.26	0.14	20.54	16.66	1.58	5.42	100
34	Thornbury & Falfield	0.08	0.15	7.87	8.61	3.54	0.29	4.37	0.20	0.51	1.93	0.02	0.11	0.03	0.10	0.13	1.52	0.90	1.09	0.07	0.11	0.47	0.11	2.86	5.96	1.84	0.51	0.35	4.17	0.27	1.38	0.47	0.21	16.99	26.82	2.02	3.87	100
35	Wotton Under Edge	0.11	0.19	2.14	0.84	0.61	0.18	2.09	0.19	0.57	10.05	0.25	0.11	0.09	0.14	0.14	0.53	0.28	0.42	0.95	2.07	2.57	0.33	0.58	12.69	0.41	0.11	0.20	5.93	0.88	2.20	2.65	0.20	1.55	1.79	36.87	8.97	100
36	Yate	0.01	0.05	2.96	1.12	2.11	0.25	4.69	0.05	0.12	0.54	0.02	0.02	0.01	0.02	0.05	1.24	1.34	1.01	0.08	0.19	0.14	0.02	1.60	11.14	1.33	0.43	0.38	0.69	0.09	0.36	0.17	0.06	1.63	1.08	2.81	62.18	100

Bristol	Bristol	Bristol	North
CC	Northern	Airport	of
area	Fringe		Bristol
	area		area

Coach Strategy - Phase 2 Feasibility Study

Project number: 60684169

### **Appendix H – Total Travel Demand split by mode from in-scope MSOAs**

Origin MSOA	MSOA ID	Location	Total Demand	Road Demand	Road %	Rail Demand	Rail %	Walking Demand	Walking %
E02003101	Tewkesbury 009	Brockworth	5,040,345	4,560,612	90%	4,895	0.10%	474,838	9%
E02003104	Tewkesbury 008	Cheltenham towards Brockworth	2,211,749	2,002,068	91%	15,799	0.71%	193,882	9%
E02007067	Tewkesbury 002	Tewkesbury	4,675,887	4,333,367	93%	50,014	1.07%	292,506	6%
E02003090	Tewkesbury 001	Tewkesbury	2,966,450	2,737,929	92%	264	0.01%	228,257	8%
E02003091	Stroud 015	Wotton Under Edge	3,102,036	2,875,550	93%	273	0.01%	226,213	7%
E02003092	Stroud 014	Cam & Dursley	4,854,943	4,571,037	94%	8,155	0.17%	275,751	6%
E02003093	Stroud 013	Nailsworth	3,570,564	3,328,542	93%	1,111	0.03%	240,911	7%
E02003094	Stroud 012	Stone	17,390,377	16,197,169	93%	37,949	0.22%	1,155,244	7%
E02003095	Stroud 011	Cam & Dursley	4,705,193	4,281,623	91%	10,950	0.23%	412,620	9%
E02003096	Stroud 010	Minchinhampton	1,333,494	1,218,928	91%	9,764	0.73%	104,802	8%
E02003097	Stroud 009	Nympsfield	2,543,243	2,313,981	91%	5,257	0.21%	224,005	9%
E02003098	Stroud 008	Chalford	4,490,877	4,153,568	92%	4,194	0.09%	333,115	7%
E02003099	Stroud 007	Stroud	2,913,511	2,623,795	90%	17,791	0.61%	271,925	9%
E02003103	Stroud 006	Stroud	1,454,781	1,327,210	91%	2,787	0.19%	124,784	9%
E02003107	Stroud 005	Stonehouse	8,480,996	7,587,322	89%	119,373	1.41%	774,190	9%
E02007064	Stroud 004	Stroud	4,588,567	4,208,313	92%	5,165	0.11%	375,078	8%
E02007065	Stroud 003	Stonehouse - Great Oldbury	3,791,124	3,494,119	92%	2,619	0.07%	294,386	8%
E02007066	Stroud 002	Painswick	6,385,353	5,817,240	91%	77,178	1.21%	490,935	8%
E02004604	Stroud 001	Brookthorpe & Haresfield	2,792,511	2,517,951	90%	2,191	0.08%	272,356	10%
E02004606	South Gloucestershire 036	Hambrook	5,444,677	4,805,695	88%	59,290	1.09%	579,676	11%
E02004607	South Gloucestershire 035	Harry Stoke - UWE	5,544,734	4,885,071	88%	3,395	0.06%	656,253	12%
E02004608	South Gloucestershire 034	Patchway	8,485,564	7,564,179	89%	19,876	0.23%	901,499	11%
E02004609	South Gloucestershire 033	Patchway	4,315,348	3,959,148	92%	10,873	0.25%	345,316	8%
E02004610	South Gloucestershire 018	Filton	3,262,108	2,929,083	90%	9,970	0.31%	323,022	10%
E02004612	South Gloucestershire 015	Stoke Gifford - BTM Station	2,630,218	2,407,441	92%	5,680	0.22%	217,097	8%
E02004614	South Gloucestershire 014	Yate	2,149,839	1,960,653	91%	771	0.04%	188,415	9%
E02004641	South Gloucestershire 012	Bradley Stoke	2,095,417	1,934,697	92%	2,397	0.11%	158,300	8%
E02004642	South Gloucestershire 010	Yate	7,949,317	7,262,115	91%	9,364	0.12%	677,826	9%
E02004645	South Gloucestershire 009	Bradley Stoke	2,882,411	2,620,024	91%	2,888	0.10%	259,499	9%
E02004651	South Gloucestershire 008	Yate	6,059,374	5,583,314	92%	9,225	0.15%	466,825	8%
E02004652	South Gloucestershire 007	Yate	3,281,314	3,017,626	92%	2,596	0.08%	261,092	8%
E02004653	South Gloucestershire 006	Yate	5,455,899	5,111,838	94%	14,764	0.27%	329,297	6%
E02004654	South Gloucestershire 005	Almondsbury	3,313,379	3,054,643	92%	13,740	0.41%	244,996	7%
E02004655	South Gloucestershire 004	Alveston	3,517,929	3,232,895	92%	46,086	1.31%	238,948	7%
E02004656	South Gloucestershire 003	Rangeworthy	5,964,162	5,442,150	91%	48,409	0.81%	473,603	8%
E02004657	South Gloucestershire 002	Thornbury	3,347,279	3,051,995	91%	11,172	0.33%	284,112	8%
E02004658	South Gloucestershire 001	Thornbury & Falfield	1,636,858	1,522,402	93%	2,680	0.16%	111,776	7%
E02004659	North Somerset 013	Bristol Airport	3,669,352	3,400,065	93%	6,244	0.17%	263,043	7%
E02004660	Gloucester 010	Abbeymead & Abbeydale	3,054,286	2,803,260	92%	2,523	0.08%	248,503	8%
E02004661	Gloucester 007	Abbeymead & Abbeydale - Not Served	2,597,399	2,374,425	91%	17,732	0.68%	205,242	8%
E02004662	Gloucester 006	Abbeymead & Abbeydale	3,122,666	2,894,875	93%	5,130	0.16%	222,661	7%
E02004663	Cheltenham 015	Cheltenham Suburbs	2,624,209	2,407,358	92%	906	0.03%	215,945	8%

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E02004664	Cheltenham 013	Cheltenham Suburbs	2,658,423	2,403,128	90%	3,357	0.13%	251,938	9%
E02004665	Cheltenham 011	Cheltenham Suburbs	3,317,452	3,058,128	92%	1,561	0.05%	257,763	8%
E02004666	Cheltenham 010	Cheltenham Arle Court	4,662,322	4,262,450	91%	11,242	0.24%	388,630	8%
E02004667	Cheltenham 009	Cheltenham CC	3,682,144	3,322,150	90%	1,038	0.03%	358,956	10%
E02004673	Cheltenham 008	Cheltenham CC	5,231,630	4,788,689	92%	4,108	0.08%	438,782	8%
E02004674	Cheltenham 007	Cheltenham CC - Not Served	7,182,309	6,632,615	92%	4,651	0.06%	545,043	8%
E02006949	Cheltenham 005	Cheltenham CC - Not Served	2,837,622	2,482,790	87%	60,255	2.12%	294,577	10%
E02003013	Bristol 061	Bristol CC	4,740,477	4,362,065	92%	1,374	0.03%	377,038	8%
E02003015	Bristol 060	Bristol CC	5,248,685	4,867,382	93%	3,265	0.06%	378,038	7%
E02003025	Bristol 059	Bristol CC	4,873,881	4,444,499	91%	55,855	1.15%	373,527	8%
E02003036	Bristol 058	Bristol CC	6,480,957	5,777,830	89%	68,522	1.06%	634,588	10%
E02003037	Bristol 056	Bristol CC	5,210,600	4,422,560	85%	103,612	1.99%	684,428	13%
E02003041	Bristol 055	Bristol CC	3,461,107	3,083,304	89%	11,057	0.32%	366,746	11%
E02003045	Bristol 054	Bristol CC	2,307,469	2,008,382	87%	4,981	0.22%	294,106	13%
E02003047	Bristol 039	Bristol CC	5,487,878	4,839,822	88%	13,290	0.24%	634,751	12%
E02003050	Bristol 036	Bristol CC	6,886,205	6,039,813	88%	96,402	1.40%	749,937	11%
E02006887	Bristol 034	Bristol CC	14,323,861	12,177,758	85%	702,498	4.90%	1,440,662	10%
E02006888	Bristol 030	Bristol CC	2,816,576	2,465,974	88%	75,422	2.68%	275,180	10%
E02006889	Bristol 026	Bristol CC	6,229,629	5,557,984	89%	101,335	1.63%	570,291	9%
E02006950	Bristol 025	Bristol CC	3,184,774	2,812,779	88%	22,026	0.69%	349,959	11%
E02006951	Bristol 014	Stoke Park	9,308,470	8,114,811	87%	46,408	0.50%	1,147,237	12%
E02006952	Bristol 004	Southmead	14,526,636	12,774,634	88%	118,131	0.81%	1,633,650	11%
E02003077	Bristol 002	Southmead	7,811,953	6,742,991	86%	1,914	0.02%	1,060,983	14%

Bristol	Bristol	Bristol	North
СС	Northern	Airport	of
area	Fringe		Bristol
	area		area

### Appendix I - Road-Based Demand by Month (rail period months)

Origin Area to Bristol City Centre

	28/05/2023	25/06/2023	23/07/2023	20/08/2023	17/09/2023	15/10/2023	12/11/2023	10/12/2023	07/01/2024	04/02/2024	03/03/2024	01/04/2024	28/04/2024	
Origin Area to Bristol CC	2023	2023	2023	2023	2023	2023	2023	2023	2024	2024	2024	2024	2024	Total
Abbeymead & Abbeydale	719	693	988	794	745	790	798	964	719	962	858	858	838	10,726
Abbeymead & Abbeydale - Not Served	1,198	1,151	1,162	1,010	1,160	1,237	1,351	1,320	1,077	1,304	1,095	1,107	1,231	15,403
Almondsbury	67,293	64,487	65,721	58,090	68,760	80,157	88,658	84,064	58,205	67,914	62,342	63,230	67,571	896,492
Alveston	10,914	10,917	10,100	9,455	10,105	11,273	12,334	10,787	8,702	11,144	10,431	10,129	11,555	137,846
Bradley Stoke	39,180	39,059	36,057	36,056	42,090	50,022	53,048	45,405	37,293	44,901	43,351	42,408	46,206	555,076
Bristol Airport	39,085	38,543	37,384	35,836	40,734	43,324	38,527	36,829	28,621	32,839	33,169	37,362	44,325	486,578
Bristol CC	2,475,566	2,325,305	2,190,135	1,869,898	2,805,387	3,217,693	3,293,137	2,530,556	2,331,822	2,735,603	2,519,362	2,239,165	2,576,462	33,110,091
Brockworth	1,079	1,124	975	1,198	1,211	1,374	1,311	1,360	1,008	1,585	1,190	1,238	1,551	16,204
Brookthorpe & Haresfield	2,380	2,282	2,513	3,084	2,581	2,503	2,507	2,538	1,859	2,436	2,350	2,157	2,437	31,627
Cam & Dursley	3,199	3,582	3,339	3,240	3,673	4,751	4,997	4,409	3,448	4,190	3,665	4,037	3,983	50,513
Chalford	561	348	320	260	465	625	649	493	434	589	499	563	571	6,377
Cheltenham Arle Court	782	817	639	573	842	787	1,005	566	556	897	689	628	1,002	9,783
Cheltenham CC	615	684	505	692	730	1,019	1,191	742	707	1,236	1,376	1,113	1,180	11,790
Cheltenham Suburbs	1,187	1,043	1,023	1,095	1,189	1,445	1,546	1,350	997	1,317	1,230	1,074	1,290	15,786
Cheltenham towards Brockworth	876	855	893	1,114	747	860	824	689	643	868	827	759	1,585	11,540
Filton	49,874	47,386	45,426	45,672	62,425	69,394	72,612	55,500	50,163	59,538	55,505	48,108	54,157	715,760
Hambrook	32,346	31,689	29,062	27,514	37,513	42,478	46,162	32,598	31,223	37,596	34,332	32,509	38,611	453,633
Harry Stoke - UWE	51,568	47,681	41,405	39,938	88,518	97,149	98,507	52,242	59,002	82,735	76,535	59,575	65,222	860,077
Minchinhampton	841	772	714	676	850	1,061	907	851	699	932	918	980	976	11,177
Nailsworth	992	744	901	856	1,108	1,284	1,566	1,177	784	1,136	1,214	1,301	1,306	14,369
Nympsfield	1,757	1,806	1,449	1,454	2,011	2,379	2,130	1,765	1,348	1,853	1,290	1,558	1,517	22,317
Painswick	437	570	575	530	537	707	768	761	414	735	632	702	823	8,191
Patchway	36,718	38,720	36,010	29,691	38,564	47,539	53,471	44,089	36,352	44,967	42,149	40,378	42,565	531,213
Rangeworthy	10,476	10,926	11,234	9,742	10,453	12,715	13,895	11,529	9,852	10,850	11,169	10,780	11,159	144,780
Southmead	87,473	87,735	82,686	75,807	96,421	111,339	118,766	97,922	85,296	98,691	91,239	85,969	93,929	1,213,273
Stoke Gifford - BTM Station	8,588	8,246	7,354	7,079	8,675	10,605	12,239	10,481	8,065	9,554	9,534	9,166	9,569	119,155
Stoke Park	107,387	106,175	99,981	89,942	112,914	123,032	128,092	110,722	95,830	108,972	105,474	95,713	106,993	1,391,227
Stone	3,839	4,210	4,040	3,386	3,726	3,945	4,233	3,353	3,269	3,771	3,294	3,523	3,900	48,489
Stonehouse	1,349	1,187	1,418	1,264	1,577	1,984	2,052	1,704	1,304	1,753	1,475	1,529	1,342	19,938
Stonehouse - Great Oldbury	2,555	2,654	2,791	2,288	4,320	5,085	3,491	2,684	2,568	3,126	2,569	3,241	3,024	40,396
Stroud	3,298	3,126	2,925	2,750	3,647	4,332	5,084	4,421	3,166	4,044	3,633	3,523	3,652	47,601
Tewkesbury	4,291	3,290	3,179	2,057	1,413	1,139	1,326	1,036	897	1,166	1,276	1,041	695	22,806
Thornbury	7,512	8,421	8,072	6,944	8,248	10,225	11,703	9,802	7,568	8,209	8,849	7,925	8,617	112,095
Thornbury & Falfield	7,060	7,521	7,322	6,504	8,464	10,105	11,102	9,383	8,009	7,476	8,926	8,197	8,255	108,324
Wotton Under Edge	3,756	3,896	3,678	3,400	3,905	5,036	5,598	4,848	4,253	5,047	4,586	4,561	4,839	57,403
Yate	26,882	29,198	26,024	23,984	30,695	37,215	41,460	36,161	27,794	32,046	31,293	31,156	32,831	406,739

Bristol	Bristol	Bristol	North
CC	Northern	Airport	of
area	Fringe		Bristol
	area		area

#### Origin Area to Bristol Northern Fringe

	28/05/2023	25/06/2023	23/07/2023	20/08/2023	17/09/2023	15/10/2023	12/11/2023	10/12/2023	07/01/2024	04/02/2024	03/03/2024	01/04/2024	28/04/2024	
Origin Area to Bristol Northern Fringe	2023	2023	2023	2023	2023	2023	2023	2023	2024	2024	2024	2024	2024	Total
Abbeymead & Abbeydale	872	1,106	1,195	897	1,169	1,556	1,556	1,520	1,183	1,716	1,494	1,678	1,482	17,424
Abbeymead & Abbeydale - Not Served	1,225	1,375	1,217	1,288	1,533	1,987	2,026	1,394	1,340	1,534	1,472	1,620	1,957	19,968
Almondsbury	530,293	485,315	501,237	427,405	577,327	693,738	737,037	768,283	516,982	549,593	474,673	514,214	545,337	7,321,434
Alveston	64,989	61,957	59,672	55,220	61,287	71,203	72,558	66,789	55,631	65,587	62,012	58,599	70,351	825,855
Bradley Stoke	394,047	375,201	324,249	317,123	426,252	504,825	527,683	482,700	399,895	429,047	407,490	374,508	423,498	5,386,518
Bristol Airport	14,277	13,890	12,773	12,151	13,773	13,029	10,988	10,883	7,371	9,744	9,895	12,208	14,452	155,434
Bristol CC	327,186	332,811	304,775	276,310	380,866	441,831	469,328	362,023	300,275	378,620	347,477	326,112	362,849	4,610,463
Brockworth	1,947	2,366	2,294	2,042	2,162	2,857	2,876	2,050	2,269	2,510	2,382	2,491	2,994	31,240
Brookthorpe & Haresfield	4,324	4,368	4,320	4,537	4,397	5,027	5,239	4,307	3,507	4,431	4,216	4,746	4,487	57,906
Cam & Dursley	8,229	8,631	8,425	7,865	8,987	11,785	12,738	12,751	8,847	11,049	10,239	10,208	10,456	130,210
Chalford	471	431	549	322	496	714	751	638	504	529	503	710	518	7,136
Cheltenham Arle Court	918	793	797	916	1,122	1,231	1,437	1,057	919	943	1,155	1,113	1,260	13,661
Cheltenham CC	507	610	573	579	566	590	789	542	556	592	745	730	748	8,127
Cheltenham Suburbs	984	1,183	1,219	980	819	1,360	1,182	1,246	776	962	1,105	1,088	1,177	14,081
Cheltenham towards Brockworth	1,170	1,227	1,071	1,384	1,123	1,118	1,080	844	847	1,149	1,058	1,266	2,166	15,503
Filton	269,418	248,682	231,708	240,683	338,008	395,070	408,543	321,202	313,736	336,151	322,657	296,654	326,173	4,048,685
Hambrook	131,422	124,786	110,495	110,165	152,377	173,628	183,006	153,512	135,000	147,501	145,247	133,512	155,888	1,856,539
Harry Stoke - UWE	185,880	167,436	144,392	150,054	247,974	270,918	278,403	192,542	201,774	225,879	219,733	189,385	214,466	2,688,836
Minchinhampton	924	856	878	789	788	1,193	1,411	1,332	689	909	882	1,096	946	12,693
Nailsworth	1,012	1,236	1,003	948	1,110	1,726	1,727	1,547	1,222	1,443	1,318	1,124	1,325	16,741
Nympsfield	2,412	2,602	2,728	2,397	3,046	3,301	3,445	3,216	2,677	3,259	2,532	2,869	3,048	37,532
Painswick	378	469	602	630	668	889	988	783	444	512	452	427	733	7,975
Patchway	325,107	312,526	289,901	251,702	363,634	444,178	462,213	418,642	347,094	378,386	361,264	347,998	370,689	4,673,334
Rangeworthy	32,057	32,713	31,945	28,131	30,836	37,673	39,883	36,423	28,619	34,808	33,190	32,697	37,410	436,385
Southmead	248,071	247,469	216,568	214,960	268,528	316,715	325,839	288,920	248,604	269,901	262,262	240,518	273,507	3,421,862
Stoke Gifford - BTM Station	99,779	92,732	77,768	76,159	105,842	122,803	130,732	116,247	98,195	105,949	104,304	94,359	110,665	1,335,534
Stoke Park	51,118	48,539	44,809	44,998	58,221	65,674	66,776	55,795	50,725	58,165	55,904	51,037	55,861	707,622
Stone	11,099	11,148	11,371	9,983	10,271	13,090	13,677	13,308	10,094	11,465	11,213	10,972	12,785	150,476
Stonehouse	1,766	2,014	1,891	1,536	1,833	2,481	2,599	2,452	1,932	2,179	2,412	2,231	2,431	27,757
Stonehouse - Great Oldbury	6,429	6,563	6,668	6,602	7,866	9,506	7,700	7,455	6,024	6,639	7,374	7,306	8,593	94,725
Stroud	3,177	3,873	3,707	3,129	4,511	5,933	6,047	5,343	4,420	4,815	4,771	4,435	5,245	59,406
Tewkesbury	4,877	4,571	4,400	2,922	2,203	2,212	2,441	1,907	2,077	2,284	2,272	2,177	1,596	35,939
Thornbury	40,641	45,495	37,995	35,606	42,224	52,919	56,100	50,449	42,050	43,732	45,805	41,262	45,651	579,929
Thornbury & Falfield	31,031	33,350	29,034	28,574	33,582	43,051	47,016	43,881	34,129	33,197	37,548	32,071	35,364	461,828
Wotton Under Edge	8,324	8,670	8,048	7,201	9,262	11,611	12,619	12,304	8,673	10,357	9,826	10,323	10,585	127,803
Yate	66,086	69,318	63,442	55,800	71,075	90,835	94,876	86,755	68,924	74,123	76,076	72,109	76,151	965,570

Bristol	Bristol	Bristol	North
CC	Northern	Airport	of
area	Fringe		Bristol
	area		area

### Origin Area to Bristol Airport

	28/05/2023	25/06/2023	23/07/2023	20/08/2023	17/09/2023	15/10/2023	12/11/2023	10/12/2023	07/01/2024	04/02/2024	03/03/2024	01/04/2024	28/04/2024	
Origin Area to Bristol Airport	2023	2023	2023	2023	2023	2023	2023	2023	2024	2024	2024	2024	2024	Total
Abbeymead & Abbeydale	303	328	383	326	303	281	241	114	119	189	202	157	354	3,300
Abbeymead & Abbeydale - Not Served	228	212	343	291	352	274	185	105	54	173	218	234	382	3,051
Almondsbury	4,851	4,243	4,914	5,173	4,539	4,784	4,027	4,079	2,772	3,738	3,722	4,008	5,287	56,137
Alveston	1,048	853	841	1,013	819	843	640	620	461	682	589	734	1,186	10,329
Bradley Stoke	1,741	1,766	1,968	1,523	1,923	1,807	1,570	1,527	896	1,193	1,435	1,829	2,191	21,369
Bristol Airport	244,740	246,717	247,668	245,772	286,557	269,936	185,866	219,983	139,224	185,188	201,324	225,554	264,216	2,962,745
Bristol CC	40,652	41,450	40,328	36,957	41,296	43,266	38,918	39,948	28,907	35,447	35,155	38,274	45,323	505,921
Brockworth	292	432	289	498	307	282	239	178	108	101	276	247	592	3,841
Brookthorpe & Haresfield	513	661	657	871	712	625	314	386	286	441	520	442	746	7,174
Cam & Dursley	563	500	605	576	580	425	388	424	207	463	562	450	775	6,518
Chalford	178	74	111	157	93	68	70	111	31	44	86	80	133	1,236
Cheltenham Arle Court	187	212	249	155	161	258	112	90	55	98	131	152	291	2,151
Cheltenham CC	151	237	194	179	104	161	135	152	53	209	167	177	150	2,069
Cheltenham Suburbs	404	415	468	355	414	348	146	276	89	272	208	263	529	4,187
Cheltenham towards Brockworth	285	257	323	404	308	181	166	161	103	138	155	202	684	3,367
Filton	1,446	1,247	1,371	1,332	1,335	1,584	1,114	1,347	1,308	1,356	1,235	1,446	1,662	17,783
Hambrook	1,181	1,099	965	1,064	1,051	947	778	878	578	737	860	1,182	1,474	12,794
Harry Stoke - UWE	1,008	1,113	1,031	949	1,025	1,194	1,011	777	749	914	959	1,166	1,250	13,146
Minchinhampton	211	218	221	197	233	189	154	262	146	167	207	147	317	2,669
Nailsworth	155	148	125	197	237	154	143	196	73	134	183	155	251	2,151
Nympsfield	449	418	490	442	484	340	174	320	146	216	270	260	476	4,485
Painswick	134	116	250	189	184	185	97	82	96	191	125	152	296	2,097
Patchway	1,541	1,228	1,296	1,013	1,317	1,138	1,199	1,144	934	1,079	1,168	1,478	1,688	16,223
Rangeworthy	1,018	865	987	932	887	781	631	601	380	522	529	635	978	9,746
Southmead	2,022	2,007	1,880	1,772	2,162	2,173	1,701	1,879	1,307	1,851	1,648	2,113	2,743	25,258
Stoke Gifford - BTM Station	344	451	467	387	485	514	401	341	196	246	281	379	564	5,056
Stoke Park	1,090	1,253	1,132	1,214	1,163	1,182	711	995	699	892	942	1,103	1,416	13,792
Stone	841	783	727	656	546	497	335	405	225	336	444	404	686	6,885
Stonehouse	193	223	321	186	303	202	164	168	64	133	151	212	311	2,631
Stonehouse - Great Oldbury	433	565	600	510	1,028	610	265	317	221	281	438	489	622	6,379
Stroud	754	621	678	602	737	555	396	587	229	433	623	529	983	7,727
Tewkesbury	662	596	776	598	437	335	227	205	112	187	229	247	196	4,807
Thornbury	572	498	482	565	523	463	412	413	174	375	519	460	704	6,160
Thornbury & Falfield	489	526	670	553	624	551	444	433	240	459	536	467	638	6,630
Wotton Under Edge	318	463	331	425	478	394	287	308	135	319	286	443	412	4,599
Yate	1,728	1,694	1,722	1,763	2,025	1,761	1,333	1,364	840	1,226	1,109	1,632	2,233	20,430

Project number: 60684169

Bristol	Bristol	Bristol	North
CC	Northern	Airport	of
area	Fringe		Bristol
	area		area

### Appendix J – Estimated Daily Demand by Coach Service Route Option - Southbound

					Collector	Route (A) So	uthbound - Or	igin De	mand	ł										
	Destinations			Origin Area	Total Estimated Road-Based Demand				Total Estimated Coach Service Demand (based on % mode shift)											
Origin			ons		AM Peak	Off Peak	Weekend	Daily AM Peak Daily Off Peak Daily V								aily We	Weekend			
								0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%	
				Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
2	3	4		Almondsbury	276,174	1,514,064	645,641	5	11	22	55	30	60	120	300	31	62	124	310	
2	3	4		Alveston	76,578	191,971	77,472	2	3	6	15	4	8	15	38	4	7	15	37	
				Bradley Stoke	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
4				Bristol Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4				Bristol City Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham Town Centre	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham Suburbs	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
3	4			Filton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
3	4			Harry Stoke - UWE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	2	3	4	Minchinhampton	9,523	22,992	9,409	0	0	1	2	0	1	2	5	0	1	2	5	
1	2	3	4	Nailsworth	10,040	30,506	12,443	0	0	1	2	1	1	2	6	1	1	2	6	
				Painswick	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
3	4			Patchway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				Stoke Gifford - BTM Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
2	3	4		Stone	24,367	53,044	20,730	0	1	2	5	1	2	4	11	1	2	4	10	
1	2	3	4	Stonehouse	19,231	52,259	18,784	0	1	2	4	1	2	4	10	1	2	4	9	
1	2	3	4	Stonehouse - Great Oldbury	61,489	206,063	89,389	1	2	5	12	4	8	16	41	4	9	17	43	
1	2	3	4	Stroud	38,262	108,160	42,874	1	2	3	8	2	4	9	21	2	4	8	21	
2	3	4		Thornbury	67,029	155,564	57,815	1	3	5	13	3	6	12	31	3	6	11	28	
2	3	4		Thornbury & Falfield	71,533	129,177	51,019	1	3	6	14	3	5	10	26	2	5	10	25	
				Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Total Demand				13	26	52	130	49	98	196	489	49	99	197	493	
			ł																	
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					Total Estin	nated Road-Bas	ed Demand		Tota	al Esti	mated	Coach Se	ervice I	Deman	d (base	d on % m	iode sh	ift)		
Origin	Des	tinati	ons	Origin Area			Meeliend	Da	aily AM	1 Peak	(	D	aily Of	f Peak		D	aily We	ekend		
	3 4   3 4			Ам Реак	Опреак	weekena	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%		
				Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
2	3	4		Almondsbury	202,429	1,236,759	564,829	4	8	16	40	25	49	98	245	27	54	109	272	
2	3	4		Alveston	64,996	192,383	85,132	1	3	5	13	4	8	15	38	4	8	16	41	
3				Bradley Stoke	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4				Bristol Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4				Bristol City Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham Town Centre	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham Suburbs	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Filton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
3				Harry Stoke - UWE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	2	3	4	Minchinhampton	8,840	22,346	9,353	0	0	1	2	0	1	2	4	0	1	2	4	
1	2	3	4	Nailsworth	9,228	29,347	12,133	0	0	1	2	1	1	2	6	1	1	2	6	
				Painswick	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Patchway	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
3				Stoke Gifford - BTM Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	3	4		Stone	20,195	47,603	19,619	0	1	2	4	1	2	4	9	1	2	4	9	
1	2	3	4	Stonehouse	17,971	50,512	18,272	0	1	1	4	1	2	4	10	1	2	4	9	
1	2	3	4	Stonehouse - Great Oldbury	59,235	201,863	88,393	1	2	5	12	4	8	16	40	4	8	17	42	
1	2	3	4	Stroud	35,908	104,388	42,228	1	1	3	7	2	4	8	21	2	4	8	20	
2	3	4		Thornbury	55,129	158,090	62,367	1	2	4	11	3	6	13	31	3	6	12	30	
2	3	4		Thornbury & Falfield	61,943	128,007	53,261	1	2	5	12	3	5	10	25	3	5	10	26	
				Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	
				Total Demand				11	21	43	106	43	86	172	431	46	92	184	459	

						Corrido	ınd - Origin Demar	nd												
						Total Es	stimated Road-Based D	emand	T	otal E	stima	ted C	oach Se	rvice I	Demar	ıd (bas	ed on 9	% mod	e shift	)
Origin	D	estin	atio	ons	Origin Area	AM Dook	Off Dook	Weekend	D	aily Al	M Peal	ĸ	ſ	Daily O	ff Peak		C	Daily W	eekend	a
						AM Peak	Off Peak	weekena	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%
					Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5			Almondsbury	276,174	1,514,064	645,641	5	11	22	55	30	60	120	300	31	62	124	310
3	4	5			Alveston	76,578	191,971	77,472	2	3	6	15	4	8	15	38	4	7	15	37
					Bradley Stoke	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
5					Bristol Airport	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
5					Bristol City Centre	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	Brockworth	66,697	174,584	68,454	1	3	5	13	3	7	14	35	3	7	13	33
					Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	Cheltenham Town Centre	20,332	54,192	24,401	0	1	2	4	1	2	4	11	1	2	5	12
1	2	3	4	5	Cheltenham Suburbs	41,470	99,860	39,736	1	2	3	8	2	4	8	20	2	4	8	19
					Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
4					Filton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
4					Harry Stoke - UWE	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5		Painswick	5,959	15,975	7,013	0	0	0	1	0	1	1	3	0	1	1	3
4					Patchway	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Stoke Gifford - BTM Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5			Stone	24,367	53,044	20,730	0	1	2	5	1	2	4	11	1	2	4	10
2	3	4	5		Stonehouse	19,231	52,259	18,784	0	1	2	4	1	2	4	10	1	2	4	9
2	3	4	5		Stonehouse - Great Oldbury	61,489	206,063	89,389	1	2	5	12	4	8	16	41	4	9	17	43
2	3	4	5		Stroud	38,262	108,160	42,874	1	2	3	8	2	4	9	21	2	4	8	21
3	4	5			Thornbury	67,029	155,564	57,815	1	3	5	13	3	6	12	31	3	6	11	28
3	4	5			Thornbury & Falfield	71,533	129,177	51,019	1	3	6	14	3	5	10	26	2	5	10	25
					Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Total Demand				15	31	61	153	55	109	219	547	55	110	220	550

						Corri	dor Route (B) Southb	ound - Origin Dem	and											
						Total Es	stimated Road-Based D	emand		Tota	l Estir	nated C	oach Se	ervice	Demai	nd (base	d on %	mode	shift)	
Origin	D	estir	natio	ns	Origin Area	AM Dook	Off Book	Weekend		Daily A	AM Pea	ık		Daily	Off Pea	k	C	Daily W	eeken	1
						AMPeak	Oll Peak	weekenu	0.5%	1%	<b>2</b> %	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%
					Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5			Almondsbury	202,429	1,236,759	564,829	4	8	16	40	25	49	98	245	27	54	109	272
3	4	5			Alveston	64,996	192,383	85,132	1	3	5	13	4	8	15	38	4	8	16	41
4					Bradley Stoke	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5					Bristol Airport	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
5					Bristol City Centre	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	Brockworth	63,987	171,392	68,159	1	3	5	13	3	7	14	34	3	7	13	33
					Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	Cheltenham Town Centre	19,837	53,608	24,174	0	1	2	4	1	2	4	11	1	2	5	12
1	2	3	4	5	Cheltenham Suburbs	40,496	98,233	39,491	1	2	3	8	2	4	8	19	2	4	8	19
					Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Filton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
4					Harry Stoke - UWE	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5		Painswick	5,703	15,458	6,919	0	0	0	1	0	1	1	3	0	1	1	3
					Patchway	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
4					Stoke Gifford - BTM Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5			Stone	20,195	47,603	19,619	0	1	2	4	1	2	4	9	1	2	4	9
2	3	4	5		Stonehouse	17,971	50,512	18,272	0	1	1	4	1	2	4	10	1	2	4	9
2	3	4	5		Stonehouse - Great Oldbury	59,235	201,863	88,393	1	2	5	12	4	8	16	40	4	8	17	42
2	3	4	5		Stroud	35,908	104,388	42,228	1	1	3	7	2	4	8	21	2	4	8	20
3	4	5			Thornbury	55,129	158,090	62,367	1	2	4	11	3	6	13	31	3	6	12	30
3	4	5			Thornbury & Falfield	61,943	128,007	53,261	1	2	5	12	3	5	10	25	3	5	10	26
					Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Total Demand				13	26	51	129	49	98	195	488	52	103	206	516

						Rural	Route (A) Southbound	- Origin Demand												
						Total E	stimated Road-Based D	emand		Total	Estim	ated C	oach Se	rvice I	Deman	d (bas	ed on %	mode	shift)	
Origin		Des	tinatio	ons	Origin Area	AM Dook	Off Dook	Weekend	D	aily AM	1 Peak		L	Daily Of	f Peak		D	aily We	eekend	
						APIPEak	Oll Feak	weekenu	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	
					Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
4	5	6			Almondsbury	276,174	1,514,064	645,641	5	11	22	55	30	60	120	300	31	62	124	
4	5	6			Alveston	76,578	191,971	77,472	2	3	6	15	4	8	15	38	4	7	15	
					Bradley Stoke	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
6					Bristol Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6					Bristol City Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	2	3	4	56	Brockworth	66,434	182,144	70,915	1	3	5	13	4	7	14	36	3	7	14	
3	4	5	6		Cam & Dursley	73,211	144,878	64,418	1	3	6	15	3	6	11	29	3	6	12	
					Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
					Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
1	2	3	4	56	Cheltenham Town Centre	19,971	58,289	25,662	0	1	2	4	1	2	5	12	1	2	5	
1	2	3	4	5 6	Cheltenham Suburbs	41,304	104,169	40,576	1	2	3	8	2	4	8	21	2	4	8	Γ
					Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
5					Filton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
					Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
5					Harry Stoke - UWE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
					Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
					Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
2	3	4	5	6	Painswick	8,342	27,627	10,781	0	0	1	2	1	1	2	5	1	1	2	
5					Patchway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
					Stoke Gifford - BTM Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
					Stone	-	-	-	0	0	0	0	0	0	0	0	0	0	0	
2	3	4	5	6	Stonehouse	32,644	95,010	31,650	1	1	3	6	2	4	8	19	2	3	6	
2	3	4	5	6	Stonehouse - Great Oldbury	103,210	350,521	148,383	2	4	8	20	7	14	28	70	7	14	29	Γ
2	3	4	5	6	Stroud	69,344	241,983	88,943	1	3	6	14	5	10	19	48	4	9	17	
4	5	6			Thornbury	67,029	155,564	57,815	1	3	5	13	3	6	12	31	3	6	11	
4	5	6			Thornbury & Falfield	71,533	129,177	51,019	1	3	6	14	3	5	10	26	2	5	10	
3	4	5	6		Wotton Under Edge	66,206	144,587	62,790	1	3	5	13	3	6	11	29	3	6	12	
					Total Demand				19	39	77	193	66	133	265	663	66	132	265	

5%
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310
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15
71
43
28
25
30
662

						Rura	al Route (B) Southbour	nd - Origin Demand											
						Total E	stimated Road-Based D	emand		Tota	al Esti	mated	Coach S	ervice	Demar	nd (bas	ed on %	mode s	shift)
Origin		Des	tina	tions	Origin Area	AM Deals		Medicand	D	aily Al	M Peal	ς		Daily O	ff Peak			Daily W	eeken
						AMPEdK	Oll Peak	weekend	0.5%	1%	<b>2</b> %	5%	0.5%	1%	2%	5%	0.5%	1%	2%
					Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0
4	5	6			Almondsbury	202,429	1,236,759	564,829	4	8	16	40	25	49	98	245	27	54	109
4	5	6			Alveston	64,996	192,383	85,132	1	3	5	13	4	8	15	38	4	8	16
5					Bradley Stoke	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6					Bristol Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6					Bristol City Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	56	Brockworth	63,724	178,952	70,620	1	3	5	13	4	7	14	36	3	7	14
3	4	5	6		Cam & Dursley	66,699	137,713	63,256	1	3	5	13	3	5	11	27	3	6	12
					Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	56	Cheltenham Town Centre	19,476	57,705	25,435	0	1	2	4	1	2	5	11	1	2	5
1	2	3	4	56	Cheltenham Suburbs	40,330	102,542	40,331	1	2	3	8	2	4	8	20	2	4	8
					Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Filton	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0
5					Harry Stoke - UWE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	6	Painswick	8,086	27,110	10,687	0	0	1	2	1	1	2	5	1	1	2
					Patchway	-	-	-	0	0	0	0	0	0	0	0	0	0	0
5					Stoke Gifford - BTM Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					Stone	-	-	-	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	6	Stonehouse	31,384	93,263	31,138	1	1	2	6	2	4	7	19	1	3	6
2	3	4	5	6	Stonehouse - Great Oldbury	100,956	346,321	147,387	2	4	8	20	7	14	27	69	7	14	28
2	3	4	5	6	Stroud	66,990	238,211	88,297	1	3	5	13	5	9	19	47	4	8	17
4	5	6			Thornbury	55,129	158,090	62,367	1	2	4	11	3	6	13	31	3	6	12
4	5	6			Thornbury & Falfield	61,943	128,007	53,261	1	2	5	12	3	5	10	25	3	5	10
3	4	5	6		Wotton Under Edge	61,434	138,501	61,220	1	2	5	12	3	5	11	27	3	6	12
					Total Demand	-	-	-	17	33	67	167	60	120	241	602	63	125	251

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	5
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	71
	42
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	627

# Appendix K - Estimated Daily Demand by Coach Service Route Option - Northbound

					igin Deı	manc													
					Total Estim	nated Road-Bas	ed Demand		Tota	al Esti	mated	Coach Se	ervice D	Deman	d (base	d on % m	iode sh	ift)	
Origin	Des	tinatio	ns	Origin Area			Weekend	Da	ily AM	l Peak	C C	D	aily Of	f Peak		D	aily We	ekend	
					AMPEak	OIIFEak	weekend	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%
				Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4			Almondsbury	6,355	61,846	28,776	0	0	1	1	1	2	5	12	1	3	6	14
3	4			Alveston	7,366	17,771	7,741	0	0	1	1	0	1	1	4	0	1	1	4
				Bradley Stoke	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
1	3	4		Bristol Airport	9,056	72,207	27,304	0	0	1	2	1	3	6	14	1	3	5	13
1	3	4		Bristol City Centre	165,505	853,697	386,365	3	7	13	33	17	34	68	169	19	37	74	186
				Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Cheltenham Town Centre	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Cheltenham Suburbs	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4		Filton	88,278	375,728	135,942	2	4	7	18	7	15	30	75	7	13	26	65
				Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4		Harry Stoke - UWE	43,455	202,273	79,719	1	2	3	9	4	8	16	40	4	8	15	38
4				Minchinhampton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4				Nailsworth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Painswick	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4		Patchway	176,404	730,784	285,343	4	7	14	35	14	29	58	145	14	27	55	137
				Stoke Gifford - BTM Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4			Stone	55,163	158,022	65,251	1	2	4	11	3	6	13	31	3	6	13	31
4				Stonehouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4				Stonehouse - Great Oldbury	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4				Stroud	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	4			Thornbury	6,644	22,321	8,712	0	0	1	1	0	1	2	4	0	1	2	4
3	4			Thornbury & Falfield	9,480	33,977	14,281	0	0	1	2	1	1	3	7	1	1	3	7
				Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Total Demand				11	23	45	113	50	100	201	502	50	100	200	500

				mano	d													
				Total Estin	nated Road-Bas	ed Demand		Tota	al Esti	mated	Coach S	ervice I	Deman	d (base	d on % n	node sh	lift)	
Origin	Des	tinatio	s Origin Area			M/s showed	Da	aily A№	1 Peal	c	D	aily Of	f Peak		D	aily We	eekend	
				АМ Реак	Опреак	weekend	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%
			Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4		Almondsbury	6,355	61,846	28,776	0	0	1	1	1	2	5	12	1	3	6	14
3	4		Alveston	7,366	17,771	7,741	0	0	1	1	0	1	1	4	0	1	1	4
2	3	4	Bradley Stoke	188,480	651,819	291,502	4	7	15	37	13	26	52	129	14	28	56	140
1	3	4	Bristol Airport	9,056	72,207	27,304	0	0	1	2	1	3	6	14	1	3	5	13
1	3	4	Bristol City Centre	165,505	853,697	386,365	3	7	13	33	17	34	68	169	19	37	74	186
			Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Cheltenham Town Centre	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Cheltenham Suburbs	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Filton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	Harry Stoke - UWE	43,455	202,273	79,719	1	2	3	9	4	8	16	40	4	8	15	38
4			Minchinhampton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4			Nailsworth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Painswick	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Patchway	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	Stoke Gifford - BTM Station	44,542	122,901	59,126	1	2	4	9	2	5	10	24	3	6	11	28
3	4		Stone	55,163	158,022	65,251	1	2	4	11	3	6	13	31	3	6	13	31
4			Stonehouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4			Stonehouse - Great Oldbury	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4			Stroud	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	4		Thornbury	6,644	22,321	8,712	0	0	1	1	0	1	2	4	0	1	2	4
3	4		Thornbury & Falfield	9,480	33,977	14,281	0	0	1	2	1	1	3	7	1	1	3	7
			Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
			Total Demand				11	21	43	106	44	87	174	436	47	93	186	466

						Corrido	or Route (A) Northbou	und - Origin Demar	nd											
						Total Es	stimated Road-Based D	emand	T	otal E	stima	ated C	oach Se	ervice	Dema	nd (bas	ed on %	% mod	e shift	)
Origin	D	estin	atio	ns	Origin Area	AM Dook	Off Pook	Weekend	D	aily Al	1 Peal	(		Daily O	ff Peak	c	Ľ	Daily W	eeken	d
						AMPEdK	Oll Feak	Weekellu	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%
					Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5			Almondsbury	7,318	69,419	31,935	0	0	1	1	1	3	6	14	2	3	6	15
3	4	5			Alveston	7,217	19,667	8,288	0	0	1	1	0	1	2	4	0	1	2	4
					Bradley Stoke	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
1	3	4	5		Bristol Airport	9,299	78,189	30,015	0	0	1	2	2	3	6	16	1	3	6	14
1	3	4	5		Bristol City Centre	166,692	869,050	393,420	3	7	13	33	17	34	69	172	19	38	76	189
5					Brockworth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
5					Cheltenham Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5					Cheltenham Suburbs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5		Filton	89,386	376,703	136,596	2	4	7	18	7	15	30	75	7	13	26	66
					Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5		Harry Stoke - UWE	43,887	204,594	80,107	1	2	3	9	4	8	16	41	4	8	15	39
					Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
4	5				Painswick	29,370	89,275	38,165	1	1	2	6	2	4	7	18	2	4	7	18
2	3	4	5		Patchway	177,168	734,022	285,683	4	7	14	35	15	29	58	146	14	27	55	137
					Stoke Gifford - BTM Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5			Stone	53,966	159,276	65,187	1	2	4	11	3	6	13	32	3	6	13	31
4	5				Stonehouse	9,737	25,127	8,010	0	0	1	2	0	1	2	5	0	1	2	4
4	5				Stonehouse - Great Oldbury	16,550	54,556	23,133	0	1	1	3	1	2	4	11	1	2	4	11
4	5				Stroud	31,656	91,959	36,618	1	1	3	6	2	4	7	18	2	4	7	18
3	4	5			Thornbury	7,438	22,997	8,693	0	0	1	1	0	1	2	5	0	1	2	4
3	4	5			Thornbury & Falfield	12,463	36,124	14,687	0	0	1	2	1	1	3	7	1	1	3	7
					Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
					Total Demand				13	26	53	131	56	112	225	562	56	112	223	558

					Corr	and													
					Total E	stimated Road-Based D	emand		Tota	Estin	nated (	Coach S	ervice	Dema	nd (ba	sed on <sup>g</sup>	% mode	e shift)	
Origin	D	estin	atio	ns Origin Area	AM Dook	Off Dook	Weekend		Daily A	M Pea	k		Daily C	Off Peak			Daily W	/eekend	
					AMPeak	Oll Peak	weekenu	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%	5%
				Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5		Almondsbury	7,318	69,419	31,935	0	0	1	1	1	3	6	14	2	3	6	15
3	4	5		Alveston	7,217	19,667	8,288	0	0	1	1	0	1	2	4	0	1	2	4
2	3	4	5	Bradley Stoke	189,814	654,061	292,047	4	8	15	38	13	26	52	130	14	28	56	140
1	3	4	5	Bristol Airport	9,299	78,189	30,015	0	0	1	2	2	3	6	16	1	3	6	14
1	3	4	5	Bristol City Centre	166,692	869,050	393,420	3	7	13	33	17	34	69	172	19	38	76	189
5				Brockworth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Cam & Dursley	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
5				Cheltenham Town Centre	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
5				Cheltenham Suburbs	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Filton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	Harry Stoke - UWE	43,887	204,594	80,107	1	2	3	9	4	8	16	41	4	8	15	39
				Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
4	5			Painswick	29,370	89,275	38,165	1	1	2	6	2	4	7	18	2	4	7	18
				Patchway	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	Stoke Gifford - BTM Station	44,642	123,487	59,225	1	2	4	9	2	5	10	25	3	6	11	28
3	4	5		Stone	53,966	159,276	65,187	1	2	4	11	3	6	13	32	3	6	13	31
4	5			Stonehouse	9,737	25,127	8,010	0	0	1	2	0	1	2	5	0	1	2	4
4	5			Stonehouse - Great Oldbury	16,550	54,556	23,133	0	1	1	3	1	2	4	11	1	2	4	11
4	5			Stroud	31,656	91,959	36,618	1	1	3	6	2	4	7	18	2	4	7	18
3	4	5		Thornbury	7,438	22,997	8,693	0	0	1	1	0	1	2	5	0	1	2	4
3	4	5		Thornbury & Falfield	12,463	36,124	14,687	0	0	1	2	1	1	3	7	1	1	3	7
				Wotton Under Edge	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
				Total Demand				13	25	50	125	50	99	198	496	52	105	210	524

						Rura	al Route (A) Northbour	nd - Origin Demand	I										
	igin Destinations					Total E	stimated Road-Based D	emand		Tota	al Esti	mated	Coach S	Service	Deman	id (bas	ed on %	mode s	hift)
Origin		Des	tina	tions	Origin Area	AM Deels	Off Deals	Weekend	E	Daily Al	M Peak	(		Daily O	ff Peak			Daily W	eeker
						АМ Реак	Отт Реак	weekena	0.5%	1%	2%	5%	0.5%	1%	2%	5%	0.5%	1%	2%
					Abbeymead & Abbeydale	-	-	-	0	0	0	0	0	0	0	0	0	0	0
3	4	5	6		Almondsbury	12,542	151,131	68,823	0	0	1	2	3	6	12	30	3	7	13
3	4	5	6		Alveston	16,045	46,148	19,722	0	1	1	3	1	2	4	9	1	2	4
					Bradley Stoke	-	-	-	0	0	0	0	0	0	0	0	0	0	0
1	3	4	5	6	Bristol Airport	9,352	80,373	31,194	0	0	1	2	2	3	6	16	1	3	6
1	3	4	5	6	Bristol City Centre	169,029	894,397	403,317	3	7	13	34	18	35	71	177	19	39	78
6					Brockworth	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	5	6			Cam & Dursley	153,611	414,330	162,008	3	6	12	30	8	16	33	82	8	16	31
					Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0
6					Cheltenham Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6					Cheltenham Suburbs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	6	Filton	89,376	381,307	137,191	2	4	7	18	8	15	30	76	7	13	26
					Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	6	Harry Stoke - UWE	44,284	209,202	80,842	1	2	4	9	4	8	17	42	4	8	16
					Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0
5	6				Painswick	29,370	89,275	38,165	1	1	2	6	2	4	7	18	2	4	7
2	3	4	5	6	Patchway	176,637	738,057	287,176	4	7	14	35	15	29	59	146	14	28	55
					Stoke Gifford - BTM Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Stone	-	-	-	0	0	0	0	0	0	0	0	0	0	0
5	6				Stonehouse	9,737	25,127	8,010	0	0	1	2	0	1	2	5	0	1	2
5	6				Stonehouse - Great Oldbury	16,550	54,556	23,133	0	1	1	3	1	2	4	11	1	2	4
5	6				Stroud	31,656	91,959	36,618	1	1	3	6	2	4	7	18	2	4	7
3	4	5	6		Thornbury	16,995	64,281	24,570	0	1	1	3	1	3	5	13	1	2	5
3	4	5	6		Thornbury & Falfield	27,741	89,776	38,192	1	1	2	6	2	4	7	18	2	4	7
4	5	6			Wotton Under Edge	38,540	94,974	34,438	1	2	3	8	2	4	8	19	2	3	7
					Total Demand	-	-	-	17	33	67	167	68	136	272	680	67	134	26

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						Rura	al Route (B) Northbou	nd - Origin Demand	ł										
						Total E	stimated Road-Based D	emand		Tota	al Esti	mated	Coach S	Service	Deman	d (base	ed on % i	mode s	hift)
Origin		Des	tinat	ions	Origin Area	AM Deels	Off Deals	eak Weekend			M Peal	ς		Daily Of	f Peak		Daily Weeken		
						AM Peak	Опреак	weekend	0.5%	1%	<b>2</b> %	5%	0.5%	1%	2%	5%	0.5%	1%	2%
					Abbeymead & Abbeydale	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	4	5	6		Almondsbury	12,542	151,131	68,823	0	0	1	2	3	6	12	30	3	7	13
3	4	5	6		Alveston	16,045	46,148	19,722	0	1	1	3	1	2	4	9	1	2	4
2	3	4	5	6	Bradley Stoke	191,563	655,547	292,486	4	8	15	38	13	26	52	130	14	28	56
1	3	4	5	6	Bristol Airport	9,352	80,373	31,194	0	0	1	2	2	3	6	16	1	3	6
1	3	4	5	6	Bristol City Centre	169,029	894,397	403,317	3	7	13	34	18	35	71	177	19	39	78
6					Brockworth	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	5	6			Cam & Dursley	153,611	414,330	162,008	3	6	12	30	8	16	33	82	8	16	31
					Chalford	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham Arle Court	-	-	-	0	0	0	0	0	0	0	0	0	0	0
6					Cheltenham Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6					Cheltenham Suburbs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					Cheltenham towards Brockworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Filton	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Hambrook	-	-	-	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	6	Harry Stoke - UWE	44,284	209,202	80,842	1	2	4	9	4	8	17	42	4	8	16
					Minchinhampton	-	-	-	0	0	0	0	0	0	0	0	0	0	0
					Nailsworth	-	-	-	0	0	0	0	0	0	0	0	0	0	0
5	6				Painswick	29,370	89,275	38,165	1	1	2	6	2	4	7	18	2	4	7
					Patchway	-	-	-	0	0	0	0	0	0	0	0	0	0	0
2	3	4	5	6	Stoke Gifford - BTM Station	44,889	124,152	59,113	1	2	4	9	2	5	10	25	3	6	11
					Stone	-	-	-	0	0	0	0	0	0	0	0	0	0	0
5	6				Stonehouse	9,737	25,127	8,010	0	0	1	2	0	1	2	5	0	1	2
5	6				Stonehouse - Great Oldbury	16,550	54,556	23,133	0	1	1	3	1	2	4	11	1	2	4
5	6				Stroud	31,656	91,959	36,618	1	1	3	6	2	4	7	18	2	4	7
3	4	5	6		Thornbury	16,995	64,281	24,570	0	1	1	3	1	3	5	13	1	2	5
3	4	5	6		Thornbury & Falfield	27,741	89,776	38,192	1	1	2	6	2	4	7	18	2	4	7
4	5	6			Wotton Under Edge	38,540	94,974	34,438	1	2	3	8	2	4	8	19	2	3	7
					Total Demand	-	-	-	16	32	64	161	61	122	245	612	63	127	254

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635

# Appendix L – National Express 100, 102, 104 and 106 timetable (March 2025)

Fully or substantially addresses connectivity requirements	***	Partially addresses connectivity requirements	★★☆	Does not address connectivity requirements	<b>★</b> ☆☆
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Southbound	***	***	<b>★☆☆</b>	***	★★☆	***	***	***	<b>★</b> ☆☆	★★☆	***	***
Mon-Thurs	100	100	100	104	102	100	100	100	102	100	100	106
Birmingham (Coach Station, Digbeth)	01:00:00	05:00:00	09:30:00	10:30:00	12:00:00	13:00:00	15:00:00	17:00:00	18:00:00	19:00:00	20:00:00	21:00:00
Cheltenham Royal Well Bus Stn	02:15:00	06:15:00	_	_	_	_	1	_	_	_	_	
Cheltenham (Arle Court Transport Hub) Hatherley Lane	02:25:00	06:25:00	-	11:45:00	13:15:00	14:15:00	16:15:00	18:30:00	-	-	21:10:00	22:10:00
Gloucester Transport Hub	02:45:00	06:45:00	-	-		-	-	-	-	20:20:00		-
Bristol Bus & Coach Station, Marlborough St (arrive)	03:35:00	07:35:00	11:30:00	12:40:00	14:10:00	15:10:00	17:15:00	19:25:00	20:05:00	21:15:00	22:05:00	23:00:00
Bristol Bus & Coach Station, Marlborough St (depart)	03:40:00	07:40:00	-	12:55:00	14:40:00	15:15:00	17:25:00	19:30:00	20:25:00	-	22:10:00	23:10:00
Bristol Airport Bus Station	04:05:00	08:05:00	-	13:25:00	-	15:45:00	18:05:00	20:00:00	-	-	22:35:00	23:35:00
Weston-super-Mare Bus Interchange, Alexandra Parade, Stop A	-	-	-	-	-	-	18:40:00	-	-	-	-	
Plymouth	-	-	-	-	19:05:00	-	-	-	00:10:00	-	-	03:45:00
Penzance	-	_	-	20:10:00	-	-	-	_	-	-	-	07:00:00

Friday	100	100	100	104	102	100	100	100	102	100	100	106
Birmingham (Coach Station, Digbeth)	01:00:00	05:00:00	09:30:00	10:30:00	12:00:00	13:00:00	15:00:00	17:00:00	18:00:00	19:00:00	20:00:00	21:00:00
Cheltenham Royal Well Bus Stn	02:15:00	06:15:00	_	_	_	_	_	_	_	-	_	_
Cheltenham (Arle Court Transport Hub) Hatherley Lane	02:25:00	06:25:00	_	11:45:00	13:15:00	_	16:20:00	18:30:00	_	-	21:10:00	22:10:00
GloucesterTransport Hub	02:45:00	06:45:00	-	-		-	-	-	_	20:20:00		-
BristolBus & Coach Station, Marlborough St (arrive)	03:35:00	07:35:00	11:30:00	12:40:00	14:10:00	15:10:00	17:25:00	19:25:00	20:05:00	21:15:00	22:05:00	23:00:00
BristolBus & Coach Station, Marlborough St (depart)	03:40:00	07:40:00	_	12:55:00	14:40:00	15:15:00	17:35:00	19:30:00	20:25:00	-	22:10:00	23:10:00
Bristol AirportBus Station	04:05:00	08:05:00	_	13:25:00	-	15:45:00	18:15:00	20:00:00	_	-	22:35:00	23:35:00
Weston-super-MareBus Interchange, Alexandra Parade, Stop A	-	_	_	_	_	_	18:55:00	_	_	-	_	-
Plymouth	-	_	_	_	19:05:00	_	_	_	00:10:00	-	-	03:45:00
Penzance	-	-	_	20:10:00	-	-	-	-	-	-	-	07:00:00

Sat and Sun	100	100	100	104	102	100	100	100	102	100	100	1
Birmingham (Coach Station, Digbeth)	01:00:00	05:00:00	09:30:00	10:30:00	12:00:00	13:00:00	15:00:00	17:00:00	18:00:00	19:00:00	20:00:00	21:00:
Cheltenham Royal Well Bus Stn	02:15:00	06:15:00		-	-	-	-	-	-	-	-	-
Cheltenham (Arle Court Transport Hub) Hatherley Lane	02:25:00	06:25:00		11:45:00	13:15:00	14:15:00	16:15:00	18:15:00	-	-	21:10:00	22:10:
GloucesterTransport Hub	02:45:00	06:45:00		_		_	_	_	_	20:20:00	1	-
Bristol Bus & Coach Station, Marlborough St (arrive)	03:35:00	07:35:00	11:30:00	12:40:00	14:10:00	15:10:00	17:10:00	19:10:00	19:55:00	21:15:00	22:05:00	23:00:
Bristol Bus & Coach Station, Marlborough St (depart)	03:40:00	07:40:00		12:55:00	14:40:00	15:15:00	17:20:00	19:15:00	20:15:00	-	22:10:00	23:10:
Bristol Airport Bus Station	04:05:00	08:05:00	-	13:25:00	-	15:45:00	17:50:00	19:45:00	-	-	22:35:00	23:35:
Weston-super-Mare Bus Interchange, Alexandra Parade, Stop A	_	_	_	_	-	_	18:25:00	_	_	1	1	-
Plymouth	_	_	_	_	18:25:00	_	_	_	23:59:00	1	1	03:45:
Penzance	-	-	-	20:10:00	-	-	-	-	-	-	-	07:00:

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Mon-Thurs	100	106	100	100	102	100	100	102	104	100	100	:
Penzance	_	22:05:00	_	_	-	-	_	-	08:30:00	-	_	_
Plymouth	_	01:15:00	_	_	06:20:00	-	_	09:45:00	11:30:00	1	_	-
Weston-super-Mare Bus Interchange, Alexandra Parade, Stop A	_	-	-	-	-	10:35:00	-	-	_	-	-	-
Bristol Airport Bus Station	00:25:00	05:20:00	_	09:00:00	_	11:05:00	_	13:20:00	_	15:55:00	17:05:00	20:25
Bristol Bus & Coach Station, Marlborough St (arrive)	00:50:00	05:45:00	_	09:40:00	10:35:00	11:40:00	14:00:00	14:00:00	15:30:00	16:25:00	17:40:00	20:50
Bristol Bus & Coach Station, Marlborough St (depart)	01:00:00	05:50:00	07:00:00	09:50:00	11:00:00	11:50:00		14:30:00	15:45:00	16:35:00	17:50:00	21:00
GloucesterTransport Hub	01:50:00	-	07:55:00	_	_	_	-	-	-	I	_	21:50
Cheltenham(Arle Court Transport Hub)Hatherley Lane	02:05:00	06:35:00	_	10:40:00	_	12:40:00	_	15:25:00	_	17:25:00	18:40:00	22:05
Cheltenham Royal Well Bus Stn	02:20:00	_	_	_	_	_	_	-	-	I	_	22:20
Birmingham (Coach Station, Digbeth)	03:35:00	08:00:00	09:30:00	12:00:00	13:00:00	14:00:00	16:00:00	17:00:00	17:50:00	18:45:00	20:00:00	23:35

Friday	100	106	100	100	102	100	100	102	104	100	100	100
Penzance	_	22:05:00	_	-	_	_	_	_	08:20:00	_	-	_
Plymouth	-	01:15:00	-	_	06:20:00	-	-	09:00:00	11:20:00	-	-	-
Weston-super-MareBus Interchange, Alexandra Parade, Stop A	_	_	_	1	_	10:35:00	_	_	_	_	_	_
Bristol AirportBus Station	00:25:00	05:20:00	_	09:00:00	_	11:05:00	_	13:45:00	_	15:55:00	17:05:00	20:25:00
BristolBus & Coach Station, Marlborough St (arrive)	00:50:00	05:45:00	07:00:00	09:40:00	10:35:00	11:40:00	13:50:00	14:20:00	15:30:00	16:25:00	17:40:00	20:50:00
BristolBus & Coach Station, Marlborough St (depart)	01:00:00	05:50:00	_	09:50:00	11:00:00	11:50:00		14:50:00	15:45:00	16:35:00	17:50:00	21:00:00
GloucesterTransport Hub	01:50:00	_	07:55:00	1	_	_	_	_	_	_	_	21:50:00
Cheltenham(Arle Court Transport Hub)Hatherley Lane	02:05:00	06:35:00	_	10:40:00	_	12:40:00	_	15:40:00	_	17:30:00	18:40:00	22:05:00
Cheltenham Royal Well Bus Stn	02:20:00	-	-	-	-	_	-	-	-	-	-	22:20:00
Birmingham (Coach Station, Digbeth)	03:35:00	07:50:00	09:30:00	12:00:00	13:00:00	14:00:00	16:00:00	17:00:00	18:00:00	19:00:00	20:00:00	23:35:00

Sat and Sun	100	106	100	100	102	100	100	102	104	100	100	1
Penzance	_	22:05:00	-	-	-	-	_	-	08:30:00	-	-	-
Plymouth	_	01:15:00	-	_	06:35:00	_	_	09:45:00	11:30:00	_	_	-
Weston-super-MareBus Interchange, Alexandra Parade, Stop A	_	_	-	_	_	10:35:00	_	-	-	_	_	-
Bristol AirportBus Station	00:25:00	05:20:00	-	09:00:00	_	11:05:00	_	13:45:00	-	15:55:00	17:05:00	20:25
BristolBus & Coach Station, Marlborough St (arrive)	00:50:00	05:45:00	07:15:00	09:40:00	10:35:00	11:40:00	14:00:00	14:20:00	15:30:00	16:25:00	17:40:00	20:50
BristolBus & Coach Station, Marlborough St (depart)	01:00:00	05:50:00	-	09:50:00	11:00:00	11:50:00	_	14:50:00	15:45:00	16:35:00	17:50:00	21:00
GloucesterTransport Hub	01:50:00	_	08:10:00	_	_	_	_	1	-	_	_	21:50
Cheltenham(Arle Court Transport Hub)Hatherley Lane	02:05:00	06:35:00	-	10:40:00	_	12:40:00	_	15:40:00	-	17:25:00	18:40:00	22:05
Cheltenham Royal Well Bus Stn	02:20:00	-	-	-	-	-	-	-	-	-	-	22:20
Birmingham (Coach Station, Digbeth)	03:35:00	07:50:00	09:30:00	12:00:00	13:00:00	14:00:00	16:00:00	17:00:00	17:50:00	18:45:00	20:00:00	23:35
Cheltenham Royal Well Bus Stn Birmingham (Coach Station, Digbeth)	02:20:00	- 07:50:00	- 09:30:00	- 12:00:00	- 13:00:00	- 14:00:00	- 16:00:00	- 17:00:00	- 17:50:00	- 18:45:00	- 20:00:00	22:20

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# **Appendix M – Trips to Bristol Airport**

Area ranking from 1 to 15 (1 representing the most trips, 15 the fewest) by mode based on trips to Bristol Airport (CAA, 2023)

Origin	Private Car	Car drop	Car Hire	Taxi	Bus/Coach	Rail	Other	None	Total
Wales	1	2	1	2	3	1	5	1	2
West Midlands	11	10	14	13	13	13	9	15	12
South East	14	14	8	14	11	7	9	13	14
Devon County	3	8	7	8	2	4	8	4	3
Cornwall County	9	13	6	12	10	5	9	11	10
Wiltshire County	8	6	2	6	12	2	9	7	7
Gloucestershire County	5	5	10	9	9	3	4	10	8
South Gloucestershire	6	9	13	4	7	10	9	9	9
Dorset County	13	11	9	11	13	12	9	8	13
Somerset County	4	3	4	7	5	8	3	14	4
North Somerset	7	4	12	3	6	13	2	6	5
Bath and North East Somerset	10	7	5	5	4	6	7	5	6
City of Bristol	2	1	3	1	1	9	1	3	1
Other Regions	12	12	11	10	8	11	6	12	11
No Answer	15	15	15	14	13	13	9	2	15

#### % mode share from each origin area (CAA, 2023)

Origin	Private Car	Car drop	Car Hire	Taxi	Bus/Coach	Rail	Other	None	Total
Wales	53.90%	17.10%	5.40%	5.80%	10.90%	5.20%	0.20%	1.50%	100.00%
West Midlands	69.00%	28.00%	0.80%	2.00%	0.00%	0.00%	0.00%	0.30%	100.00%
South East	49.40%	13.10%	11.60%	0.00%	10.00%	14.20%	0.00%	1.60%	100.00%
Devon County	55.30%	12.90%	1.40%	4.10%	21.50%	3.10%	0.00%	1.70%	100.00%
Cornwall County	64.80%	6.90%	6.00%	2.00%	7.40%	11.80%	0.00%	1.10%	100.00%
Wiltshire County	37.10%	28.70%	8.20%	11.50%	1.80%	11.40%	0.00%	1.30%	100.00%
Gloucestershire County	44.10%	32.70%	1.10%	7.60%	3.70%	9.10%	0.70%	0.90%	100.00%
South Gloucestershire	42.10%	22.80%	0.30%	18.80%	13.20%	1.50%	0.00%	1.20%	100.00%
Dorset County	53.60%	20.10%	9.80%	4.90%	0.00%	5.80%	0.00%	5.80%	100.00%
Somerset County	51.80%	25.10%	2.20%	6.20%	12.70%	1.40%	0.40%	0.20%	100.00%
North Somerset	30.90%	33.90%	0.40%	16.10%	16.20%	0.00%	1.40%	1.00%	100.00%
Bath and North East Somerset	25.70%	25.30%	2.60%	14.60%	26.10%	3.80%	0.10%	1.70%	100.00%
City of Bristol	21.40%	29.00%	1.10%	28.00%	19.10%	0.40%	0.40%	0.60%	100.00%
Other Regions	36.70%	10.60%	2.70%	5.70%	37.80%	3.90%	1.20%	1.40%	100.00%
No Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
TOTAL	39.90%	23.60%	2.70%	13.80%	14.90%	3.40%	0.30%	1.30%	100.00%

Proportion of total trips
19%
1%
1%
10%
2%
5%
5%
5%
1%
9%
6%
6%
28%
2%
0.2%

