COTSWOLD DISTRICT COUNCIL

Cirencester Area Public Transport Study

Cirencester - Kemble - Tetbury Public Transport Options Study

February 2023

itp

a company of Royal HaskoningDHV

Cirencester Area Public Transport Study

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Final

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For:

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Project Information Sheet

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1. Introduction

1.1 Integrated Transport Planning (ITP) was appointed by Cotswold District Council (CDC) to consider various aspects of public transport in Cirencester and the wider area. The study was funded by the Gloucestershire Strategic Economic Development Fund (SEDF).

1.2 This report covers options to improve public transport connectivity between Cirencester and Kemble, in the context of existing provision and the potential Very Light Railway (VLR) scheme. It also looks at wider considerations for the bus network, including the impact of transport requirements associated with education provision in the area and the potential for public transport to serve the local tourism market.

1.3 The report considers the context for the study, relevant policy and other evidence in the form of data and stakeholder discussions. It goes on to develop options for enhanced public transport service provision and sets out the high level economic and financial appraisals undertaken to compare these, along with the commercial and management considerations.

Aims and objectives

1.4 **The aim of the study was to recommend option(s) for the improvement of the public transport link between Cirencester and Kemble rail station.** However, in doing this, consideration of a wider area taking in Tetbury, intermediate villages and destinations were considered in respect of demand generation and creating network viability.

1.5 This aim was to be achieved by addressing several objectives:

- Appraisal of the current situation
- Understanding of local circumstances, needs and potential demands, to identify opportunities and challenges
- Development and consideration of various options
- Assessment and appraisal of options to identify a recommended approach

1.6 Focusing on connectivity between Cirencester, Kemble and Tetbury, important goals for considering improvements included:

- Mode shift towards public transport
- Carbon reduction
- Pollution reduction

- Better access to retail, employment and education opportunities (both for residents and visitors)
- Greater viability of public transport through increased usage and revenue
- Economic resilience in a low-carbon future (when use of private vehicles is likely to become more limited and expensive)
- Optimised and integrated delivery of transport improvements linked to The Steadings strategic development site.

Scope

1.7 Whilst the scope of the study focused on the Cirencester – Kemble – Tetbury corridor, account was taken of issues and opportunities relating to the wider public transport network.

1.8 With regards to the Cirencester – Kemble link, there was a requirement to consider various options that could be assessed alongside the work already undertaken on the proposals to establish a Very Light Rail service. Options included:

- Conventional fixed route bus service
- Guided bus or Bus Rapid Transit
- Demand responsive transport (DRT)
- Use of electric vehicles

1.9 The assessment of the options needed to consider the following:

- Patronage and market potential
- Income and economic benefits
- Carbon and pollution reduction
- Accessibility improvements and social benefits
- Infrastructure and vehicle requirements
- Service levels and characteristics
- Subsidy requirements
- Service integration (including with rail)
- Feasibility and risk
- Funding and delivery options

Study approach

1.10 The study drew on various sources of information and from direct engagement with stakeholders and interested parties. A Project Steering Group oversaw all aspects of the study, providing inputs and challenge throughout, and discussion on the emerging findings and recommendations. The Steering Group consisted of representatives of the following organisations:

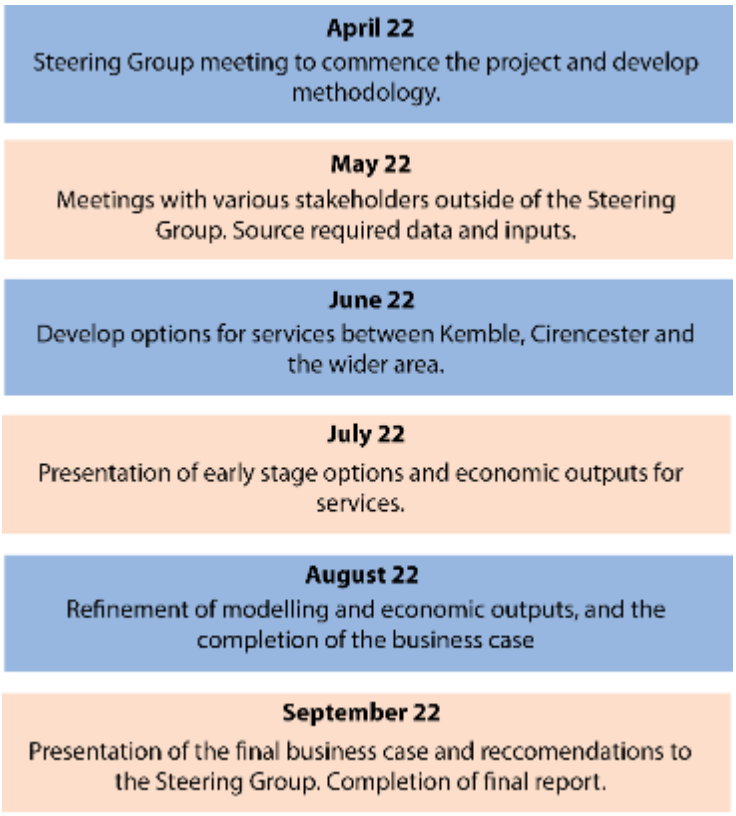
- Cotswold District Council
- Cirencester Town Council
- Cirencester Town Council Neighbourhood Plan Development Group
- Gloucestershire County Council (Integrated Transport Unit)
- Gloucestershire County Council (Transport Policy)
- Cirencester Community Railway Project

1.11 Outside of the steering group, and as part of the wider consideration of the public transport network, there was engagement with the following:

- Gloucestershire County Council (Integrated Transport Unit; Transport Planning)
- Cirencester District Council (Planning: Sustainability; Community Wellbeing; Tourism)
- Tetbury Town Council
- Greening Tetbury
- Parish Councils
- Cirencester College
- Deer Park School
- Royal Agricultural University
- Cirencester Community Rail
- Gloucestershire Community Rail Partnership
- Cirencester Action on Buses
- Sustrans
- Bathurst Estates and its transport consultant (iTransport)
- Stagecoach West
- Great Western Railway
- National Express (and Bennett's Coaches that operate on its behalf)

1.12 Stakeholders were engaged at different stages of the study, as indicated on the timeline below.

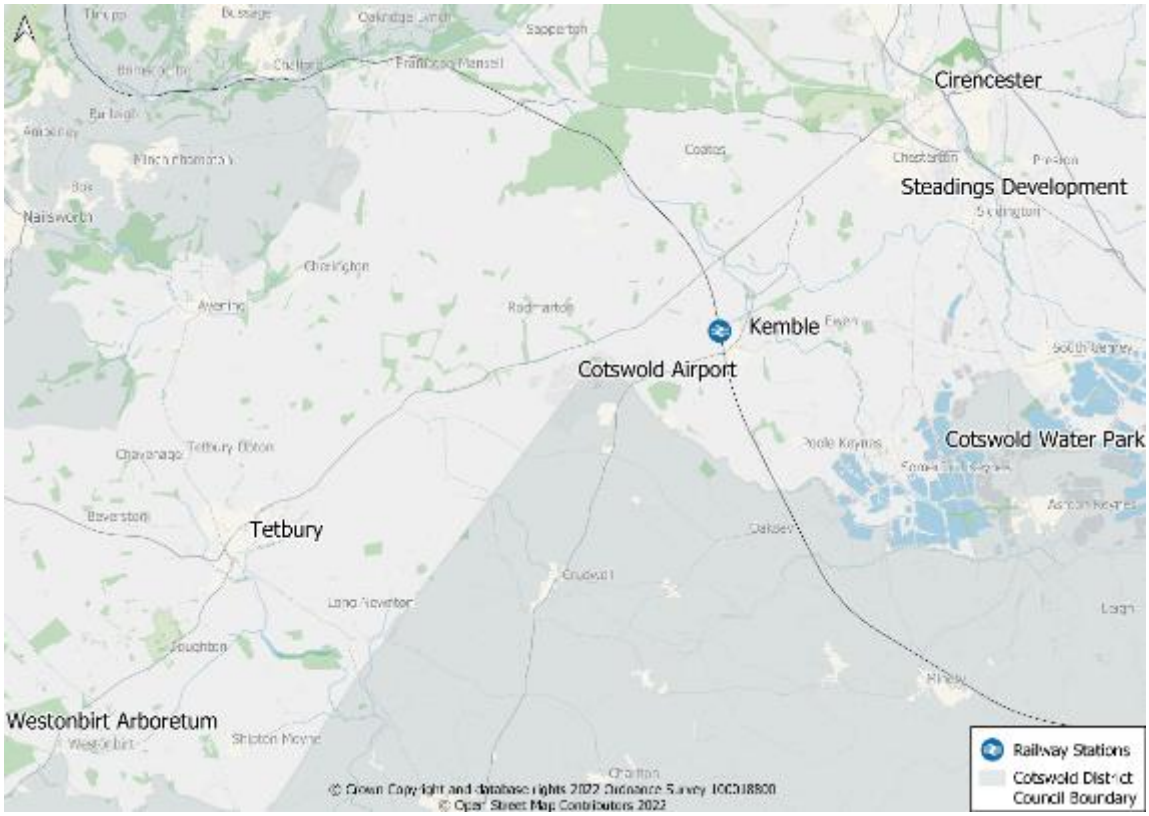
Figure 1-2 Project Timeline



2. Context

2.1 The study's focus was on the Cirencester, Kemble and Tetbury corridor. The geographical context of the study area is shown below.

Figure 2-1 Study area



Cirencester

2.2 Cirencester is the largest town in Cotswold District, with a population of some 20,000 people. The population of the town is spread across residential areas to the northeast, southeast, south and west of the town centre, which is itself encircled on three sides by bypass roads. The existence of Cirencester Park means there is no development to the northwest of the town centre.

2.3 Cirencester is a local centre for retail, public services and education and the town centre itself has vibrant retail and hospitality provisions within an attractive historic setting which attracts many visitors and tourists. The town's facilities serve the surrounding rural hinterland.

2.4 Town centre footfall reports highlight similar levels of pedestrian activity on Monday to Friday, with slightly higher levels on Saturday. Activity levels on Sunday are about 60% of those on other days. Most footfall is between 08:00 and 16:00, with the busiest time around noon. Average frequency of visit is between 3 and 4 times per month, with an average dwell time of 40 minutes.

2.5 Cirencester is a centre for employment, with about 15,000 jobs based in in the town in 2020[1]. Its location also makes it attractive to commuters working in Bristol, Cheltenham, Gloucester, Swindon and London.

2.6 The town itself does not have a railway station. The nearest station is in Kemble, about 6km distant. This is served by Great Western Railway (GWR), with trains between Cheltenham, Gloucester, Swindon and London Paddington.

2.7 The town will continue to change and develop in the coming years. Significant housing development is underway on the southwest edge of the town, in the form of The Steadings. With this, the town's population will continue to grow, albeit with an increasingly ageing profile.

2.8 Significant development is taking place. The Steadings development, to the southwest, has commenced and will be built in phases to 2036. It includes:

- 2,350 homes
- 9.15ha of employment land (at the east and west ends of the development)
- 38.4ha of open space
- A new spine road between Spratsgate Lane and Tetbury Road
- Measures to facilitate the provision of a bus service through the development, accompanied by bus stops and passenger waiting facilities
- Pedestrian and cycle routes

2.9 The town is home to Cirencester College, which draws students from a wide area and continues to expand. Close to the College, on the western fringe of the town, is the Royal Agricultural University (RAU). Whilst currently this offers specialist courses, it also has plans to grow and develop, offering a broader range of courses. This will see many more students coming to learn and live in Cirencester.

2.10 Cotswold District Council is keen to see Cirencester's appeal and economy grow. There is currently a new Framework Masterplan for the town centre under development,

[1] Nomis Business Register and Employment Survey (2020)

which will seek to provide a foundation for growth and improvement, including expansion of the town's evening economy.

2.11 Furthermore, the Council has committed to carbon neutrality by 2045, which will require significant action on several fronts, including transport. Early work on Cotswold's Sustainable Transport Strategy has identified a need to triple public transport mileage by 2045 to meet this objective. This will require significant enhancement of public transport across the district and within Cirencester itself. Not only will more services be needed, but it will also be important for greater integration between transport modes, pointing to the need for a dedicated transport hub in the town centre.

Kemble

2.12 6km southwest of Cirencester is the village of Kemble, where Cirencester's nearest railway station is located. Kemble is a village of about 1,000 people[2]. Local amenities include a post office and primary school.

2.13 Kemble railway station sits on the Swindon to Gloucester mainline, with services towards Gloucester, Cheltenham, Swindon and London operated by Great Western Railway (GWR). Trains are generally hourly in each direction, with departure times at similar times past each hour.

Table 2-1 General pattern of departure times from Kemble station

Trains towards:	Approximate regular departure time
London Paddington	XX:40
Cheltenham Spa	XX:45

2.14 The station has large car parks on either side; the one on the westbound platform side being built in 2018 to facilitate increasing user demand.

2.15 The station is served by the existing 882 bus service, details of which are given in the next section.

2.16 Before the Covid-19 pandemic, the station handled 400,000 passenger arrivals/departures per year. 2019-20 saw 409,170 entries and exits. This fell to 66,188 in 2020-21, but showed signs of recovery during 2022. Indications are that travel behaviour has changed due to the pandemic, particularly impacting on commuter and

[2] 2011 Census Population Counts

business travel as people choose to work from home more. However, leisure travel has grown, particularly increasing off-peak travel and weekend use.

2.17 Whilst pre-pandemic usage at Kemble was about 30% less than Stroud station, it was similar to other stations in sizeable towns, such as Knaresborough (population 15,000) in North Yorkshire.

2.18 Data on use of Kemble station car park in 2015, supplied by the Cirencester Community Rail Project, indicated that 38% of cars were parked for a period of 6 hours or more. Of interest, is that a very similar proportion of cars were in the car park for less than 15 minutes, highlighting the significant number of people being picked-up or dropped-off by car or taxi.

Tetbury

2.19 Located 12km southwest of Kemble and 16.5km southwest of Cirencester, Tetbury has a population of 5,500 people[3]. The residential areas are mainly located to the north and northeast of the town centre; there has been significant new housing development.

2.20 The town has a selection of retail, hospitality and cultural facilities and other local amenities. The town hosts about 1,600 jobs, mainly located in the town centre and the immediate area[4].

2.21 Tetbury has a secondary school, Sir William Romney's School, which provides education for years 7-11. For post-16 education, students travel to Cirencester, Stroud or further afield.

2.22 Tetbury Hospital is located to the east of the town centre, providing outpatient consultation and surgery, X-Rays, and a minor injuries unit. NHS data indicates that there were 35,900 appointments scheduled at the hospital in 2021-22[5].

2.23 Kemble is the nearest railway station for Tetbury.

2.24 The main bus service for the town (service 69 operated by Stagecoach) runs between Stroud and Tetbury about every 2 hours, but with some additional journeys. Some buses (4 or 5 in each direction) continue to Old Sodbury and then to Bath (as service 620). There is no service in the evening or on Sundays.

2.25 Other services are less frequent, including the 882, which provides a link to Kemble and Cirencester (Monday to Saturday). Infrequent or occasional services run towards

[3] Nomis Population Estimates/Projections (2020)
[4] Nomis Business Register and Employment Survey (2020)
[5] Digital NHS (2022)

Malmesbury, Wotton-under-Edge and Nailsworth, some only on certain days. There is also some community transport provision in the area.

Wider area

2.26 In and around the area of interest are a few other relevant points of potential local travel demand.

Cotswold Airport

2.27 Located west of Kemble village is Cotswold Airport. The site, a former RAF air station, is now a civilian airfield. A range of aviation and non-aviation business functions take place there, including:

- Aircraft salvage
- Aircraft maintenance and storage
- Business and charter flights
- Flying schools
- Aeronautical engineering
- Conferences and functions

2.28 The businesses located there have about 700 employees, drawn from a wide area because of the specialist nature of some of the roles. Certain parts of the site are managed by different operators and there are accesses to different businesses and activities both from the A429 (Cirencester – Malmesbury) and A433 (Cirencester – Tetbury).

2.29 Whilst the 882 bus service passes on the A433, the access into the Airport site is some distance from the road.

Cotswold Water Park

2.30 A significant tourist attraction in the area is the Cotswold Water Park. Located about 5-6km south of Cirencester between Somerford Keynes, Ashton Keynes and Cerney Wick, the area features 110km^2 of lakes. The Park offers a range of outdoor activities, including water sports, angling, golf, birdwatching, walking, cycling and a resort. There are also three hotels and a range of hospitality outlets. Across the Park are several developments of residential lodges, with some 1000 holiday homes.

2.31 Facilities and activities are spread over a large area, with no single main destination point.

2.32 The Cotswold Lakes Trust estimates that there are some 450,000 users of the Park every year, generating 1 million visits.

2.33 There are over 2,000 jobs[6] based within South Cerney and Cerney Wick, where the Park is located.

2.34 The eastern part of the Park is served by the 51 bus service (operated by Stagecoach), which runs hourly between Cheltenham, Cirencester and Swindon. Observations during the study period indicated that whilst the service did not appear to be used by visitors to the Park, it was used by staff employed at some of the hospitality venues throughout the day.

2.35 The western part of the Park is served only by infrequent bus services, aimed at meeting basic travel needs of the villages, such as access to Cirencester for shopping and personal business.

2.36 A Travel Plan is currently being developed for the Water Park, with the aim of encouraging more sustainable travel and reducing the dependence on private cars by residents, employees and visitors. Surveys were undertaken during summer 2022 to better understand current travel patterns and determine how travel behaviours might be changed in the future. Of employees responding, 86% travelled more than 5 miles to reach work. 5% used the bus to get to work. The main reasons for not using public transport were the unavailability of services and that the journey would take too long. Only 15% of respondents would consider using the bus to work if available.

2.37 The visitor survey showed that a high proportion of visitors were from the Cirencester area. Over a third of respondents visited the Water Park several times per month. Whilst no one had arrived by bus, some indicated an interest in using alternatives to the car.

Westonbirt Arboretum

2.38 Westonbirt Arboretum is located 5km southwest of Tetbury on the A433 towards Bath. The Arboretum is a significant attraction, with over 240ha of gardens and plantations. It offers a range of walks, as well as a café and shop.

[6] Nomis Business Register and Employment Survey (2020)

2.39 During the study, the Arboretum was highlighted by several stakeholders as a significant generator of visitors. Data suggests that there were over 600,000 visitors in 2021[7].

2.40 Public transport access to the Arboretum is possible, using the 69 service (operated by Stagecoach) between Stroud, Tetbury and Bath, with 4 or 5 buses each day in each direction (Monday to Saturday).

2.41 The Arboretum is shown as a timing point on the timetable for the service. Bus stops are located on the A433 adjacent to the access road into the Arboretum. Northbound there is a shelter at the marked stop. The southbound stop is not marked. There are no footways on the verges of the road. There is a walk of about 400m from the bus stops to the Visitor Centre entrance.

2.42 Figures provided by Visit Gloucestershire indicate that only 0.07% of visitors (367) arrived at the Arboretum by public transport in the 12 months to August 2022. The lack of attractive public transport access is a concern to the Arboretum and a link to/from Kemble station would be welcomed.

Current bus service: Cirencester – Kemble corridor

2.43 Bus service 882 provides a link between Gloucester, Cirencester, Kemble Railway Station and Tetbury. Historically it was two separate services either side of Cirencester. These were linked together, offering the opportunity for through travel across Cirencester. However, Stagecoach, which currently operates the service, suggests there is little through movement, with most people travelling into or out of Cirencester.

2.44 The service is financially supported by Gloucestershire County Council, wholly operating under contract to the authority, which specifies the level of service and requirements. The operation of the service requires two buses.

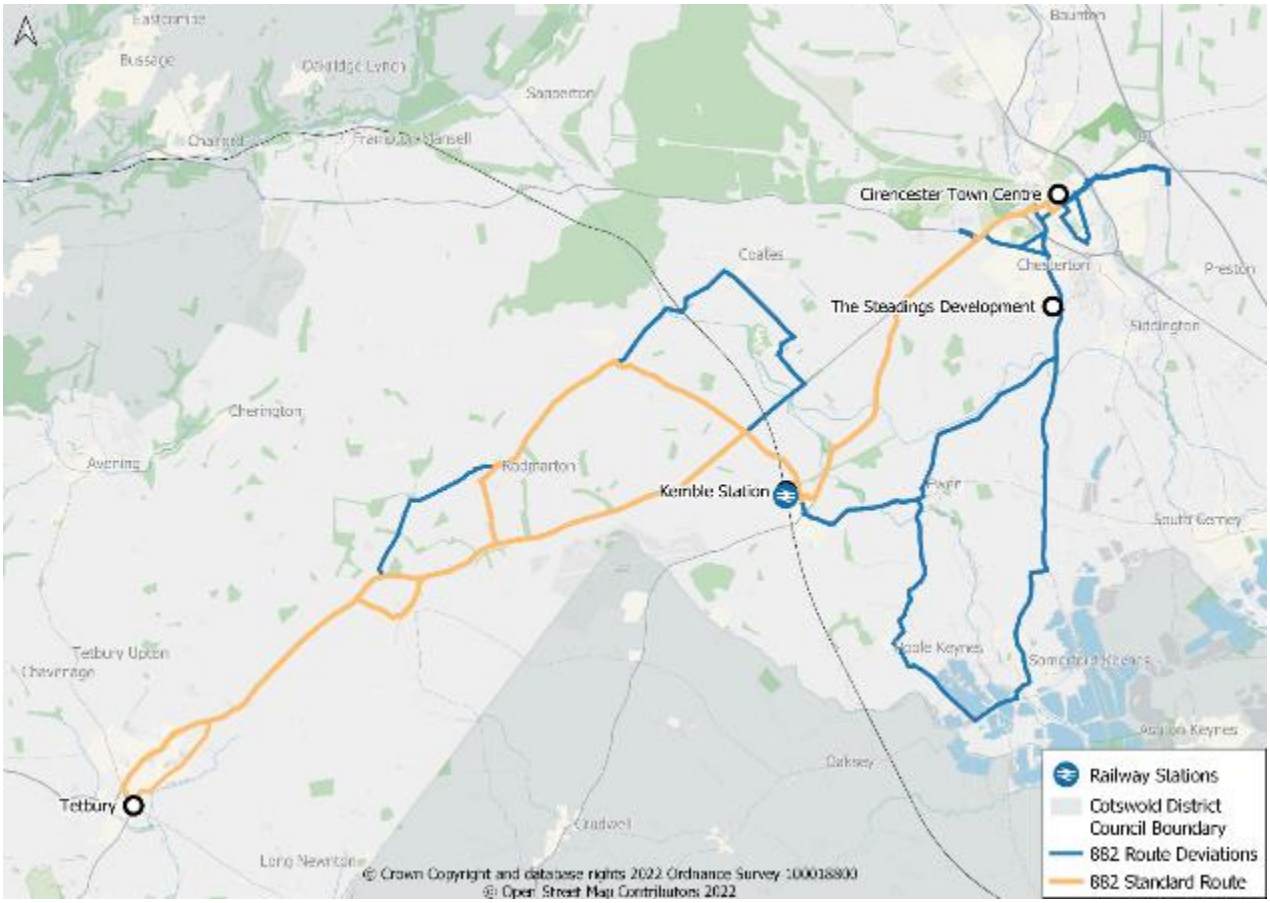
2.45 As this study's focus is on connectivity between Cirencester, Kemble and Tetbury, there has been no detailed assessment of the section of the service between Cirencester and Gloucester, which could revert to being operated separately.

Route

2.46 The following map shows the route of the 882 service.

[7] Association of Leading Visitor Attractions (2022)

Figure 2-2 Bus Route 882



2.47 The main route runs much of the way along the A433 between Cirencester and Tetbury, diverting to serve Kemble village and the railway station. The bus goes through the station car park to turn outside of the main station building on the Swindon-bound platform.

2.48 The bus serves a number of different requirements, with certain journeys making deviations from the main route. These include journeys via the villages of Rodmarton and Culkerton. The service also meets some statutory home to school transport requirements of the County Council, conveying pupils from Rodmarton, Tarlton, Kemble, Ewen, Poole Keynes and Somerford Keynes to Deer Park and Kingshill Schools in Cirencester. Some journeys only operate between Cirencester and Kemble station.

Timetable

2.49 The various deviations create a complicated timetable that is difficult to navigate and understand, as shown in the following Figure. Equally, there is no regular frequency or pattern of departure times from either end of the route.

2.50 On some occasions, buses do serve Kemble station to make suitably convenient connections with either arriving or departing trains, but at other times lengthy waits are necessary (as shown in the figure on page 20.

2.51 The Gloucestershire Rail Study, undertaken in 2015 for Gloucestershire County Council, highlighted the inadequacies of the bus service to/from Kemble station and recommended that consideration be given to ways of improving the link.

Figure 2-3 Bus service 882 timetable

882 from Gloucester towards Cirencester & Tetbury

Stagecoach

from 3 October 2022

	Mondays to Fridays										Saturdays		
	△	▲					△	▲					
Gloucester Transport Hub F	0735	0745	0950	1120	1320	1435			1630	1825		1030	1355
	Journeys operate along London Rd & Barnwood Road to:											*Via LR & BR*	
Barnwood Rd Queen's Fish & Chips	0742	0750	0955	1125	1325	1445			1635	1830		1035	1400
Birdlip after Village Stores	0756	0805	1010	-	-	-			-	-		-	-
Brimpsfield War Memorial	-	-	1015	-	-	-			-	-		-	-
Elkstone Westerleigh Crossroads	-	-	1022	-	-	-			-	-		-	-
Winstone nr Foss Field	-	-	1027	1149	1349	1504			1659	1854**r**		1059	1424
A417 Duntisbourne Leer Turn	-	-	-	1154	1354	1509			1704	1859**r**		1105	1430
Duntisbourne Abbots Church	-	-	1032	-	-	-			-	-		-	-
Daglingworth Village Hall	-	-	1042	-	-	-			-	-		-	-
Stratton The Plough	0816	0820	1047	1159	1359	1514			1709	1904**r**		1111	1436
Cirencester Kingshill School	0827	-	-	-	-	-	1535		-	-		-	-
Cirencester Watermoor Road	-	-	-	-	-	-	1546		-	-		-	-
Cirencester The Forum (arr)	0831	0825	1052	1204	1404	1519	1550		1714	1909**r**		1114	1439
	▼	▼	▼	▼	▼		▼		▼			▼	▼
Cirencester The Forum (dep)	0625	0832	0837	1053	1205	1405	1552	1552	1740		0800	1115	1440
Deer Park School Grounds	-	0840	-	-	-	-	1558**p**	-	-		-	-	-
Ewen The Timbrells	-	-	-	-	-	-	1622	1615	-		-	-	-
Kemble Post Office	0635	0850	0850	1106	1218	1418	1625	1618	1753		0810	1125	1450
Kemble Railway Station (arr)	0637	0852	0852	1108	1220	1420	1627	1620	1755		0812	1127	1452
Kemble Railway Station (dep)	0640			1110	1220		1627	1622	1755**r**		0812	1127	1452
Coates Glebe House	-			-	-		1635	1630	1802**r**		-	-	-
Tarlton Crossroads	-			1114	-		1640	1635	1807**r**		-	-	-
Rodmarton St Peter's Church	-			1117	-		1643	1638	1810**r**		-	-	-
Culkerton nr Old Post Office	-			1123	-		1649	1644	1816**r**		-	-	-
Tetbury Amberley Park	0654			1130	1236		1656	1651	1823**r**		0830	1144	1509
Tetbury Long St The Ormond	0656			1133	1238		1659	1654	1826**r**		0832	1147	1512

882 from Tetbury towards Cirencester & Gloucester

Stagecoach

from 3 October 2022

	Mondays to Fridays										Saturdays		
	△	▲					△	▲	▲				
Tetbury Long St The Ormond	0723	0730			1135	1240				1700	1830	0900	1230	1515
Culkerton nr Old Post Office	0731	0738			-	1249				-	-	-	-	-
Rodmarton St Peter's Church	0737	0744			-	1254				-	-	-	-	-
Tarlton Crossroads	0740	0747			-	1258				-	-	-	-	-
Coates Glebe House	0745	0752			-	-				-	-	-	-	-
Kemble Railway Station (arr)	0753	0800			1155	1305				1720	1850	0920	1250	1535
Kemble Railway Station (dep)	0753	0800		1005	1155	1305	1420	1420		1720	1850	0920	1250	1535
Kemble Post Office	0755	0802		1007	1157	1307	1422	1422		1722	1852	0922	1252	1537
Ewen Poole Keynes Turn	0758**n**	0805		-	-	-	-	-		-	-	-	-	-
Deer Park School Grounds	0819	-		-	-	-	-	-		-	-	-	-	-
Cirencester Old Station Car Park	0825	0820		1017	1207	1317	1432	1432		1732	1902	0928	1258	1543
Cirencester Kingshill School	0840	-		-	-	-	1520	-		-	-	▼	▼	-
Cirencester The Forum (arr)				1024	1214	1324	1524	1439		1739	1907	0932	1302	1547
				▼	▼	▼	▼			▼				
Cirencester The Forum (dep)	0650		0900	1030	1220	1325	1525		1538	1740		0935	1305	
Deer Park School Grounds	-		-	-	-	-	1535**c**		-	-		-	-	
Stratton The Plough	0657		0907	1037	1227	1332	1545		1545	1747		0939	1309	
Daglingworth Village Hall	-		-	-	-	1337	-		-	-		-	-	
A417 Duntisbourne Leer Turn	-		0912	1042	1232	-	-		-	-		0945	1315	
Duntisbourne Abbots Church	-		-	-	-	1347	-		-	-		-	-	
Winstone Foss Field	-		0917	1047	1237	1352	-		-	-		0951	1321	
Elkstone Westerleigh Crossroads	-		-	-	-	1357	-		-	-		-	-	
Brimpsfield War Memorial	-		-	-	-	1404	-		-	-		-	-	
Birdlip Royal George Hotel	0712		-	-	-	1409	1600		1600	1802		-	-	
Barnwood Rd opp Queen's Fish & Chips	0724		0937	1107	1257	1422	1612		1612	1814		1010	1340	
	Journeys operate along Barnwood Rd & London Rd to.											*Via BR & LR*		
Gloucester Transport Hub	0732		0947	1117	1307	1434	1620		1620	1822		1020	1350	

c = After Deer Park School serves Cirencester Old Station Car Park at 1539, then operates direct to the bus stop opposite Beeches Car Park.
n = Via Poole Keynes The Cross (0802), Somerford Keynes Telephone Box (0807) & Chesterton Somerford Court (0815).
p = Via Chesterton Somerford Court (1605), Somerford Keynes Telephone Box (1613) & Poole Keynes The Cross (1618).
r = only serves this stop on request of passengers already on board, to set down.
Via LR & BR = Via London Rd & Barnwood Rd.
Via BR & LR = Via Barnwood Rd & London Rd.
▼ These buses are guaranteed to connect, with through fares available.

Analysis of current bus/rail connections

Tetbury - Cirencester, weekdays												
Cirencester	06.25	10.53	12.05	15.52	17.40							
Tetbury	06.56	11.33	12.38	16.54	18.26							
Tetbury	07.23	11.35	12.40	17.00	18.30							
Cirencester	08.25	12.14	13.24	17.39	19.07							

Bus-rail Integration (Tetbury)												
OUTBOUND	**Monday - Friday, school days**								**Saturday**			
Tetbury		07:23		11:35	12:40	17:00		18:30	09:00		12:30	15:15
Kemble		07:53		11:55	13:05	17:20		18:50	09:20		12:50	15:35
Train dep (to London)	07:40	08:46	11.45	12:46	13:46	17:46	18:46	19:48	09:48	12:49	13:49	15:49
Bus-train wait time (mins)		53		51	41	26		58	28		59	14
Train dep (to Gloucester)		08:07	11:41	12:41	13:41	17:42	18:38	19:39	09:41		13:41	15:41
Bus-train wait time (mins)		14		46	36	22		49	21		51	6*
INBOUND.	**Monday - Friday, school days**								**Saturday**			
Train arr (from London)		10:41	11:45	15:41	17:42				07:41		10:40	14:41
Train-bus wait time (mins)		29	35	46	13				31		47	9
Train arr (from Gloucester)		10:45	11:45	15:46	17:46				07:46		10:50	14:49
Train-bus wait time (mins)		25	35	41	9				26		37	3*
Kemble	06:40	11:10	12:20	16:27	17:55				08:12		11:27	14:52
Tetbury	06:56	11:33	12:38	16:59	18:26				08:32		11:47	15:12

Bus-rail integration (Cirencester)								
OUTBOUND								
Cirencester	06:25	08:32	10:53	12:05	14:05	15:52	17.40	
Kemble	06:37	08:52	11:08	12:20	14:20	16:27	17.55	
Train dep (to London)	06.42	09.43	11.45	12.46	14.46	16.45	18.20	
Bus-train wait time (mins)	5*	51	37	26	26	18	25	
Train dep (to Gloucester)	06.45	09.41	11.41	12.41	14.41	16.41	18.38	
Bus-train wait time (mins)	8	49	33	21	21	14	43	
INBOUND.								
Train arr (from London)	07.42	09.41	11.41	12.41	13.41	16.41	18.38	
Train-bus wait time (mins)	11	24	14	24	39	39	12	
Train arr (from Gloucester)	07.40	09.43	11.45	12.46	13.46	16.45	18.20	
Train-bus wait time (mins)	13	22	10	19	34	34	30	
Kemble	07:53	10:05	11:55	13:05	14:20	17.20	18:50	
Cirencester	08:25	10:17	12:07	13:17	14:32	17.39	19:02	

Wait time key
5-20 minutes
20-40 minutes
40+ minutes

Light coloured text shows where buses and trains miss each other

* Connection possible if not mobility impaired, but not for all

Fares and tickets

2.52 Fares on the 882 service between Cirencester and Kemble are as follows:

- Adult single £3.30 or return £5.70
- Day ticket (for use across Stagecoach West network) £7.50 (or £7.30 via app)
- Week ticket (for use across Stagecoach West network) £24.00 (or £22.50 via app)

2.53 Kemble station is not included in the national Plusbus scheme, which elsewhere provides an add-on for local bus travel in a designated area around a station. Neither is there any through rail/bus ticketing available through the national rail ticketing system.

2.54 A Cotswold Discoverer ticket is advertised on the National Rail website, valid for one or three days' travel on rail and participating bus companies (£10.50 for one day – adult; £5.25 child and £6.90 with railcard). The ticket can be used on rail services between Swindon, Gloucester, Cheltenham and Ashchurch, and between Oxford and Moreton-in-Marsh. Current understanding is that these are only available on Stagecoach bus services[8]. Travel is available after 08:50 Monday – Friday and anytime on Saturday and Sunday. Tickets may be bought at stations or on the buses of participating operators.

Kemble Station

At Kemble Station, a bus stop is located just outside the station building, close to the entrance to platform 1. The bus stop includes a flag attached to a lamp column and a display case with a paper timetable. The format used for listing bus departure times is not the clearest, being listed across the sheet. There is signage within the station for buses, though no service information or timetable details are given.

[8] https://explorethecotswolds.com/cotswolds-discoverer-pass/

Buses pull up on hatched yellow lines, although at times when trains are due to arrive, this area may have several cars and/or taxis waiting. There is no shelter at the stop, although it is possible to shelter under the nearby station canopy until the bus arrives.

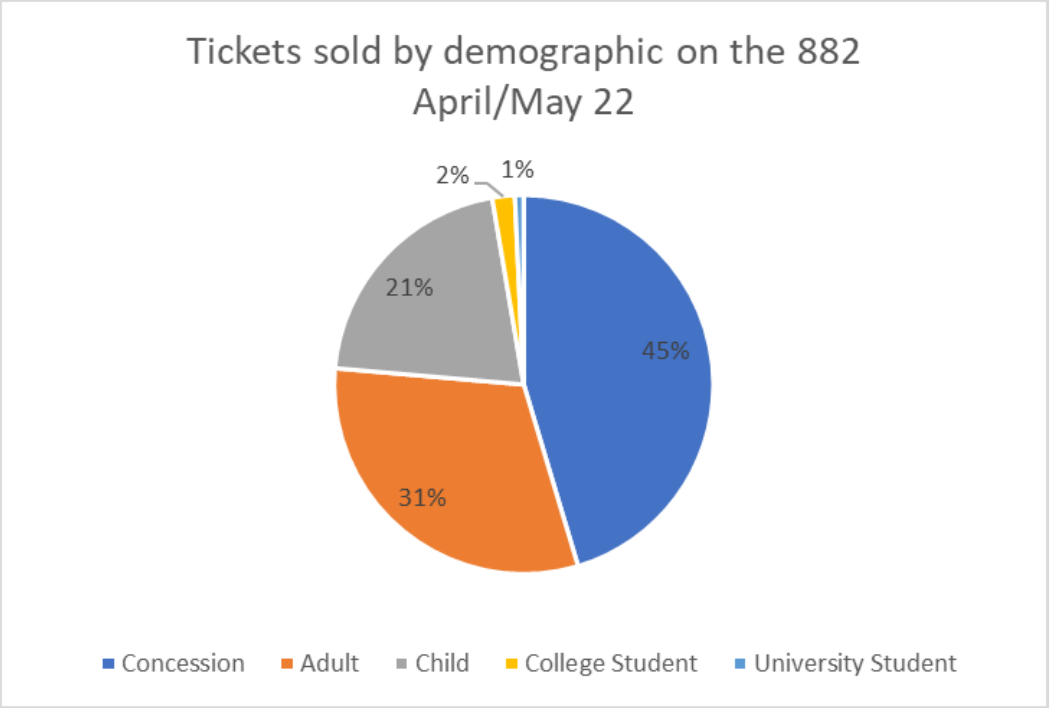
There is no raised waiting area at the bus stop, meaning that passengers board from road level with a greater step up onto the bus. There is no designated footway connecting the station and the bus stop. These issues combine to make the transition from train to bus more challenging for people with mobility difficulties, heavy luggage or accompanying more vulnerable passengers.

Bus usage

2.55 Patronage and ticketing data for service 882 was supplied by Gloucestershire County Council for April/May 2022, the period immediately following Stagecoach taking over the operating of the contract from the previous operator, Pulham's

2.56 In terms of passenger types[9], concessionary travel holders make up a large proportion of travellers (45%), which is typical for services in rural areas. Adult fare paying passengers account for 31% of journeys and children (under 16 years) 21%.

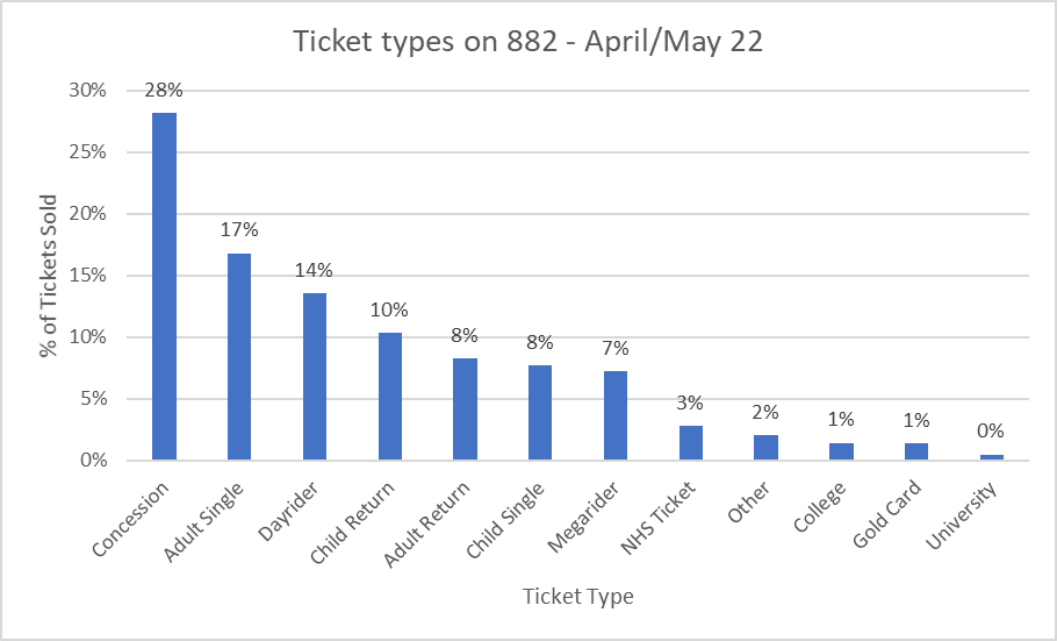
Figure 2-4 Tickets sold by type on 882 service in April/May 2022



2.57 Figure 2-5 provides a further breakdown into different ticket types.[10]

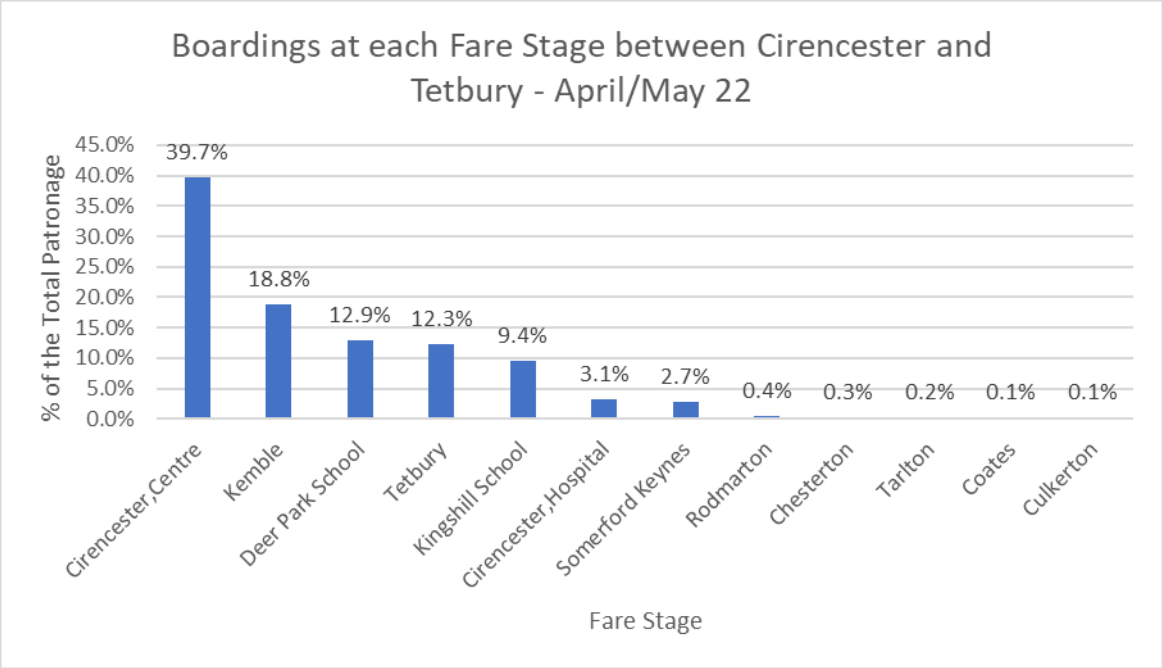
[9] This analysis has excluded 'use' entries and other passes which cannot be attributed to different demographic groups.
[10] 'Use' entries are excluded from this list, as their type cannot be obtained.

Figure 2-5 Ticket sales by type on 882 service in April/May 2022



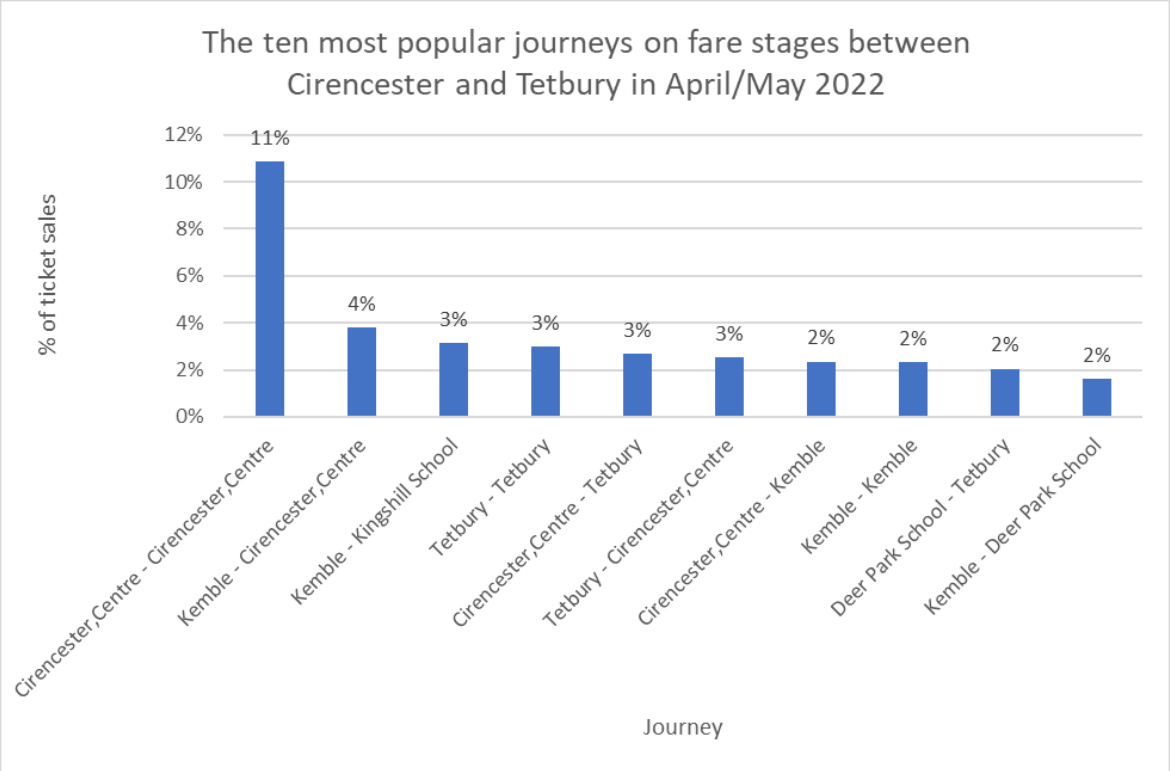
2.58 In terms of boarding points, Cirencester is busiest (40% of all passenger boardings). This is not surprising given that many people are using the service to access amenities and facilities in the town. Kemble accounts for nearly 19% of boardings and Tetbury 12%. The two schools, Deer Park and Kingshill, account for over 22% of boardings between them, showing the importance of the school journeys to the service. The smaller villages served by diversions off the main road, such as Rodmarton and Culkerton, have low usage.

Figure 2-6 Boarding by Fare Stage in April/May 2022



2.59 The service sees some usage for short journeys wholly within Cirencester or Tetbury, mainly by concessionary travel holders.

Figure 2-7 Most used journeys between different points on service 882



3. Policy context

3.1 Good public transport can play a significant role in supporting wider economic, social and environmental ambitions. It is therefore useful to try and understand how potential bus service improvements, such as in the Cirencester – Tetbury corridor, might contribute towards these ambitions through carbon reduction and modal shift, as well as providing social and inclusion benefits of better connectivity and access to opportunities.

3.2 Attractive public transport relies on a variety of factors – services that connect to places that people want to go, that run frequently and at times people want to travel and offer value for money; and supporting infrastructure that is attractive and pleasant for passengers and provides suitable information to help in making journeys.

Cirencester Neighbourhood Plan (under development)

3.3 The Plan seeks to improve all aspects of the town and local area. Sustainability and good accessibility by alternative travel modes to the car are key themes, with the aim of reducing car journeys.

3.4 Projects under consideration include the principle of 20-minute neighbourhoods, with the ability to access local needs within 20 minutes by walking, cycling or public transport, and the funding of regular, all week (including late evening) public transport connections to regional centres (e.g. Cheltenham), rail interchanges, hospitals and local destinations (e.g. Fairford and Tetbury). A further proposal is to improve the linkages between RAU, Cirencester College and Cirencester town.

Cotswold District Council Corporate Plan 2020-2024

3.5 The Corporate Plan sets out various aims for the district and for the Council to pursue. Important ones that support the improvement of public transport include:

- Encouraging reduction in carbon emissions by promoting sustainable travel options.
- Delivering a Sustainable Transport Strategy to reduce the reliance on the car and establish better sustainable transport routes and travel options.

Cotswold District Local Plan 2011-2031 (adopted 2018)

3.6 As part of its vision and aims, the Local Plan seeks to support the local economy by encouraging the vitality and viability of town centres, including maintaining Cirencester's key employment and service role, and by supporting sustainable tourism. Furthermore, it seeks to promote sustainable travel by ensuring that development takes place in sustainable locations, which can offer better access to facilities, jobs and public transport, as well as supporting improvements in public transport and provision for walking and cycling. These principles are promoted through Policy INF3 Sustainable Transport.

3.7 The Local Plan highlights the strategic importance of Cirencester. 25% of the district's population lives in the town, a third of all employment is based there and it is listed in the top 200 retail centres in the UK.

3.8 The Plan notes the high dependence on car travel in the area.

3.9 An Evidence Paper: Sustainable Transport and Air Quality, supporting the Local Plan 2018-2031 Partial Update, suggests the need for more direct promotion of sustainable travel and policies in the light of the Climate Emergency.

Cotswold District Council Climate Emergency Strategy 2020–2030 (2020)

3.10 Cotswold District Council declared a climate emergency in 2019 and committed to "making our activities net-zero carbon as soon as possible, aiming for an 80% reduction against a 1990 baseline by 2030, and a 100% reduction by 2045, with no reliance on offsetting or the trading of carbon credits." In response, it produced a Climate Emergency Strategy in 2020 which sets out high-level principles, targets and action areas to respond to climate change.

3.11 Concerning transport, the strategy highlights that over 45% of emissions emitted in Cotswold District in 2018 derived from transport and the reduction in road transport emissions is recognised as a 'big win'. The authority will seek to deliver multiple benefits through the transport network by reducing carbon emissions, improving local air quality, and providing enhanced access to services. These goals will be refined further in the sustainable transport strategy, but clearly support the need for the provision of attractive public transport services.

Cotswold District Council Sustainable Transport Strategy (in development)

3.12 In response to its Climate Emergency Declaration, Cotswold District Council committed to producing a Sustainable Transport Strategy (STS) to guide the decarbonisation of transport in the district. The STS is in production and seeks to establish a specific decarbonisation trajectory for central Cirencester, alongside a corresponding increase in use of sustainable modes of transport.

3.13 The first phase of work for the STS has been completed and identifies a high-level framework for the necessary shifts in transport behaviour by 2045 to meet the net zero carbon target. These include:

- A reduction of 25% in annual travel mileage
- One third reduction in private vehicle mode share of travel mileage, and for all of that to be by zero emission vehicles
- Tripling of active travel mileage
- Tripling of public transport mileage

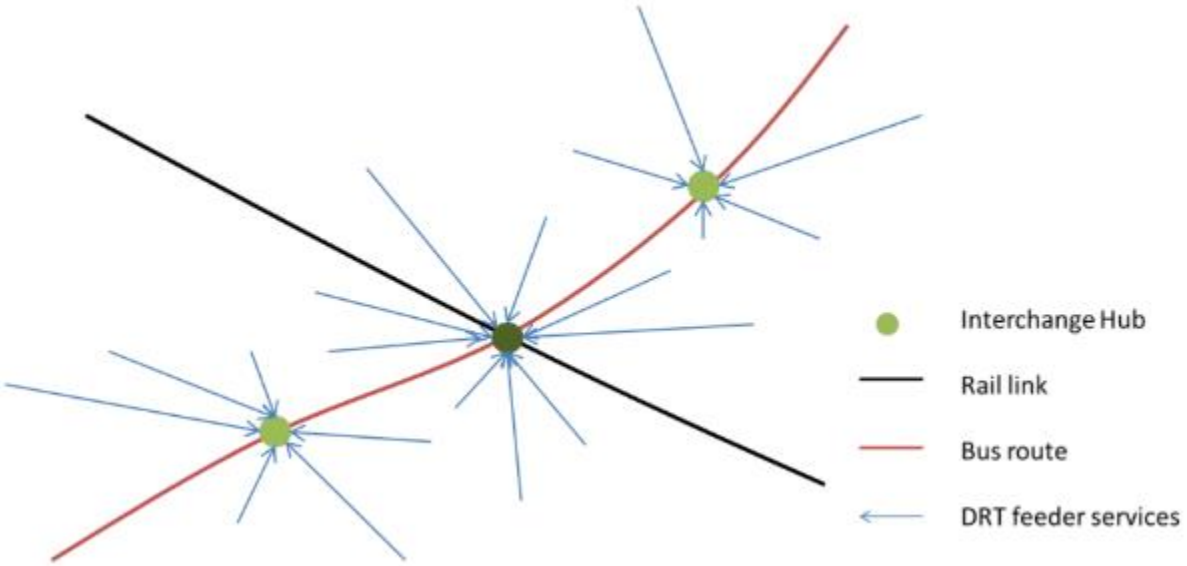
3.14 Proceeding in an iterative fashion, this study and the Cirencester Town Centre Masterplan will seek to support and enable the increased uptake of public transport and other sustainable modes identified as required in the STS.

Gloucestershire Local Transport Plan (2020)

3.15 The Gloucestershire Local Transport Plan (LTP) is the guiding document for transport policy within Gloucestershire from 2020 to 2041. Its vision is to develop an 'interchange model' for public transport services. This model would introduce hubs at key locations in rural towns and major population centres where passengers can interchange between public transport, active travel modes and car. This would help facilitate a reorganisation of the county's bus network, with a hierarchy of high-frequency bus routes or railway lines, less frequent middle-tier services and rural demand responsive transport (DRT) services.

3.16 This network model is illustrated below.

Figure 3-1: Gloucestershire Future Bus Model (Source: Gloucestershire BSIP)



3.17 At the transport interchange hubs, it is expected that there would be passenger waiting facilities, real time information, electric vehicle and bike parking, secure cycle parking and accessible car parking. The sites would be connected to high-quality cycle and walking routes. They would also facilitate the interchange of passengers between higher frequency services and middle tier and DRT services and would be supported by bus priority measures where service frequency justified this. GCC is developing its Interchange Strategy to set out the ambition in more detail.

3.18 The LTP recognises that there is poor integration between different transport providers which creates an inconsistent network that is difficult for passengers to use. To tackle this and improve connectivity, the LTP considers the following as important considerations:

- Enabling high levels of connectivity between bus and rail services, including at the evenings and weekends.
- Complementary timetables between rail and bus services.
- Passenger information and local information available at all bus stops and railway stations.
- Real time passenger information at key stops.

Gloucestershire Bus Service Improvement Plan (2021)

3.19 Whilst unsuccessful in attracting DfT funding, Gloucestershire's Bus Service Improvement Plan (BSIP) has the ambition to provide 'direct links and improved

connectivity' in rural Gloucestershire and to 'integrate transport'. The Plan seeks to increase patronage on buses by 10% from 2019 levels by 2024/25 and for the bus to be an equal or better choice to the private car for single bus trips and trips where passengers interchange, either onto other bus services or other modes of transport.

3.20 BSIP ambitions include:

- Increasing frequencies to at least hourly (at peak times) on most bus routes
- Expand demand responsive transport (DRT) services to the whole county
- Improved bus-rail connectivity and between DRT and bus services
- Integrated and simplified fares with automatic fares capping for daily and weekly travel
- Lower cost travel for under 25s
- Simple, high-quality information, including real time

3.21 Amongst the actions proposed by the Plan was a review of financially supported (socially necessary) bus services and the development of multi-operator ticketing and links with rail. Both of these support the principles of this study, to consider an existing supported service (882) and improve bus-rail connectivity at Kemble station.

Kemble-Cirencester Active Travel Feasibility Study (2022)

3.22 This report, by Sustrans, identified potential to increase the proportion of people cycling between Kemble and Cirencester if an improved route was provided.

3.23 The study identified a preferred route following the alignment of the former railway line between Kemble and Park Leaze Farm, then turning north-east to follow a network of bridleways and farm tracks to Cirencester. As the route is primarily off-road, there is little potential for either conflict or co-operative delivery with public transport options on the road (such as conventional bus or demand responsive service), though there could be an opportunity for delivery of an active travel scheme to be partially integrated with public transport options that include upgrade of the former railway line (VLR or guided busway).

3.24 The case for cycling established by the Active Travel study also highlights the strong potential for multi-modal interchange at both Kemble station and Cirencester, in line with guidance in Gear Change and LTN1/20.

Gloucestershire Climate Change Strategy (2019)

3.25 Gloucestershire County Council declared a climate emergency in 2019, and, in response, produced a climate change strategy to set out carbon reduction targets and a short-term action plan. The strategy provides a commitment to be carbon net zero by 2045, with emissions reduced by 80% by 2030 compared to 2005 levels.

3.26 Concerning public transport, the Strategy envisages the provision of high-quality services that will encourage a 'significant shift' in travel behaviour to reduce car emissions in the county. It also notes that the authority will take a lead in coordinating electric vehicles and local charging infrastructure.

GFirst LEP Strategic Economic Plan for Gloucestershire 2.0 (2018 update)

3.27 The Plan highlights the importance of connectivity as one of the strategic priorities the Growth Plan for Gloucestershire. It highlights the role of transport hubs in not only improving connectivity, but also in helping to regenerate areas (such as the recent provision of the Gloucester Hub).

GFirst LEP Gloucestershire Local Industrial Strategy (2019)

3.28 This sets out the desire for Gloucestershire to be a leader in sustainable growth and to be "the greenest place to live and work in England." It seeks to support a reduction in carbon emissions to net zero by 2050, with an aspiration to go further and faster.

3.29 The Strategy notes how reliable door to door transport choices will be key to attracting and retaining young people, securing the county's economic resilience, boosting productivity and encouraging long term development. In doing so, it wants to achieve a switch to sustainable clean public transport.

Cotswolds Destination Management Plan

3.30 Developed by the Cotswolds Tourism Partnership, the Destination Management Plan seeks to ensure that the Cotswolds is a vibrant year-round destination for visitors. It sets out 6 key themes, within each of which are various priorities. Within the sustainability theme is a priority to increase the use of sustainable transport by visitors, accompanied by better information to promote alternative travel options.

National Bus Strategy: Bus Back Better (2021)

3.31 The National Bus Strategy sets out the vision for the UK's bus network in the post-pandemic era, seeking to return patronage to where it was before the pandemic and then increase patronage beyond these levels. The Strategy recognises that networks must feel like a system connected together, as passengers experience in London, where they can change between services and modes of transport easily. National Bus Strategy

3.32 The Strategy sets out several ambitions:

- **Better integration** with other modes of transport, including ticketing.
- **Integrated service patterns** between bus services and between bus and rail services, with services timed to connect.
- **Improved frequency** to boost connectivity.
- **More comprehensive network** with services running in the evenings and weekends; including to smaller towns and villages.
- **Easier understanding** of the network for passengers through integrated passenger transport information, local branding, consistent route numbers, improved information at bus operators and a consistent service frequency throughout the day.

3.33 Clearly, any moves to improve public transport between Cirencester and Kemble would be in line with the Strategy.

4. Stakeholder engagement

4.1 Throughout the study process there has been engagement with a range of different stakeholders that were identified by Cotswold District Council, the project steering group or other interested bodies.

4.2 A summary of the main points from these discussions is given below.

Table 4-1 Summary of stakeholder meetings

Stakeholder	Summary of main points
Bathurst Estates	Significant landowner in the area, including the land being developed as The Steadings. The Section 106 agreement for the development includes monies for the provision of bus services, including links to Kemble railway station and Cirencester. The bus service will be arranged and procured by Gloucestershire County Council. It will be necessary for a bus service to serve the development itself as building takes place, as pedestrian access to existing areas, such as Cranhams Lane, may not be easy. The development is commencing at the eastern end and will gradually progress westwards. As the development grows, bus services would increase in frequency to at least half hourly. Ultimately (after about 5 years from commencement), an east-west route through the development will be available (before the 1000th dwelling) to buses, with accompanying infrastructure provided to facilitate bus operation, including bus stops. The western connection onto Tetbury Road will take some time to install, with the need to move underground services and build a roundabout.

Cirencester Action on Buses	Keen to support the provision and promotion of improved bus services in the area, including a regular link between Cirencester and Kemble station via The Steadings. In the short term, it advocates a service running via Ewen and Spratsgate Lane, with a stop to serve The Steadings. Once the link road is available, buses would run through the length of the development. Ultimately, the group also advocates a one-way clockwise circular service (running at least half-hourly) from The Steadings into Cirencester via Tetbury Road, then continuing to the Love Lane Industrial Estate and back to The Steadings. A bus gate is suggested to include the south-west quadrant development to be included on the route. Potential for Park & Ride site at the south-west secondary roundabout on Tetbury Road (aimed at traffic approaching Cirencester from Stroud and the south-west), linking there with a Kemble – Cirencester rail service. Also, bus stop at the entrance to RAU Agricultural Research Centre. Identified bus service improvements required in and around Cirencester: • Restoration of Watermoor bus service and extension to Duke of Gloucester Barracks • Retain and improve local bus service 58 • Extend operating hours of all buses • Improve connectivity by bus, including journeys towards Bath and Bristol, supported by the establishment of Cirencester (capital of the Cotswolds) as a bus hub.

Cirencester College	Total of 2780 students attend the college undertaking 'A' and 'T' level courses (the latter involving 1 day per week work placement). 75% of students travel by bus, using an extensive network of 23 routes across a wide area, including Swindon and Cheltenham. Bus routes are planned and provided by Stagecoach, with a subsidy provided by the college. The aim is for routes to be as direct as possible, offering journey times of less than an hour. Students purchase MegaRider annual ticket (£640 last year), which allows travel outside of college on Stagecoach services. College provides bursaries (on a sliding scale) to students from low-income households, to assist with travel cost. College day split into 3 sessions – one in morning and two in the afternoon (with break at 14:30). Some students will only need to come in for certain sessions on certain days. Therefore, some buses operate during the day to convey students travelling into college for later sessions or returning home earlier in the day. This spreads the demand on some of the routes and reduces the number of buses needed first thing and late afternoon. Deer Park School is adjacent to the college and draws pupils from quite a wide area. It starts 20 minutes before the college and ends 40 minutes before, so it is not possible to share transport.

Cirencester Community Railway Project	The group is promoting the reopening of a rail link between Cirencester and Kemble Railway Station, on the basis that a rail service will achieve a greater level of modal shift away from car than a bus service. It was successful in receiving some DfT funding under the Restoring Your Railway programme, enabling feasibility work to be undertaken and a Strategic Outline Business Case (SOBC). This suggested that Very Light Rail (VLR) offered the best option, with lower building and operational costs than conventional heavy rail routes. It is intended that the VLR will consist of 7km of track between Kemble and Cirencester, using an old track alignment from Kemble station towards The Steadings development, before crossing fields to Tetbury Road. Having crossed the road, the tracks would follow Tetbury Road into Cirencester, terminating opposite the Old Station Car Park. Intermediate stations would be provided at the University and College. As well as providing a link between Cirencester and Kemble, the VLR service would be able to offer a Park & Ride facility for people coming into Cirencester, reducing demand on town centre car parks. The VLR would use two battery powered vehicles. Kemble to Cirencester is seen as phase 1, with the opportunity to ultimately extend at one end to Love Lane Industrial Estate, Cotswold Water Park and Cricklade and, at the other end, to Cotswold Airport and Tetbury.

Cotswold District Council	**Economic development** – area has some important places that create travel demand, such as St James Place (largest employer in Cirencester), which has highlighted the importance of links between the town and Kemble Railway Station. Cotswold Airport is also a developing location, where future travel demand will grow. Royal Agricultural University (RAU) currently has 330 students living on-site, with others living off-site. Development proposals by the RAU may see an additional 600 students. **Tourism** – there is a desire to develop accessible/sustainable tourism and encourage more people into the area and to stay in the area. Many tour groups stay in Oxford or Swindon and stop off for short stops in the Cotswolds on their way to Stratford-upon-Avon or elsewhere. Specialist and bespoke tours for smaller groups by minicoach or MPV is a growing area of business. Key local attractions are Cotswold Water Park and Westonbirt Arboretum. The former is popular with local people for walks – there is a need for good public transport on Sundays and the ability for buses to convey bikes. The Great West Way is a brand aimed at attracting international visitors to the London – Bristol corridor. The initiative includes a Great West Discoverer travel pass, covering rail and bus travel. This currently reaches Malmesbury, but there could be potential in the future to extend coverage north to take in more of the Cotswolds, including Kemble and Cirencester. The RAU and the De Vere hotel in Cotswold Water Park have facilities to host conferences and meetings. Their attractiveness would be enhanced with a reasonable link to/from Kemble railway station. Of relevance is a publication by Visit Britain on final mile best practice guidelines. This seeks to promote use of train for visits to tourist attractions, particularly by looking at ways of bridging the gap between rail station and attraction, perhaps through integrated rail/bus ticketing, well signposted walk routes or provision of shuttle buses. **Community wellbeing** – community transport (Tetbury Community Transport and Community Connexions) already plays a part in meeting some of the travel needs of Tetbury residents. There is an interest in looking how this could be developed further, using s106 developer funding, perhaps with opportunities to be involved in the development of services in the Tetbury – Kemble – Cirencester corridor.

Cirencester Town Council	Commissioned its own study in 2019-20 to consider public transport demand. This highlighted the steady decline (4-5%) in bus use in Cirencester since 2016, which was more than the 3.5% nationally. Journeys by concession holders fell by 16% (compared with 10% nationally), potentially due to the higher levels of car ownership amongst older people in Cotswold District (particularly in Chesterton, The Beeches and Stratton), but also the various changes to local bus services and reducing levels of service. 89% of people were satisfied with the local area as a place to live. Focus groups helped identify areas of unmet demand for public transport, including services within Cirencester, connections to Kemble railway station, and services to further destinations such as Cheltenham, Gloucester, Stroud and Swindon. Distance getting to public transport was a significant issue for some. In some cases, improved information would help people know about services that already exist. The Community Plan: 'Our Future Cirencester' has a vision for Cirencester to be: • A sustainable market town • A good place to grow up • An attractive town to live in, visit, and where vibrant culture can be enjoyed • A better place to do business The Plan supports more sustainable travel options, seeking to positively influence the provision of public transport.

Deer Park School	1000 pupils on roll, with 40% coming from outside Cirencester, including Swindon, Stroud, Cricklade and Minchinhampton. There are dedicated services for pupils eligible for free school transport, arranged by GCC. Pupils from Tetbury and Stroud are reliant on local bus services. School starts at 08:50 and pick-ups in the afternoon are at 15:20/15:25 – some transport is joint with Kingshill School, which finishes at 15:15. The times being different from the College means that there aren't capacity issues on the buses. Most buses come into the school site, except the Stroud service, where pupils must cross the A419 to reach the stop for the journey home. The possibility of arranging more dedicated discretionary transport (for pupils not entitled to free school transport) has been investigated with parents, but this has proved to be more expensive than buying a season ticket on the service bus. School pupils are less likely than college students to get value from a MegaRider ticket arrangement.
Gloucestershire Community Rail Partnership (GCRP)	The group is supportive of any improvements to public transport connectivity to/from Kemble station, given that current provision is so limited. It is particularly keen to promote connectivity to tourist attractions in the area including Westonbirt Arboretum, Cotswold Water Park and Cirencester. Alongside this, GCRP seeks to promote trips within the Area of Natural Beauty, with Kemble being a key point of entry.

Gloucestershire County Council	**Integrated Transport Unit** - the current 882 service (Gloucester – Cirencester – Tetbury) is wholly financially supported by GCC at a cost of £245k p.a. It seeks to meet several different needs, including conveying pupils to/from school. The variations of route seek to provide basic levels of service for various villages along the route. Current patronage on the non-school journeys between Cirencester and Tetbury is relatively poor, with very limited use from some of the villages served. GCC interested in supporting the development of bus services in the Cirencester – Tetbury corridor, with funding from The Steadings development. Any service will need to look to meet several different demands, as it is unlikely that a Cirencester – Kemble rail shuttle service on its own would achieve sufficient use. Concern that any bus service link will fail to be suitably attractive compared to the car, although such a service might have some potential for tourism. Operators have been struggling to recruit and retain sufficient drivers to maintain services – something to be borne in mind when considering service development, such as evening or Sunday provision. GCC will receive s106 monies from The Steadings development and use these to procure appropriate bus services. There will be a balance between the speed of development and triggers for the provision of funds and the ability to fund and maintain any bus service provided. There is some concern that the development will progress at a slow rate, limiting the level of demand for the service. Again, this points to the need for the service to meet various travel demands simultaneously, rather than being tailored to any particular one. **Transport Planning** – the Local Transport Plan points towards improvements in public transport. The intention is to develop a hub-based model for public transport and an interchange strategy is being developed that will include an approach to the provision of mobility hubs along with larger interchange facilities. The hub approach supports the provision of regular services between key points where interchange between services can be facilitated, improving overall connectivity.

Great Western Railway (GWR)	Supportive of any moves to improve connectivity with rail stations, such as Kemble. Bus links can be given 'Branch line' branding to emphasise the link between bus/rail – an approach used successfully elsewhere (e.g. on services D/E between Cheltenham town centre and rail station). Interchange between bus and rail needs to be physically easy, obvious and visible, with good signage and real time information to provide reassurance. It is useful to establish the principle of interchange and then build on it. Area-based rover tickets offering bus and rail travel are preferable to specific place-named through tickets. GWR has small budgets that might help develop and improve bus/rail interchange or trial a particular initiative.
Royal Agricultural University (RAU)	1200 students, of which 330 live on site. 80% of students have a car and most return home at weekends. With such high car dependency, no charge is made for car parking. Whilst relatively close to both Kemble station and Cirencester, the site seems isolated from both. Public transport provision is very limited, so the university runs a shuttle minibus between the site and Cirencester town centre. The site is used for conferences, short courses and retreats in the summer holidays. A proportion of those attending do come by train to Kemble, with the need for arranged pick-ups or taxis to reach the RAU. Planned expansion will increase the number of students and the diversity of these due to the wider range of courses offered. This will increase the need for better public transport links. Equally, the RAU has a desire to enhance its sustainability and environmental credentials.

Stagecoach West	Stagecoach took over operation of the 882 service in 2022, under contract to GCC. Whilst the area is not good territory for operating buses, given high car ownership and use, diverse travel demands and sparsity of population in the rural areas, there might be scope to build new markets based around the provision of good, simple services. This could be a regular hourly bus network centred on Cirencester, building on the principles of existing service 51 Cheltenham – Cirencester – Swindon. This might include a service between Lechlade, Fairford, Cirencester and Tetbury, which would replace the existing 882 service with something more regular and frequent. Likewise, regular and more frequent local buses within Cirencester could be built into the network. Digital demand responsive transport (DDRT) services could also be deployed in the area, serving some of the villages off the main roads and avoiding the need for the main services to deviate from the most direct routes. However, the view is that such services need reasonable scale of perhaps 15 vehicles to sustain the operation. Some of these proposals had been floated with GCC as part of an alternative tender for the 882 service. The view is that the current rail passenger market alone is insufficient to sustain a bus link between Cirencester and Kemble. Cotswold Water Park is designed around car access, particularly considering many of the water sport activities. Equally, the various facilities and attractions are spread over a wide area. There appears to be limited scope for the bus to play much of a role in conveying visitors. The company has a good partnership with Cirencester College, providing transport for students from a wide area. Students buy a network ticket that can be used at other times, in addition to travel to/from collage. 20+ buses area required for the operation, of which about two thirds are parked up for much of the day in-between the main runs to and from the college. The other one third of buses run additional services to/from the college late morning or early afternoon, for students not needing to be at college all day. All buses are registered local services and available to the public; however, there are not many other passengers, partly because the services are limited to running on college days only.

Sustrans	A member of ITP's project team attended a meeting between Cotswold District Council and Sustrans over the proposed active travel link between Kemble and Cirencester. The project work undertaken by ITP was found to be complementary to the proposals of Sustrans.
Tetbury Town Council and Greening Tetbury	Tetbury has seen significant growth through new development and is keen to maintain its own identity with a mix of activities to ensure it retains its function as a service centre and not merely a dormitory town. Tetbury could itself act as public transport interchange, with services converging from Cirencester, Stroud, Bath and Malmesbury and offering connections. Whilst there are services providing links to surrounding places, these tend not to be sufficiently attractive in terms of regularity and frequency and with no evening service. Tetbury would benefit from a regular local bus service operating within the town. Equally, a frequent service linking to Westonbirt Arboretum would be welcomed. The position of travel to Bath is confusing using routes 69/620. Buses towards Bath show Old Sodbury as the destination, so people are unaware that they can travel through to Bath. Tetbury looks to Kemble railway station, but the 882 bus service offers only very limited connection opportunities. The service is particularly poor on Saturday, including for travel to/from Cirencester. Therefore, better and more frequent links to both Kemble station and Cirencester would be welcomed. Cirencester is an important destination for shopping, whilst people look to Stroud or towards Bristol for evening entertainment. There are concerns around the ability to find information about buses, both from operators' websites and on displays at bus stops. There is no real time information provided. Some bus stops in the town are poorly located with difficult pedestrian access to/from them.

Cirencester Education Quarter Travel Plan

4.1 Before the Covid-19 pandemic, the three education institutions (Deer Park School; Cirencester College; RAU) located together in an area 1.5km south-west of Cirencester drafted a joint Travel Plan. Collectively, these sites see over 4,000 people travel to them

each day they are open, which is very significant to overall travel patterns and the balance of transport provision in the Cirencester area. Due to location and limitations of alternative forms of travel, there is significant car use to and from the sites. Virtually all staff travel by car. As such, each of the institutions maintain extensive car parks.

4.2 The aim of the travel plan is to reduce unnecessary car journeys by promoting sustainable travel options (walk, cycle, public transport) and identifying alternatives to single occupancy car journeys. Its intentions are to:

- Encourage more sustainable travel options and reduce carbon footprint
- Promote wellbeing by encouraging more active travel
- Protect the environment
- Work with partners to improve the availability, convenience and quality of public transport
- Ensure safe access to/from the sites
- Accommodate any growth in students and pupils without increasing road traffic

Deer Park School

4.3 At the time of the Travel Plan work, the school had 925 pupils drawn from a wide area, but with significant concentrations from Cirencester itself and Stroud. 10 buses operated to the site.

4.4 Staff were drawn from a wider area, with many travelling 15-30 miles, although again there were concentrations in Cirencester and Stroud.

4.5 A survey amongst parents in 2019 highlighted several concerns about bus travel, including overcrowding on some buses and reliability. There was a preference to see pupils using dedicated bus services rather than having to use public services.

Cirencester College

4.6 At the time of producing the travel plan, the College had 2300 students and 100 apprentices drawn from a very wide area. Most students travelled 10-20 miles, but there was a significant minority travelling 20-30 miles. Of very local students in and around Cirencester, less than 50% cycled or walked.

4.7 There were 350 staff, again travelling from across a wide area.

4.8 60% of students used buses. As part of a Carbon Management Plan, it was college policy to discourage car use and between 2015 and 2019 the number of student cars fell by 14%.

4.9 Free parking is available to staff, because of the lack of alternatives to the car. However, students are charged a fee, to help maintain the car park.

Royal Agricultural University (RAU)

4.10 At the time, the RAU had over 800 students. Year 1 students were accommodated on-site, whilst others were in accommodation in Cirencester and the wider area.

4.11 Staff were drawn from a very wide area, with concentrations in Cirencester, Stroud, Swindon and Cheltenham.

4.12 The Growth Hub and conferences draw other people to the site, most of whom arrive by car or taxi.

4.13 The travel plan noted that there was a high dependency on car-use by all those travelling to and from the site, where there were 400 car parking spaces.

Identified barriers to public transport use

4.14 The Travel Plan highlighted several barriers in respect of public transport:

- Limited availability of bus services generally in the area
- Lack of any regular, coordinated link to/from Kemble railway station
- Limitations of the rail service and the cost of rail travel

Potential measures

4.15 The Travel Plan included a long list of potential measures relevant to public transport provision that either individual institutions or the three collectively could pursue. This underlines the desire to support public transport services and to work with any other agencies or interested groups to achieve this.

4.16 Specific identified potential options listed are as follows:

- **Bus stops** - improved bus stops and waiting infrastructure on Stroud Road and Tetbury Road and provision of a safe bus stop at the University Gate.
- **Bus services** – provide a free shuttle bus to/from Kemble railway station and subsidise other new services in collaboration with other agencies.

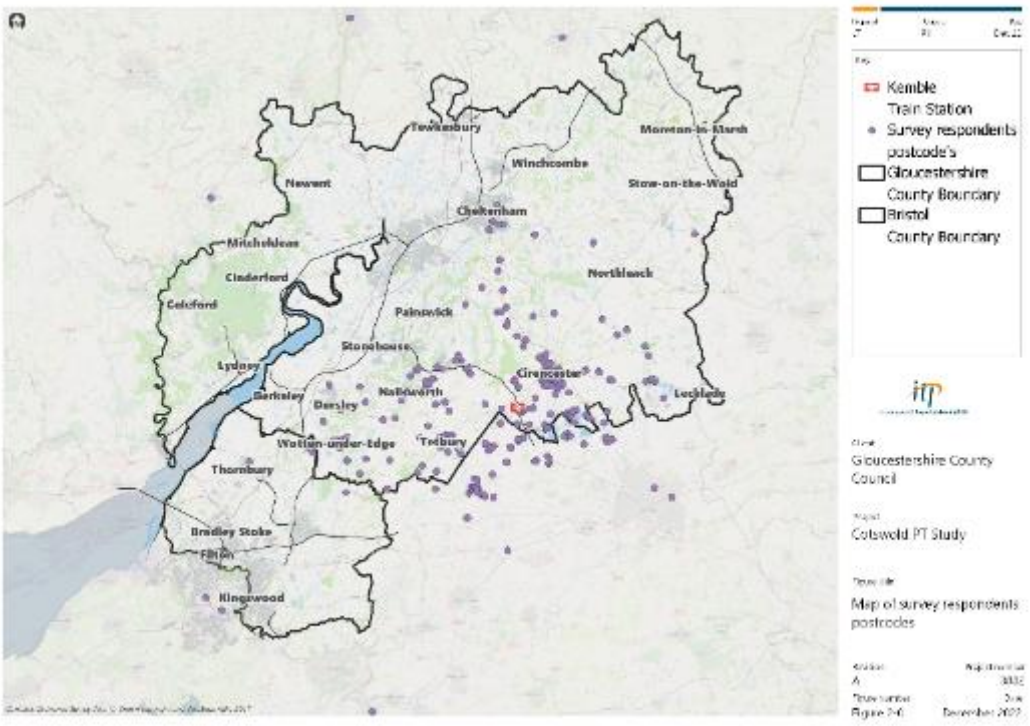
- **Staff shuttles** – provide work buses from areas where there are concentrations of staff located.
- **Rail travel** – negotiate discounted fares for staff and students to travel to/from Kemble station.
- **Public transport season tickets** – provide interest-free loans to staff for the purchase of season tickets.
- **Information** – undertake more promotion of public transport services.

4.17 Additionally, the Travel Plan highlights how the institutions can seek to work with and support other organisations that have an interest in public transport improvements in the area, including District and County Councils, bus operators and Cirencester Community Rail Project.

Kemble Railway Station Survey

4.18 In autumn 2022, Gloucestershire Community Rail Partnership (GCRP) undertook a survey amongst rail users at Kemble station. This sought to better understand how the station was used, the nature of the journeys undertaken and views on station facilities and improvements that people would like to see. The paper-based and on-line survey attracted 500 responses. Findings relevant to this study are included below.

4.19 Users of the station are concentrated in the Cirencester – Tetbury corridor, although the station has a wider area of influence.



4.20 70% of respondents used the station at least monthly, with about a third using the station at least once per week. Over half the respondents travelled by car on their own. About a third were dropped-off and/or picked up by car. Many people indicated that they would resort to using a taxi if their usual method of travel was unavailable.

4.21 Just 3% of respondents used the bus. Many respondents highlighted the inadequacy of the existing bus service in terms of being not available when needed, infrequent, inconvenient and not offering sufficiently good connections with the train service.

4.22 Over half of respondents suggested that the provision of better bus links would encourage them to change the way they travelled to and from the station.

4.23 In terms of interest in the provision of particular facilities, 22% of respondents indicated that they would be very interested in a bus service between Cirencester and the station. A further 13% would be interested in a bus to/from Tetbury. 7% of respondents would be interested in a bus link between the station and Cotswold Water Park.

4.24 Respondents were able to provide further comments of their own. A recurring theme was the need for better connections between Cirencester and the station and improvements in the bus service.

5. The Steadings development

5.1 As set out in the previous section, The Steadings represents a significant development of housing and employment on the southwest edge of Cirencester. Lying on the Cirencester – Kemble corridor, it is an important factor to be considered for any public transport option. It will provide travel demands both as an origin and destination of trips. As such, the s106 agreement sets out a plan to phase in the provision of bus services, as the development progresses, with financial contributions made by the developer for links to both Kemble railway station and Cirencester.

5.2 It is assumed, therefore, that any options considered for enhancing bus services in the Cirencester – Kemble – Tetbury corridor would help meet the requirements of the s106 agreement and, as such, benefit from that source of funding.

5.3 It is likely that in the early phases of the development, bus users' needs would be met by a bus stop at the eastern end of the development on Spratsgate Lane. As the development extends west, buses would go into and out of the development at the eastern end. Ultimately, when the east-west link road is available, the service would run right the way through the development.

5.4 Discussions with the developer and officers at the County Council, who would be responsible for using the s106 monies to procure the bus service, have provided the basis for the following principles of what should form an appropriate bus service for The Steadings:

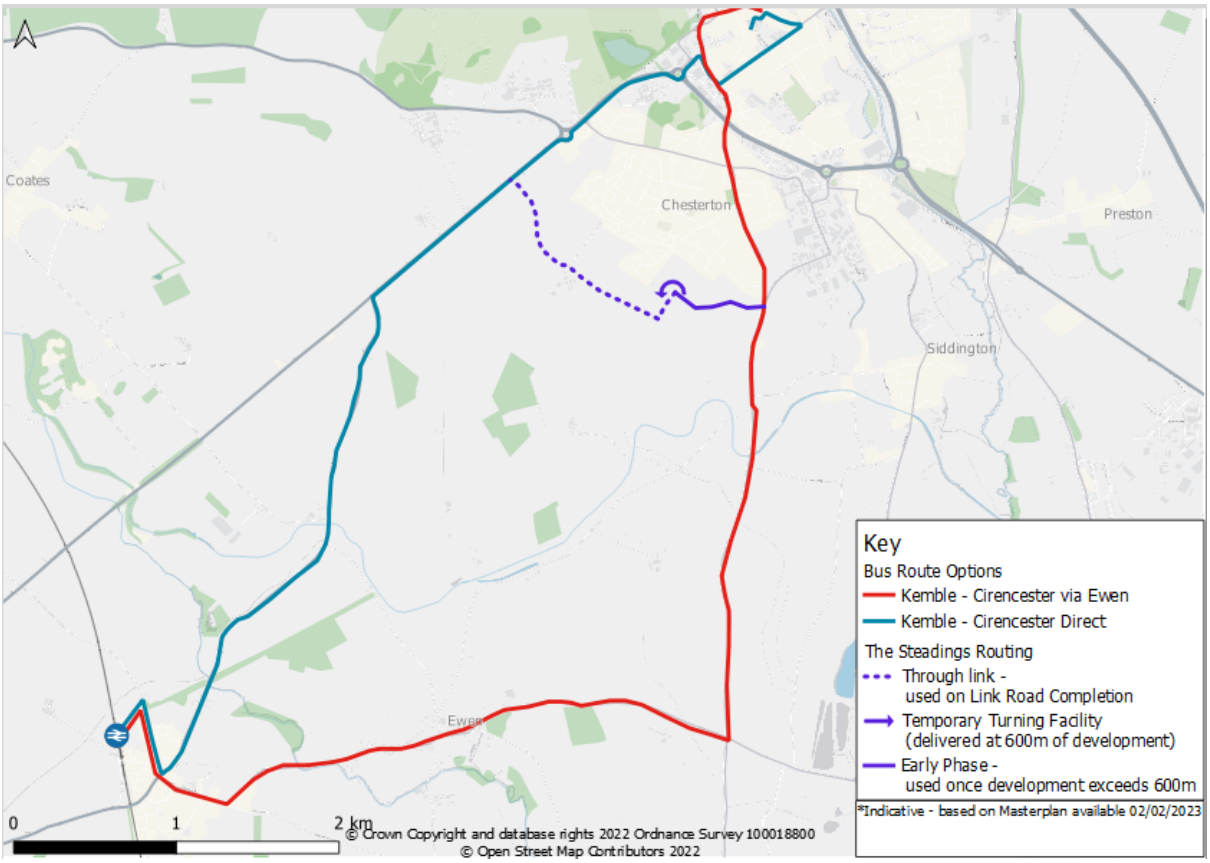
- Half hourly through much of the day (7 days per week); anything less frequent is unattractive, as people could walk in less time than the potential wait between buses.
- Direct route and understandable / recognisable pattern of service (i.e. with buses going both ways along the same route, rather than using a one-way loop (which results in journeys in one direction being lengthy).
- Include links to and from both Kemble Station and Cirencester; however, with relatively limited demand to Kemble, other travel demands need to be tapped into, such as inclusion of Tetbury, hence why our assessed options look at the whole Tetbury – Cirencester corridor.

5.5 DRT is not considered appropriate as a long-term public transport solution for The Steadings, as time spent booking/waiting for the vehicles would be disproportionately long compared to the actual journey time.

5.6 The suggested bus service for The Steadings would include the following:

- Hourly fixed route service (06:00 – 20:00 Monday – Saturday, with less frequent later evening; 08:00 – 18:00 Sunday) between Kemble, The Steadings and Cirencester, running at times proposed in the next chapter of the report (to connect with trains at Kemble station). Initially, buses would serve The Steadings via a bus stop on Spratsgate Lane, until the development has progressed about 600m westwards, when a turning point would be created to enable buses to enter the development, turn and come back out the same way. Ultimately, when the east-west link road is available through the development, the service would run the full length emerging onto Tetbury Road, then continuing into Cirencester town centre.
- Hourly, or potentially half-hourly, local service (Cirencester only), linking The Steadings with various points in the town. Timings of this are unlikely co-ordinate neatly in-between the hourly Cirencester – Tetbury bus in both directions, therefore giving more weight to the provision of a half hourly local service, which itself would offer an attractive regular pattern of service.

Figure 5-1: Bus route options for The Steadings



5.7 For the local Cirencester service, different options might be considered:

- **An hourly service** could run as follows: Town centre – Love Lane area – Chesterton Lane or Cranhams Lane – Tetbury Road – The Steadings – Love Lane area – Town Centre. Whilst the loop via Chesterton and The Steadings would be more intuitive to run clockwise (to be running in the same direction through The Steadings as the corridor service for picking-up passengers towards Cirencester), the inability to turn right from Tetbury Road into Chesterton Lane prevents this. To best fit in-between the main corridor service this local service would leave the town centre at about XX:55 and arrive back about XX:30. There would be time in the schedule for the service to extend beyond the town centre to another part of the town.
- **A half-hourly circular service**, with alternate journeys running clockwise and anti-clockwise. Clockwise the route would be Town Centre – Love Lane area – The Steadings – College – Town Centre (journey time about 25 minutes). The most suitable times to coordinate with the Kemble service would be for departures from the Town Centre at XX:05 (clockwise) and XX:35 (anti-clockwise).

6. Bus service development

6.1 This study has shown how the Cirencester area has several challenges in terms of bus service provision. This is particularly due to the high car ownership and use in the area, limited size of population and diverse nature of travel demands. Equally, there is much interest in, and support for, improvements to public transport, given the current low base of provision. These considerations are summarised Table 6-1.

Table 6-1 Public transport considerations

Positive factors	Negative factors
Supportive policy backdrop at national and local levels, including requirements for decarbonisation	Declining bus network since 2016, accompanied by reducing usage (exacerbated by the Covid-19 pandemic and associated changed travel behaviours)
Supportive stakeholder interests and public wish	Low bus use (1.3% journey to work by bus) compared with other areas
Travel demands exist – shopping, leisure, education, employment, tourism	Challenging local environment for bus service provision, due to high car use
Desire to see a dedicated transport hub in Cirencester town centre, which will improve the visibility of public transport in the area and promote its use	Bus driver shortages and difficulties in staffing evening and weekend services
Cotswold District's two most populated towns – Cirencester and Tetbury – both look to Kemble Station for train services	Need for revenue funding streams to kick-start and/or sustain enhanced bus services
Framework Masterplan for Cirencester Town Centre being developed, bringing opportunities for complementary changes to the public realm and to support sustainable travel and decarbonisation ambitions	Current bus provision an unattractive option to car use, and policies/strategies that support and encourage car use (e.g. provision and cost of car parking)

6.2 The provision of the existing 882 bus service can be summarised as follows:

- Run under contract to Gloucestershire County Council
- Irregular timetable, with no set pattern and infrequent
- Linked with Cirencester – Gloucester (2 buses in total used to provide entire service)
- Based around the provision of home to school transport requirements, which dictates the times of journeys and the size of vehicles deployed

- No evening or Sunday service
- Limited Saturday service, with just 3 journeys each way
- Different routes taken - some via the villages and others direct; some journeys terminate at Kemble railway station and others go through
- At certain times, buses do make connections with trains, either arriving or departing
- Overall, the service is generally unattractive due to its complexity, infrequency, irregularity and limited duration

6.3 However, the Cirencester – Kemble – Tetbury corridor offers various opportunities that lend support to the provision of an enhanced bus service along it and are set out below.

Table 6-2 Public Transport corridor – key opportunities

Opportunity	Detail
The Steadings development	2350 houses and two areas of employment will provide some demand. Development will provide suitable infrastructure for a bus service, as well as section 106 contributions to support the provision of a service. However, no through east-west route will be available for about 6 years, with the need for the bus to serve the development from the eastern end.
Cirencester College	Large travel demand from wide area. Significant provision of existing bus network on college days, including off-peak journeys to spread demand through the day, providing vehicle/driver resource in the area.
RAU	Planned development and expansion at the university will increase the travel demand, including more potential use of public transport by students.
Kemble railway station	Provides a passenger-generating focal point along the route, with an interest from potential users. Regular pattern of hourly trains provides the basis for regular bus connections. Bus can get right to the station and turn within the car park. GWR interested in developing and promoting a bus link as a 'branch line' service.
Corridor bus service	There is a desire for both Tetbury and Cirencester to have improved bus services with greater connectivity between the two, along with onward connections at both with other bus services to destinations further afield. In parallel to this study, the provision of a physical transport hub in Cirencester has been assessed.

Opportunity	Detail
Wider Cirencester area	Regularly timed services could connect with other bus services in Cirencester town centre, increasing overall connectivity. Depending on the option, there may be some spare time in the timetable to extend journeys in Cirencester beyond the town centre to other residential areas or destinations, so increasing potential usage.
Tourism	Much potential in the area, including Cirencester and Tetbury themselves and nearby places of interest, such as Westonbirt Arboretum and Cotswold Water Park. Rail service to/from Kemble can bring visitors straight into the area. Opportunity to promote the service to local people for days out or walks. Bus is well-placed to cater for linear walks.
Cotswold Airport	Growing employment site creating demand. However, may be challenges for access by buses running between Cirencester and Tetbury.
Existing contract service funded by GCC	The service is under the control of GCC, providing the ability to remodel the service in order to meet the aspirations of various interested parties and the requirements of The Steadings s106 agreement.

6.4 The education sector travel market is possibly the single biggest opportunity that exists for the development of the local bus network. In generating many journeys by bus, it draws into the area significant bus resources that are under-used in the off-peak. It encourages use of public transport by young people and involves regular patterns of demand. The downside is that usage is concentrated on just 185 days of the year, all weekdays and no weekend provision.

6.5 The leisure and tourism markets are more difficult to cater for by bus. Attractions have developed based on people accessing them by car. This is evident from the location of many of the activities across the Cotswold Water Park and makes serving them by bus difficult. Unless there are real 'honeypot' sites, which large numbers of people want to access at similar times from the same origins, there is little justification for the provision of dedicated tourist bus services. For the Cotswolds, it is more likely that a bus service will be sustained if it seeks to meet different needs simultaneously – local residents' travel needs for shopping, education, employment and personal business alongside visitors' needs – rather than developing bespoke services for different market segments.

6.6 Fixed route services by their very nature are easier to promote, with buses running at set times being a visible reminder, together with fixed bus stop infrastructure and the ability to display timetables and other information. Equally, such services provide more

certainty when people are planning journeys, particularly if connections are to be made between services.

6.7 Demand responsive transport (DRT) services, whilst offering greater flexibility and potentially more availability across an area, are more difficult to promote for occasional and one-off journeys and can create another element of uncertainty when planning a trip. Such services are well suited to people making regular journeys, who understand how to book and use the service and have built up confidence in using them.

6.8 The challenge in encouraging visitors to use public transport is providing them with confidence before they come, so they feel able to travel and around the area by public transport. If visitors travel to an area by car, they are more likely to continue to use it for journeys in the area too, unless there is a good reason not to, such as to do a linear walk or to experience a different way of travelling (e.g. open top bus ride).

6.9 It is also important for all interested parties (including attractions) to promote the use of public transport, such as including details within their own marketing and information.

6.10 In terms of public transport access to Cotswold Water Park, the existing service 51 Cheltenham – Cirencester – Swindon provides the first building block and could be developed and promoted for visits to the eastern area of the Park. Encouraging more use of the service would improve its commercial viability and allow improvements such as increased frequency or evening and Sunday journeys.

6.11 Given the large numbers of local visitors to the Water Park, there may be scope to trial a dedicated weekend shuttle bus service in the summer months between Cirencester and different areas of the Park. It could also extend to Kemble station for train connections. This should be designed to be complementary to service 51, offering connections for people to reach the western parts of the Park.

6.12 The shuttle bus and 51 service should be jointly marketed, with suggested days out, times to travel and what to do, including walks and places to visit.

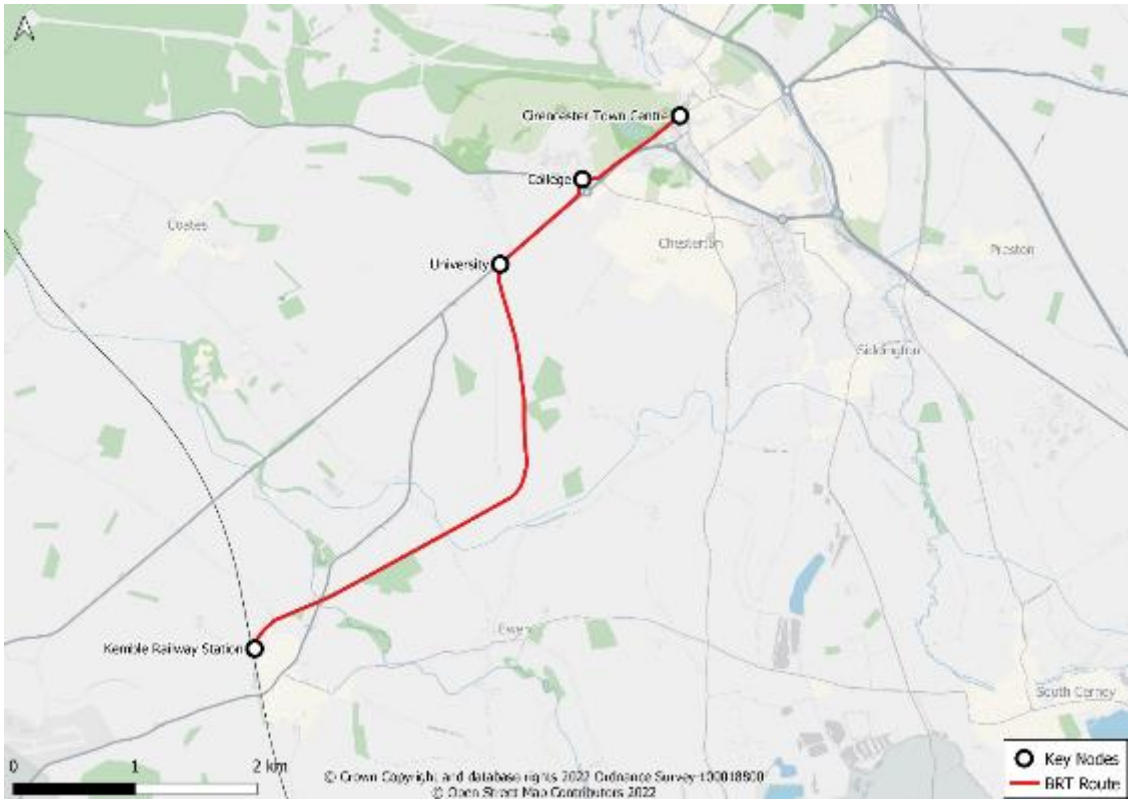
7. Options for Cirencester – Tetbury corridor

7.1 Several different options for the provision of a bus service have been developed for consideration. Each are outlined below, along with any assumptions used in order to compare these options with the existing (reference case) operation.

Very Light Rail (VLR) (option 1)

7.2 The section of disused rail line between Cirencester and Kemble has been identified by a local community group for potential reopening. This would involve use of part of the old line as well as realignment where development has occupied the land, building 6.5km of track, potentially in the form of very light rail 'slab track', significant structures, platforms and purchase of rolling stock. The proposed alignment is shown below.

Figure 7-1: Proposed Guided Busway / Very Light Rail Route



7.3 Key assumptions for option 1 include:

- Journey length (6.5km) and journey time (12 minutes)
- Frequency of 30 minutes
- Operating 11 hours per day over 6 days per week

- Utilising two VLR 'vehicles'
- Opening year 2026

Guided Busway (Option 2)

7.4 Using the same alignment as above, the guided busway would facilitate vehicles to operate off-carriageway for part of the route. It would need significant construction for the dedicated guideway element and have the flexibility for vehicles to also use existing roads for parts of the route, avoiding the need for an entirely segregated route.

7.5 New high quality bus stop infrastructure is assumed to be delivered in conjunction with the bus way, with amenities such as real time passenger information, to promote the high-quality offer of the service (above a 'conventional' bus service).

7.6 Vehicles would also be able to continue directly to further destinations (such as Tetbury, Malmesbury, Gloucester or the Water Park) without the need for passengers to interchange.

7.7 Key assumptions for option 2 include:

- Shortened journey length (6.5km) and journey time (12 minutes)
- Frequency of 30 minutes
- Operating 11 hours per day over 6 days per week
- Utilising two vehicles
- Opening year 2026

Shuttle bus (options 3 – 5)

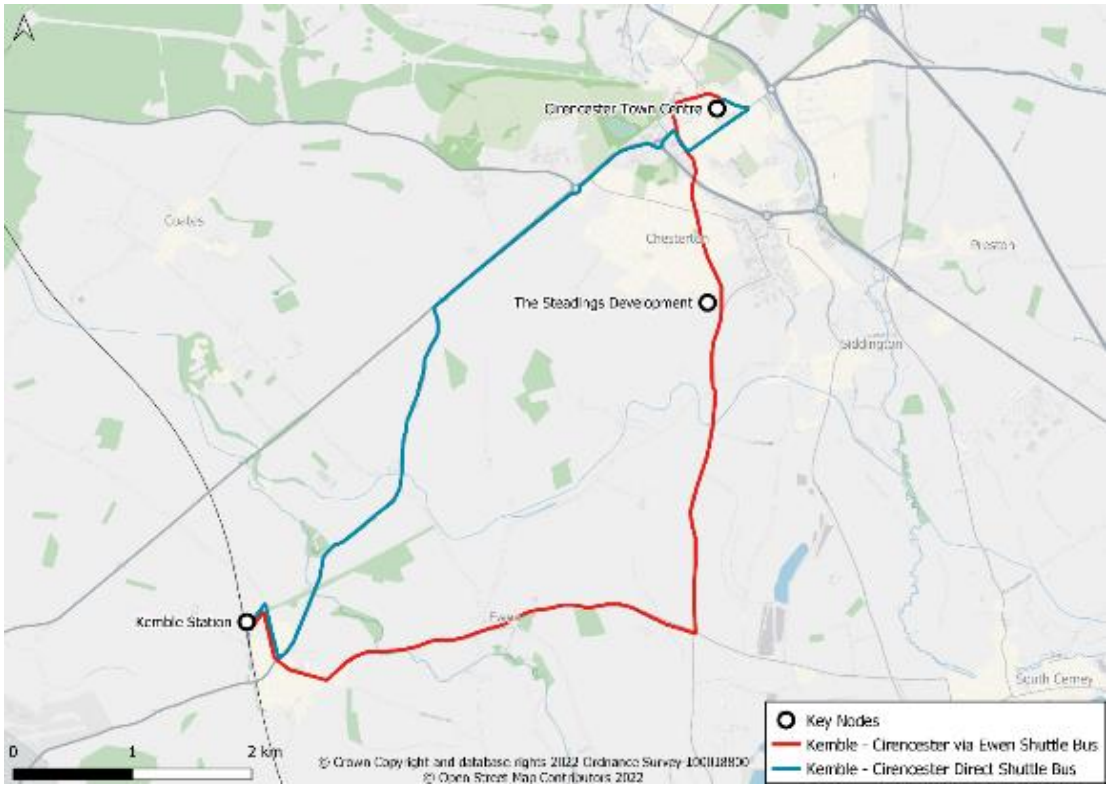
7.8 These include options for one bus operating an hourly shuttle service between Cirencester and Kemble station (either via Tetbury Road or Ewen) and/or Tetbury and Kemble station. Potential routes are shown in Figure 7-2.

7.9 Buses would wait at Kemble station for 15 minutes, to offer connections both to and from trains in both directions. There would be a limited amount of spare time in Cirencester or Tetbury for the buses to extend beyond the town centres to serve other areas.

7.10 Such shuttle services would be targeted at rail users and there would be the opportunity to market and brand them for this purpose. They could be designed to

wait a few minutes to meet slightly late running trains, giving users more confidence to use them.

Figure 7-2: Shuttle Bus via Ewen and direct



7.11 Indicative timetables for the first part of the day are provided in Table 7-1, showing the hourly pattern of operation.

Table 7-1 Indicative timetable for shuttle bus options (3 – 5)

Shuttle bus: Cirencester – Kemble (via Tetbury Road)					
Cirencester	06:20	07:20	08:20	09:20	10:20
Kemble Station	06:35	07:35	08:35	09:35	10:35
Kemble Station	06:50	07:50	08:50	09:50	10:50
Cirencester	07:09	08:09	09:09	10:09	11:09

Shuttle bus: Cirencester – Kemble (via Ewen)					
Cirencester	06:15	07:15	08:15	09:15	10:15
Kemble Station	06:35	07:35	08:35	09:35	10:35
Kemble Station	06:50	07:50	08:50	09:50	10:50
Cirencester	07:10	08:10	09:10	10:10	11:10
Shuttle bus: Tetbury – Kemble					
Tetbury	06:15	07:15	08:15	09:15	10:15
Kemble Station	06:35	07:35	08:35	09:35	10:35
Kemble Station	06:50	07:50	08:50	09:50	10:50
Tetbury	07:10	08:10	09:10	10:10	11:10

7.12 If shuttle buses were operated from both Cirencester and Tetbury to Kemble, it would be possible for passengers wishing to travel through to transfer at Kemble. Alternatively, each of the vehicles could continue through, providing a complete service in the corridor, albeit with a 15-minute wait at Kemble to facilitate connections with trains in both directions.

7.13 Key assumptions included:

3) Shuttle bus Cirencester – Kemble (via Tetbury Road)
   - Equal journey length (7.4km) and journey time (15 minutes) to the reference case
   - Frequency of 60 minutes
   - Operating 11 hours per day over 6 days per week
   - Utilising one vehicle
   - First year of operation 2023
4) Shuttle bus Cirencester – Kemble (via Ewen)
   - Increased journey length (8.2km) and journey time (20 minutes)[11]
   - Frequency of 60 minutes

[11] The increase in journey time has not been included in the composite patronage uplift factor (described later) to account for the potential patronage impact of serving additional locations

- Operating 11 hours per day over 6 days per week
- Utilising one vehicle
- First year of operation 2023

5) Extended shuttle bus Tetbury – Kemble – Cirencester
   - Equal journey length (22.4km) and journey time (35 minutes) to the reference case
   - Frequency of 60 minutes
   - Operating 11 hours per day over 6 days per week
   - Utilising two vehicles
   - First year of operation 2023

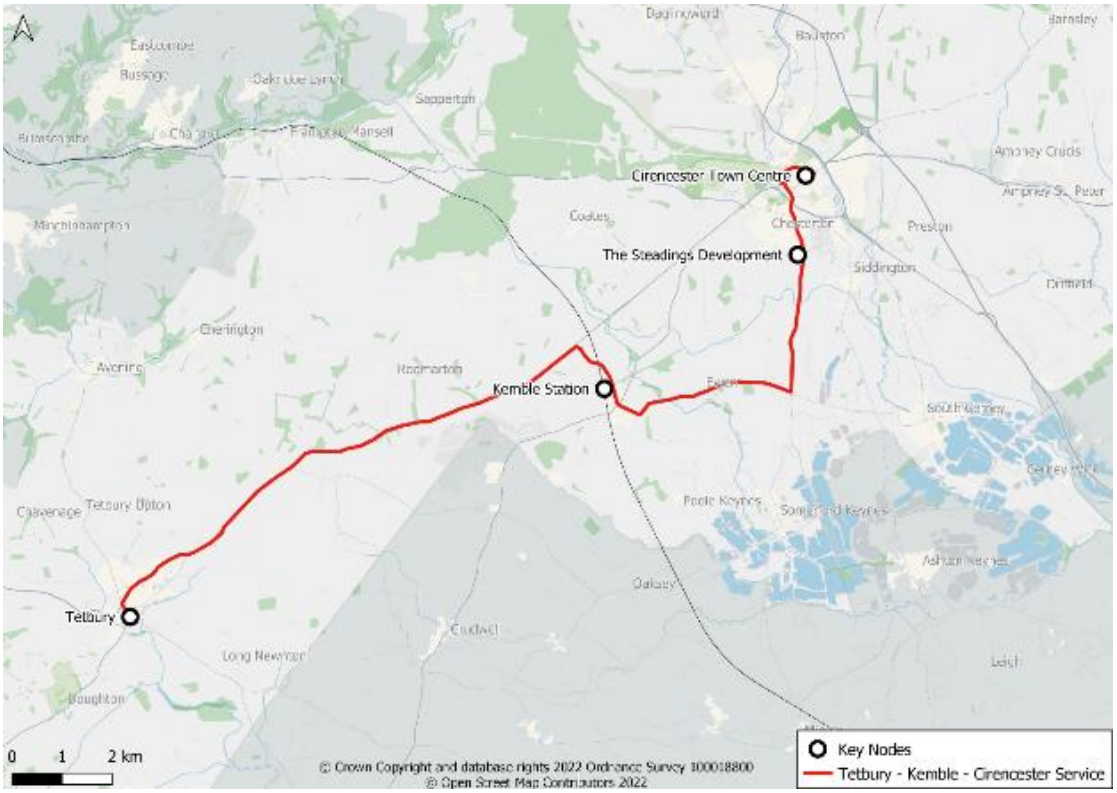
Cirencester – Tetbury (1 bus) (option 6)

7.14 This option involves using one bus in the most efficient way to provide the best possible service. This offers a service running each way every 90 minutes, so resulting in a more difficult timetable to understand.

7.15 Also, only alternate journeys in each direction connect with trains. Therefore, the timetable compromises on the benefits achieved by a regular hourly service. However, it represents a significant improvement on the current 882 service and starts to build end-to-end use, rather than being entirely focused on rail users.

7.16 Figure 7-3 shows the potential route for this service.

Figure 7-3 Indicative Tetbury - Kemble - Cirencester route



7.17 An indicative timetable is provided in Table 7-2 for part of the day, showing the pattern of operation.

Table 7-2 Indicative timetable for fixed bus option (6)

Cirencester – Kemble – Tetbury (efficient use of one bus)								
Cirencester	06:50	08:20	09:50	11:20	12:50	14:20	15:50	17:20
Kemble	07:05	08:35	10:05	11:35	13:05	14:35	16:05	17:35
Tetbury	07:25	08:55	10:25	11:55	13:25	14:55	16:25	17:55
Tetbury	07:25	08:55	10:25	11:55	13:25	14:55	16:25	17:55
Kemble	07:50	09:20	10:50	12:20	13:50	15:20	16:50	18:20
Cirencester	08:10	09:40	11:10	12:40	14:10	15:40	17:10	18:40

Key assumptions included:

6) Corridor Tetbury – Kemble – Cirencester (1 bus)
   - Equal journey length (22.4km) and journey time (35 minutes) to the reference case

- Frequency of 90 minutes
- Operating on 11 hours per day over 6 days per week
- Utilising one vehicle
- First year of operation 2023

Cirencester – Tetbury (2 buses) (option 7)

7.18 Using two buses allows a regular hourly service to be provided each way, with connections with trains at Kemble. Two options are provided. The first builds in a 15-minute wait at Kemble station on each journey, to offer connections with trains in both directions, so beneficial for rail users from both Cirencester and Tetbury. The second, does not wait and continues through, with timings based around connections for people travelling to and from Cirencester. However, this is more attractive to people travelling through between the two towns.

7.19 The second option results in buses having 35 minutes spare time in Tetbury. This could be used to extend the service within Tetbury or beyond to Westonbirt Arboretum. There could be time to run directly to Malmesbury and back, but this would be very tight. An alternative way of including Malmesbury would be for alternate journeys to serve either Tetbury or Malmesbury. Whilst this would offer enhanced services from Cirencester to both Tetbury and Malmesbury, each would only be served every 2 hours, so less attractive than the hourly service between Tetbury and Cirencester. Given this would represent a compromise, a link to Malmesbury has not formed part of the business case assessment.

7.20 Indicative timetables for both options for the first part of the day are provided in Table 7-3, showing the hourly pattern.

Table 7-3 Indicative timetable for fixed bus option (7)

Cirencester – Kemble – Tetbury (providing rail connectivity from both directions)					
Cirencester	06:20	07:20	08:20	09:20	10:20
Kemble arr.	06:35	07:35	08:35	09:35	10:35
Kemble dep.	06:50	07:50	08:50	09:50	10:50
Tetbury	07:10	08:10	09:10	10:10	11:10
Tetbury	07:15	08:15	09:15	10:15	11:15
Kemble arr.	07:35	08:35	09:35	10:35	11:35
Kemble dep.	07:50	08:50	09:50	10:50	11:50
Cirencester	08:10	09:10	10:10	11:10	12:10
Cirencester – Kemble – Tetbury (geared towards rail connections to/from Cirencester)					
Cirencester	06:20	07:20	08:20	09:20	10:20
Kemble arr.	06:35	07:35	08:35	09:35	10:35
Kemble dep.	06:37	07:37	08:37	09:37	10:37
Tetbury	06:55	07:55	08:55	09:55	10:55
Tetbury	07:30	08:30	09:30	10:30	11:30
Kemble arr.	07:50	08:50	09:50	10:50	11:50
Kemble dep.	07:50	08:50	09:50	10:50	11:50
Cirencester	08:10	09:10	10:10	11:10	12:10

7.21 Key assumptions included:

7) Corridor Tetbury – Kemble – Cirencester (2 bus)

- Equal journey length (22.4km) and increased journey time (40 minutes) to the reference case – although this increase in journey time is not included in the composite patronage uplift factor
- Frequency of 60 minutes
- Operating 11 hours per day over 6 days per week

- Utilising two vehicles

Cirencester – Tetbury (3 buses) (option 8)

7.22 The use of 3 buses allows a more intensive service to be provided. For a 50% increase in resource, the service level can be doubled, although with little scope for any extensions to the service at either end.

7.23 An indicative timetable is provided in Table 7-4 for part of the day, showing the pattern of operation.

Table 7-4 Indicative timetable for fixed bus option (8)

Cirencester – Kemble – Tetbury (efficient use of one bus)								
Cirencester	06:20	06:50	07:20	07:50	08:20	08:50	09:20	09:50
Kemble arr.	06:35	07:05	07:35	08:05	08:35	09:05	09:35	10:05
Kemble dep.	06:37	07:07	07:37	08:07	08:37	09:07	09:37	10:07
Tetbury	06:55	07:25	07:55	08:25	08:55	09:25	09:55	10:25
Tetbury	07:00	07:30	08:00	08:30	09:00	09:30	10:00	10:30
Kemble arr.	07:20	07:50	08:20	08:50	09:20	09:50	10:20	10:50
Kemble dep.	07:22	07:52	08:22	08:2	09:22	09:52	10:22	10:52
Cirencester	07:40	08:10	08:40	09:10	09:40	10:10	10:40	11:10

7.24 The benefit of a half hourly service is that there is less concern about timings to connect with trains or missing connections with delayed trains. At worst, the longest anyone might need to wait for a bus would be 25 minutes.

7.25 Again, this option could include Malmesbury, with alternate journeys from Cirencester going from Kemble to Tetbury and Malmesbury, with each seeing an hourly service. Whilst a practical option, it has not been included within the business case assessment. However, it is likely that it would have a very similar benefit cost ratio to the Tetbury only option.

7.26 Key assumptions included:

8) Corridor Tetbury – Kemble – Cirencester (3 bus)

- Equal journey length (22.4km) and journey time (35 minutes) to the reference case
- Frequency of 30 minutes
- Operating 11 hours per day over 6 days per week
- Utilising three vehicles
- First year of operation 2023

Demand Responsive Transport (DRT) (options 9 and 10)

7.27 In addition to the options for fixed route bus services, consideration has also been given to DRT services. These would be developed with consideration of the DfT's local authority toolkit for developing and implementing DRT services.

7.28 DRT is a flexible service, with no set timetable that provides shared transport to users who specify their desired location and time of pick-up and drop-off. They are typically operated with smaller vehicles than fixed bus route services and operate similarly to dial-a-ride type services where routes are determined by the requirements of trips booked by phone or app.

7.29 The options considered as part of this study review the potential for operating services within a defined zone (shown in Figure 7-4 and

7.30 Figure 7-5 for options 9 and 10 respectively).

7.31 There is limited data from comparable current DRT services on which to base the 'Do Something' patronage. Therefore, the information presented has some uncertainty and further study should be undertaken should these be taken forward in future.

Figure 7-4 Full DRT area

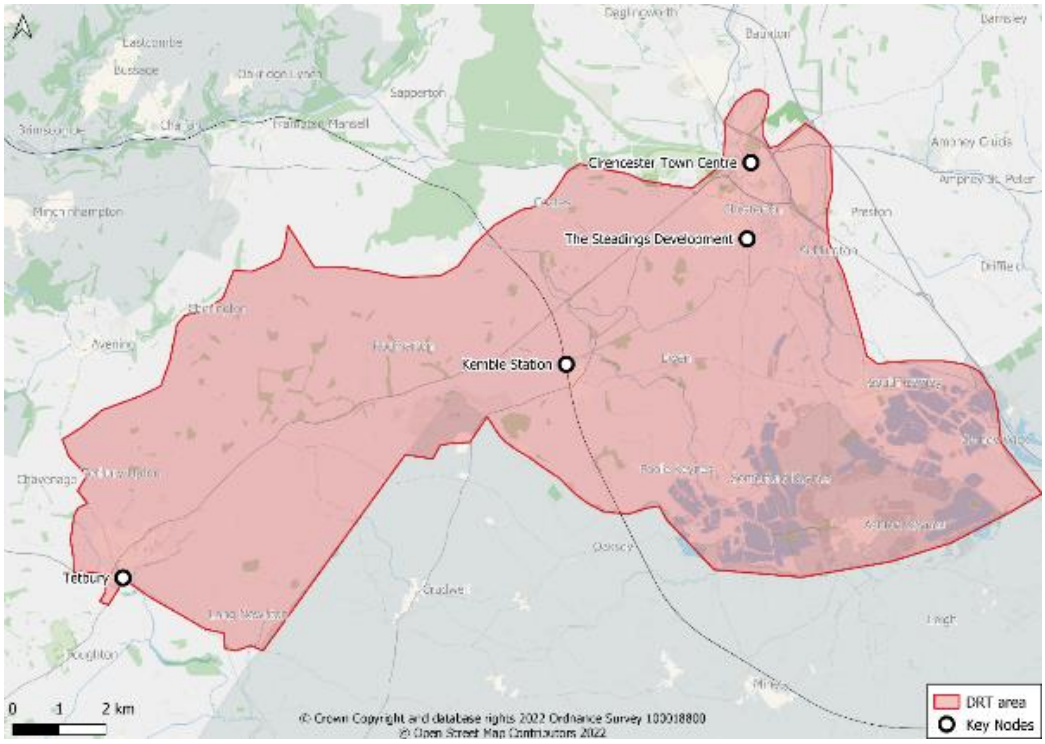
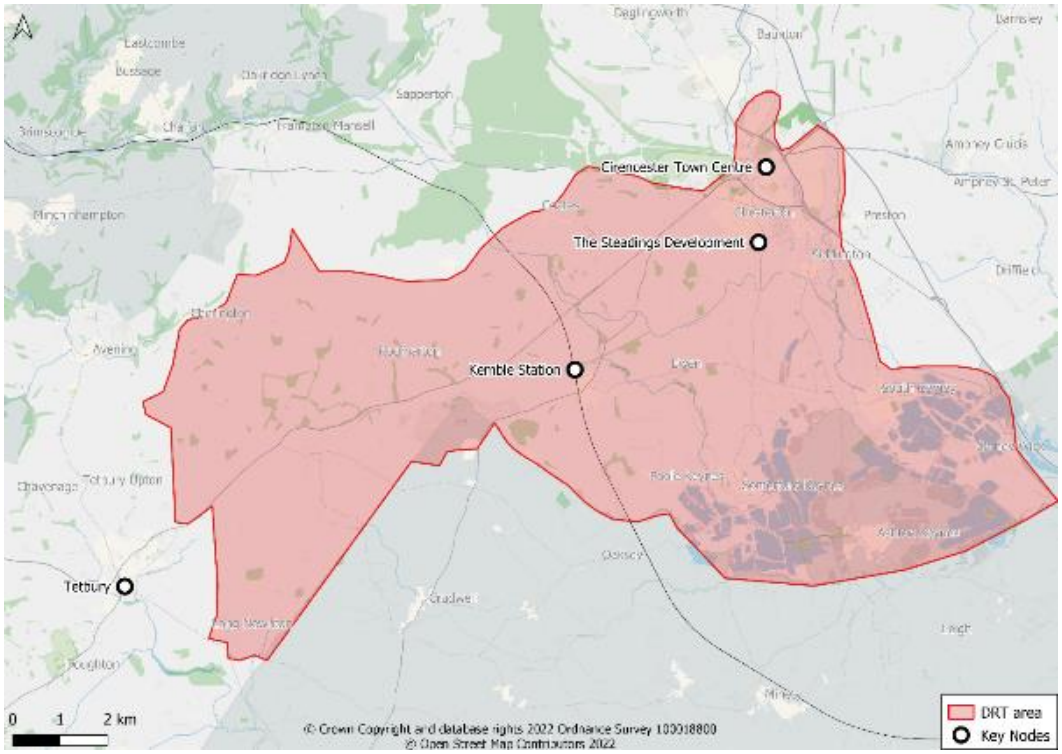


Figure 7-5 DRT area excluding Tetbury



7.32 Key assumptions included:

9) DRT service (full area)
   - Services operate for 12 hours per day
   - Services travel at an average of 10 miles per hour
   - Three vehicles
   - First year of operation 2024

10) DRT service (excluding Tetbury)
   - Services operate for 12 hours per day
   - Services travel at an average of 10 miles per hour
   - Two vehicles
   - First year of operation 2024

Summary of options for appraisal

7.33 The list of options is broken down into three groups, based around geographical coverage, as shown in Table 7-5. Within each group are a number of options aimed at assessing the likely impact of different bus services. The first options focus on the corridor between Cirencester and Kemble only. A very light rail (VLR) option was included to provide a high-level comparison to the bus options. The second set of options extends the route to cover the whole corridor between Cirencester and Tetbury. The third group includes demand responsive transport options, again with different geographical coverage.

Table 7-5 Options appraised

Options between Cirencester and Kemble	Options between Tetbury, Kemble and Cirencester	DRT options (in addition to existing 882)
1 Very Light Rail between Cirencester and Kemble	**5** Extended shuttle bus Tetbury – Kemble – Cirencester	**9** DRT service (full area)
2 Guided busway between Cirencester and Kemble (following same alignment as VLR)	**6** Corridor Tetbury – Kemble – Cirencester (1 bus)	**10** DRT (not Tetbury)
3 Shuttle bus Cirencester – Kemble (Via Tetbury Road)	**7** Corridor Tetbury – Kemble – Cirencester (2 buses)	
4 Shuttle bus Cirencester – Kemble (via Ewen)	**8** Corridor Tetbury – Kemble – Cirencester (3 buses)	

** "Option 0" is used in relation to the existing / reference case to compare against the intervention options*

8. Business Case assessment

Strategic case

8.1 There is a strong strategic case for improving public transport links between Cirencester, Kemble and Tetbury. It will support many policy objectives at national and local levels, in terms of providing social, economic and environmental benefits. Gloucestershire's emerging Transport Decarbonisation Plan identifies a need for a doubling of public transport usage across the county, while Cotswold District's Plan goes further, aiming for a tripling of public transport mileage by 2045. As well as improving access and connectivity, it will contribute to a more integrated transport network, particularly improving bus/rail integration.

8.2 Making public transport an attractive alternative to the car will contribute to the decarbonisation of the transport network. It will also reduce congestion and parking demand in Cirencester, providing the opportunity to release car parking space for alternative uses, improving the built environment and public realm and making the town a more attractive and healthier place for residents and visitors.

8.3 Improving public transport connections between Cirencester and the wider UK via rail network access at Kemble will also support the economic growth of the town and in developing destinations such as the RAU, by making them more accessible and building in long-term resilience for a low-carbon future.

8.4 The policy and transport context for this is set out in early sections of the report.

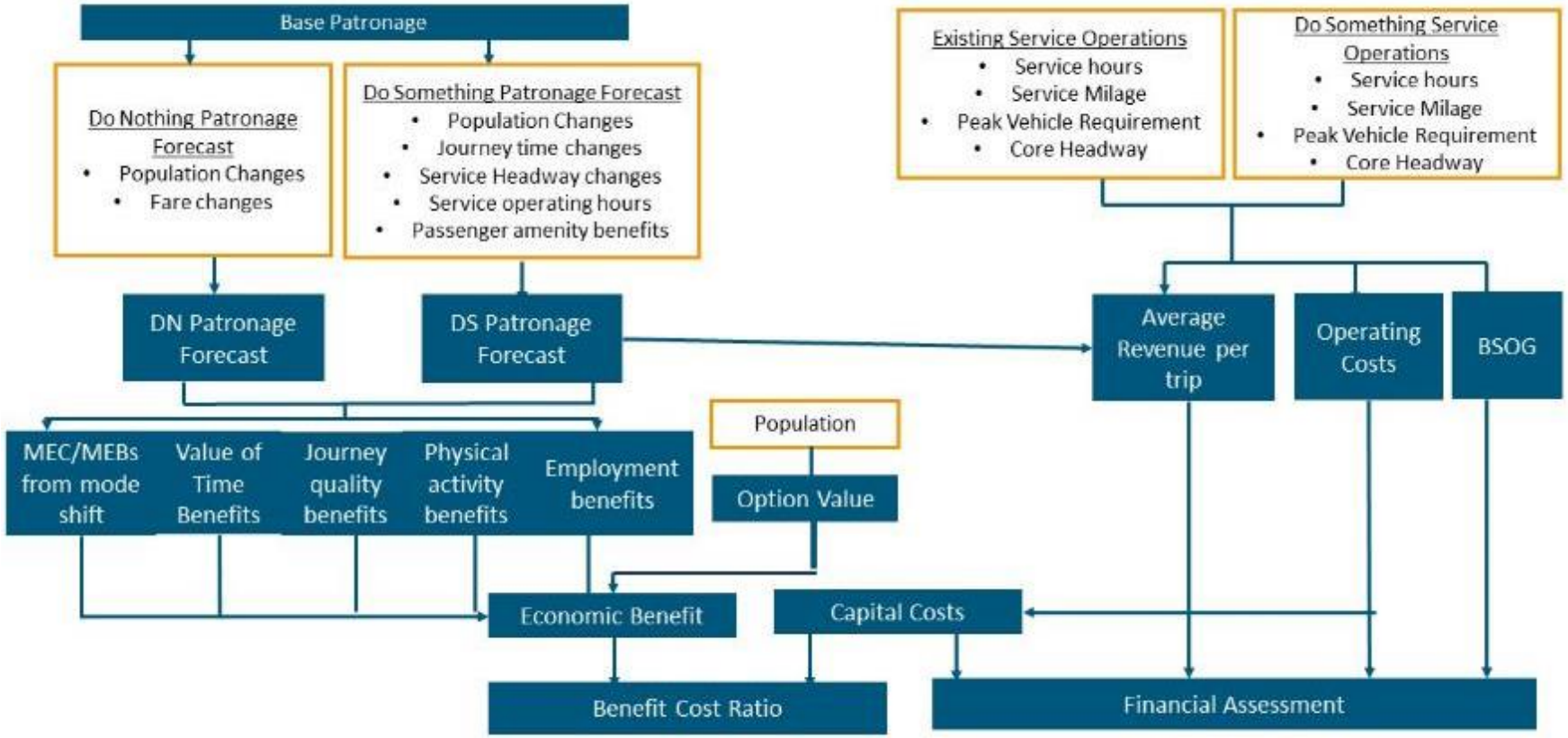
Economic case assessment

8.5 The options have different scales of impact compared to the reference case, and different costs associated with them. The economic case seeks to compare the scale of these impacts, to enable comparison between options (and with other non-bus options).

8.6 The economic appraisal has been developed to forecast patronage changes, quantify and monetise a number of benefits and costs to ultimately estimate a likely value for money from each option. Figure 8-1 outlines this process.

8.7 Several assumptions were used to estimate likely impact. These are considered appropriate for this early-stage appraisal.

Figure 8-1 Economic appraisal approach

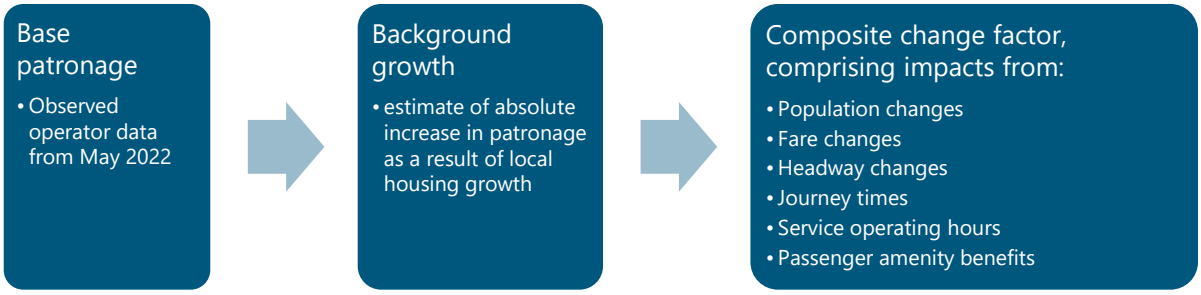


DN – Do nothing (option 0 – the reference case) DS – So something (options 1 -10) BSOG – Bus Services Operator Grant
MEC – Marginal external costs MEB – Marginal external benefits

Patronage forecasts

8.8 The impact of several generators of bus patronage was quantified to inform the bus patronage forecasts in both scenarios. Figure 8-2 shows the process taken to patronage forecasting in both the Do Nothing and Do Something scenarios, with alternative composite change factors and development distribution for each option.

Figure 8-2 Patronage change approach



Baseline (2022)

8.9 The base patronage figures, to which aggregate percentage change factors were applied, were derived from operator ticket data for May 2022. Boarding and alighting data from stops within the study area were used to define patronage levels on the study area section of the route.

8.10 It was assumed that patronage during this month represented one twelfth of annual patronage.

Table 8-1 Reference Case Annual Patronage

Annual patronage estimate	
Cirencester – Kemble	10,332
Cirencester – Kemble – Tetbury	16,128

Background growth

8.11 To represent the spread of growth more accurately across the region, an additional calculation sheet was added to allocate population growth from housing delivery forecasts to particular options that would serve them.

8.12 By taking forecast housing and population growth information at parish level from Cotswold District Council, an approximate figure for generated new bus trips was calculated for each option. This includes an allocation of likely windfall delivery for each parish, but does not cover the full estimated housing need across the area. This

covered the Local Plan period up to 2031. These figures sum the forecast dwellings in relevant wards for each option depend on the extent of the route. These are summarised in Table 8-2.

8.13 Figure 8-3 shows the area defined for DRT operations (options 9 and 10) overlaid with the relevant parishes selected.

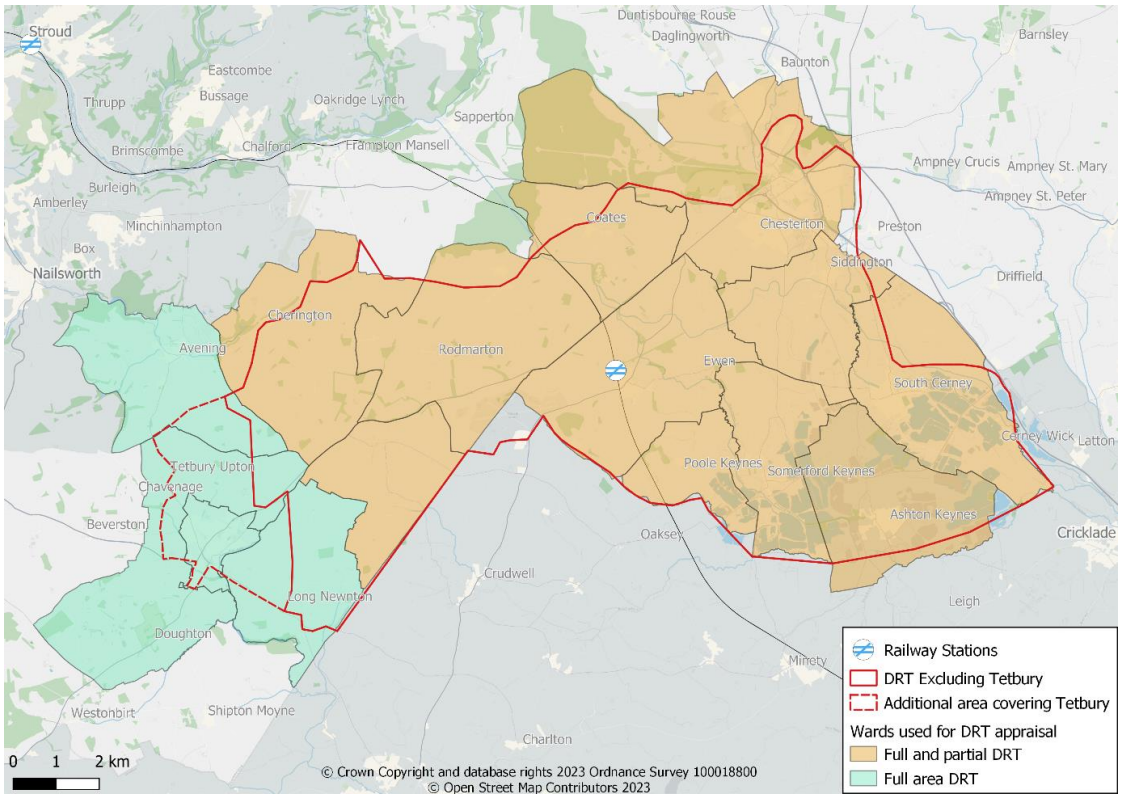
Table 8-2: Forecast population growth for each service type (based on new dwellings[12])

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Cirencester – Kemble	138	277	271	241	403	460	519	666	689	614
Tetbury – Kemble	100	82	32	42	17	234	139	17	17	17
Cirencester – Kemble – Tetbury	238	359	303	283	421	694	658	683	707	631
Full DRT area	333	477	326	353	463	713	675	700	724	648
DRT area excluding Tetbury	230	384	293	261	418	475	531	678	702	626

Source: Cotswold District Council

[12] Remaining adopted Local Plan allocations 1 April 2021 + windfall allowance + additional Local Plan update growth (* people per household)

Figure 8-3: Parishes used for DRT areas



8.14 To estimate future demand for bus services, the following assumptions were applied to these data:

- To translate the number of new residents into an estimate of future bus trips generated, a figure of 17.5 annual trips per person was applied, reflecting the average number of bus trips taken per person in Gloucestershire 2021/22 (BUS01f)[13]
- To estimate the proportion of new development bus trips that would be likely to use the 882 (or equivalent option service) it was assumed that 10% of new bus trips would use the service. This reflects that of the 17.5 bus trips each person makes (on average) per year, only some of them will be attributed to the options being tested.
- After 2031 a more generic rate of growth was applied using the Tempro 7.2 household growth forecasts for the Cotswold district across all options.

8.15 An absolute figure of development induced growth is applied in addition to the baseline patronage.

[13] Local bus passenger journeys (BUS01) – [published 31 January 2023] https://www.gov.uk/government/statistical-data-sets/bus-statistics-data-tables#local-bus-passenger-journeys-bus01

Scheme uplift

8.16 So that one factor did not have a disproportionate impact compared to the others, the percentage change factors were summed into one composite factor, rather than being applied sequentially. Again, this meant there was a unique composite percentage change value for each service grouping in each year, which was a sum of the above factors.

Fare changes

8.17 A number of assumptions were made to estimate the effect of fare changes, as described below. It should be noted that the projects being assessed here do not include changes to fares, other than the background rises in fares that have occurred over recent years and are expected to continue, in line with inflation. Bus patronage demand elasticity to fare increases is estimated as -0.8[14] (an average of DfT's recommended long run bus fare elasticity range of -0.7 to -0.9).

- Meaning, a 1% *reduction* in real-term fares results in a +0.8% *increase* in forecasted patronage (and vice-versa).
- Evidence from Long Term elasticity reported in Bus Review (2018)[15]
- Applied to intervention options as well as reference case (do nothing) scenarios

8.18 Since 2005, bus fares across non-metropolitan areas in England have increased by 24.4% above the rate of inflation (DfT Bus 0405b), which equates to a (straight line) average annual rate of fare increase of 1.47% in real terms[16]. This includes a period of bus fare stagnation and real-terms fare reduction through the global recession and economic recovery of 2007 - 2008. In urban areas, recent real-term fare increases are understood to partially reflect the increased costs that operators are bearing in relation maintaining peak-hour headways on congested routes.

8.19 Case study evidence from York and Bristol[17] cites First Bus's decision to reduce a number of urban bus fares by 25% in 2013, which yielded significant increases in patronage (12% increase in York against a background of 5% regional decline). This was a partial response to bus quality partnership measures implemented in the city, alongside public pressure over the affordability of local bus services.

[14] SYSTRA (2018) Bus fare and journey time elasticities and diversion factors for all modes, page 54. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719278/bus-fare-journey-time-elasticities.pdf
[15] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719278/bus-fare-journey-time-elasticities.pdf
[16] Bus fare inflation – average annual increase between 2005 and 2020
[17] https://bettertransport.org.uk/sites/default/files/pdfs/bus-services-act-guidance.pdf

8.20 This is considered likely to reflect a greater real-term fares reduction than the whole study area is likely to bear; but note that it could be achieved in some locations where fare stages mean that relatively short journeys are disproportionately expensive.

8.21 By multiplying the fare elasticity figure of -0.8 outlined in the core assumptions by the percentage fare changes, the change in patronage resulting from fare changes was calculated and fed into the composite percentage change for each route type in each year.

8.22 The May 2022 average revenue per trip was calculated by dividing the total revenue attributed to ticket sales by the total number of trips from the operator data, only using data from services where both of these pieces of information was provided. This baseline is the average revenue per trip rather than average fare, to include concessions revenue. These baseline fares were increased to 2022 values. It is worth noting that, as there is no current DRT network, patronage estimates were not provided for the proposed services. Given the lack of data such estimates could have been based on, the average fare for feeder services has been applied for DRT trips.

8.23 Using the background information outlined above, it was assumed that, in all scenarios, fares would rise by 1.47% per annum (above inflation) for the entire appraisal period, reflecting the straight-line increase in fares according to DfT's Bus 0405b data since 2005 for non-Metropolitan areas in England.

Headway changes

8.24 To estimate the effect of improvements in headways and frequencies, a series of assumptions were made. The estimation of bus patronage demand elasticity to a proportionate reduction in average bus service headways is -0.25. This means that a 1% reduction in the bus service headway (a proxy for passenger's 'wait time') resulted in a +0.25% increase in patronage (and vice versa). Evidenced from p.60 of SYSTRA bus report – SYSTRA Bus Review (2018)[18]

8.25 The percentage difference between the headways in each scenario and the Do Nothing option was multiplied by the demand elasticity factor of -0.25 to calculate the total percentage patronage changes for each bus service grouping over the course of implementation.

8.26 As outlined in the assumptions, the impact of headway changes on patronage was applicable immediately on the start of each Do Something option.

[18] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719278/bus-fare-journey-time-elasticities.pdf

8.27 Research[19] estimates that a 10% reduction in bus service operating speeds (i.e. services get 10% slower) would result in a 10% reduction in service frequency. It is therefore reasonable to assume that increases in operating speeds would exert an equivalent opposite impact on bus service frequencies. Case study evidence from research by Greener Journeys (Hazel Grove case study on page 7) and TRL's *Comparative assessment of major bus priority schemes in Great Britain*[20] indicates that bus priority interventions typically achieve reductions in journey times of between 0-5 minutes per route, which make it easier for service operators to maintain more frequent headways.

8.28 The link to patronage impacts is less clear and reported to be modest – reflecting both the coefficient defined above and co-dependency on other bus improvement measures (which are a feature of the Do Something option).

Table 8-3 Changes in forecast bus headways

Option		% change
1	VLR	-77%
2	Guided busway between Cirencester and Kemble	-77%
3	Shuttle bus Cirencester – Kemble (Via Tetbury Road)	-54%
4	Shuttle bus Cirencester – Kemble (via Ewen)	-54%
5	Extended shuttle bus Tetbury – Kemble – Cirencester	-66%
6	Corridor Tetbury – Kemble – Cirencester (1 bus)	-49%
7	Corridor Tetbury – Kemble – Cirencester (2 bus)	-66%
8	Corridor Tetbury – Kemble – Cirencester (3 bus)	-83%
9	DRT service (full area) in addition to existing 882	-91%
10	DRT (not Tetbury)	-91%

8.29 Associated bus service revenue impacts (accruing to operators and Gloucestershire County Council) and mode shift impacts (accruing to the public purse / wider society) were calculated separately and reflect an aggregation of multiple possible patronage impacts (discussed later in this report).

[19] https://greenerjourneys.com/wp-content/uploads/2016/06/Prof-David-Begg-The-Impact-of-Congestion-on-Bus-Passengers-Digital-FINAL.pdf
[20] https://trl.co.uk/sites/default/files/TRL409.pdf

Journey time changes

8.30 Whilst in most options tested, journey time changes were minimal, it is important to assess the impact of these on patronage. To do this, the following assumptions were made:

- Proportional decreases in journey time were calculated based on the scenarios outlined above
- For DRT no reduction in journey time was assumed – given some journeys may be required to divert to pick up / drop off other passengers
- Bus patronage demand elasticity to proportionate increases in journey times = -0.6. Meaning, a 1% reduction in the bus service journey time resulted in a +0.6% increase in patronage (and vice versa). Evidenced from p.60 of SYSTRA bus report – SYSTRA Bus Review (2018)[21]

Service operating hours

8.31 Some extensions to the length of the operating day are proposed with the options, particularly to improve connectivity at the beginning and end of the main daytime period. To assess the effect of these on patronage, the following assumptions were made:

- These services will attract marginal increases in bus passengers, the latter of which was calculated by multiplying the proportional increase in operating hours being added to the timetable (e.g. +5% of operating hours) by 50% of the average hourly passenger demand per bus service, per day.
- 8% change in operating hours for all options; except DRT which proposes a 18% increase.

8.32 This results in a large proportionate change for the new DRT services included in the Do Something. However, while there is limited information on the take up of these services and the details surrounding their proposed operation at this stage, the low levels of initial patronage and general industry understanding suggest that a high forecast percentage increase may be reasonable to assume.

[21] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719278/bus-fare-journey-time-elasticities.pdf

Passenger Amenity Benefits

8.33 Passenger amenity benefits relate to how the value to passengers of improved infrastructure and services influence travel choice[22]. This includes infrastructure such as new waiting shelters, CCTV, Wi-Fi and other non-core provisions. For the service options being tested here, these benefits will apply differently to the different options, as shown below:

- **VLR** – this option involves significant new infrastructure that will have passenger benefits, assumed to be twice that of the busway
- **Guided busway** – this option involves significant new infrastructure that will have some passenger benefits
- **Other Cirencester – Kemble options** – it is assumed that some improvements will be made to infrastructure alongside the new services
- **Cirencester – Kemble – Tetbury options** – the level of improvements and amenity benefits is linked to the frequency of services
- **DRT options** – the main benefits here relate to the use of booking systems, but also that people have less time waiting at pick-up points

8.34 As with all percentage increases that occur over more than 1 year, the percentage increases were split into compound percentage changes that were aggregated with the other percentage changes to form a compound percentage change for each option by year.

8.35 Each of the above areas of improvement feed into a composite factor that is used to predict changes in patronage over time, under each option. The Guided Busway, VLR and DRT options are predicted to create the largest increases in patronage when they come online. Other options create only relatively small increases in patronage.

Resulting patronage forecast

8.36 Applying these factors provides forecasts for annual patronage for each option. These are shown in Figure 8-4. All options give increases in patronage, albeit small in some cases. This is partly due to the background growth created by development related trips. Once the development related trips are completely incorporated, by 2031, patronage is forecast to begin to fall, as the effect of inflation led fare increases takes over.

[22] This just refers to the potential impact of improved amenity on patronage. Monetised value of improved journey quality is assessed later

8.37 For DRT options, estimates use an assumed initial patronage derived from the existing 882 patronage (May 2022) at stops along the route. This acts as a proxy for the possible patronage as it is anticipated that key users of the service are likely to be those traveling to/from interim destinations/origins that a direct fixed route offer may not most effectively serve. When added to the forecast for the existing service (reference case) and adjustment is made to ensure additional trips from new development are only counted once. No adjustments are made regarding the potential for existing 882 passengers to switch to DRT.

Figure 8-4 Patronage growth forecasts – Short route

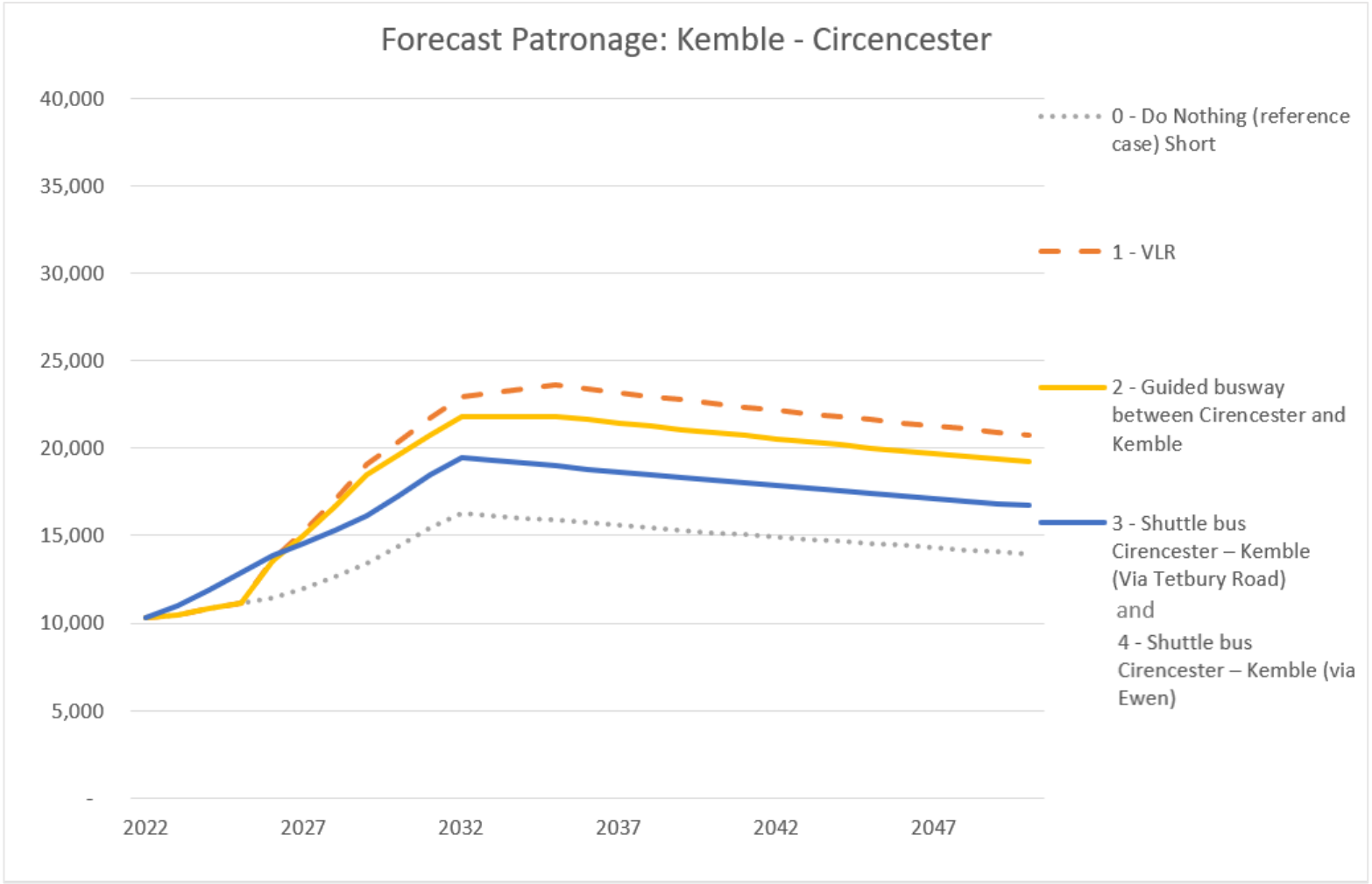


Figure 8-5 Patronage growth forecasts – Long route

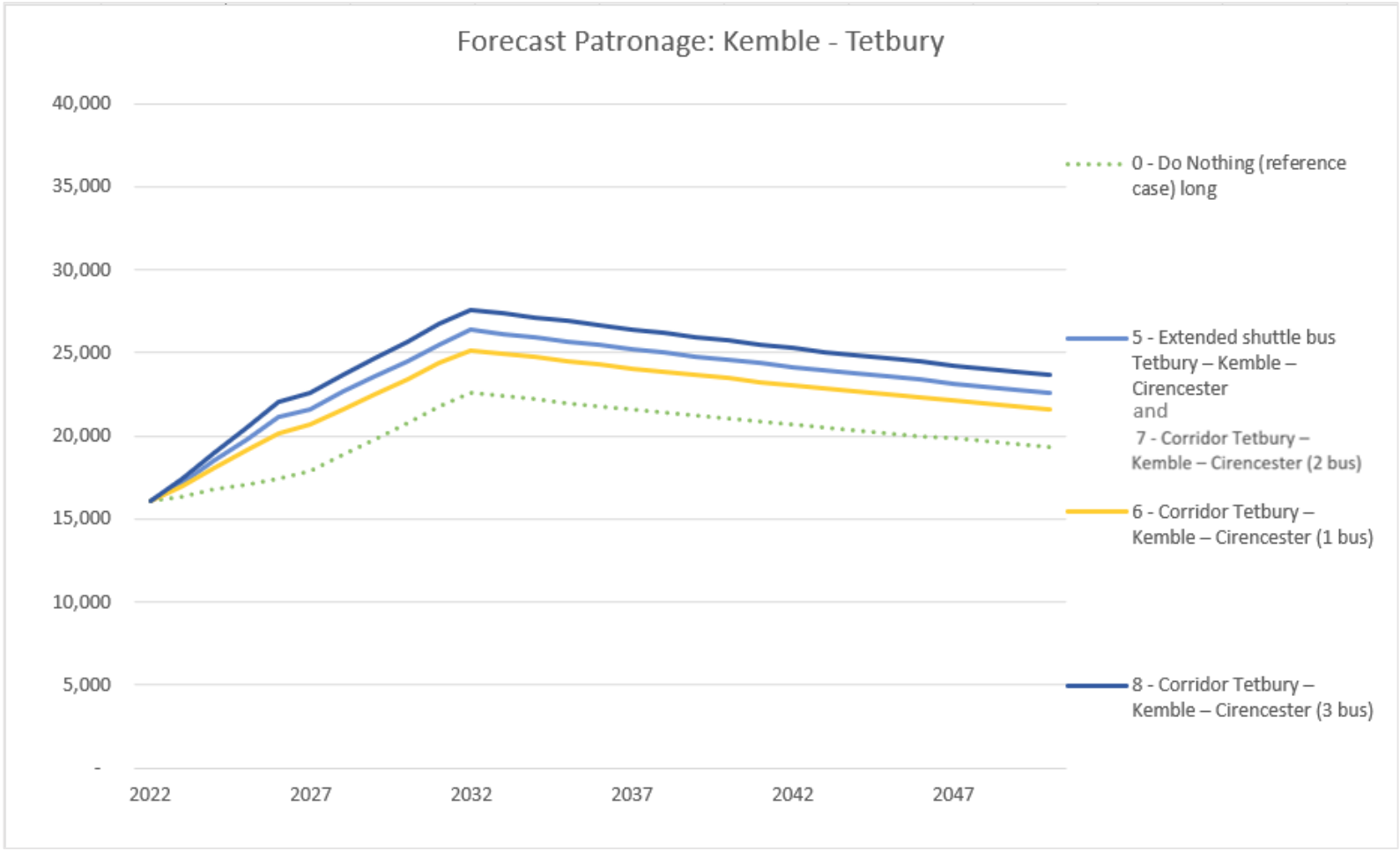
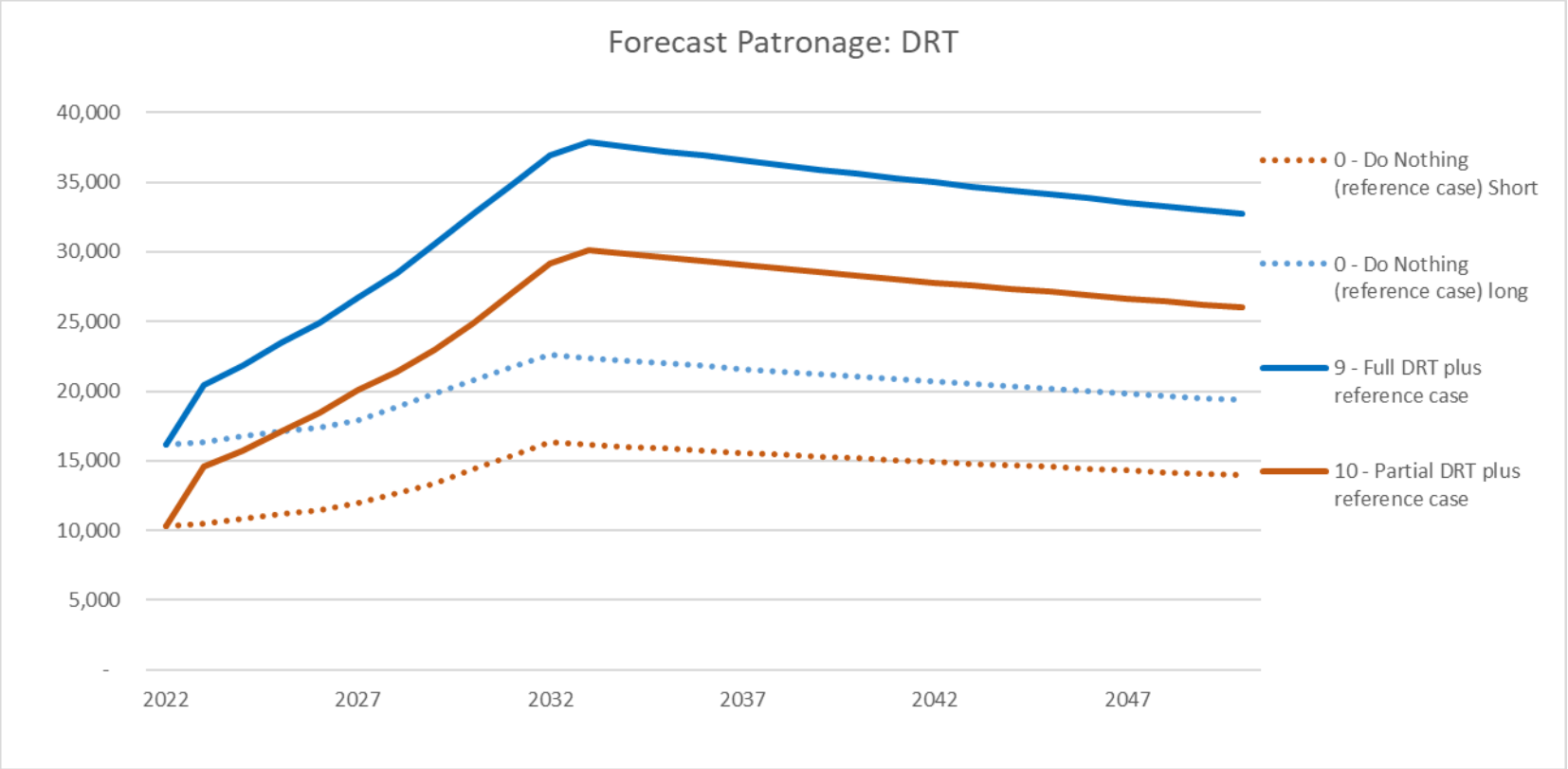


Figure 8-6 Patronage growth forecasts – DRT



**Additional trips derived from new development are removed from DRT estimates to avoid double counting*

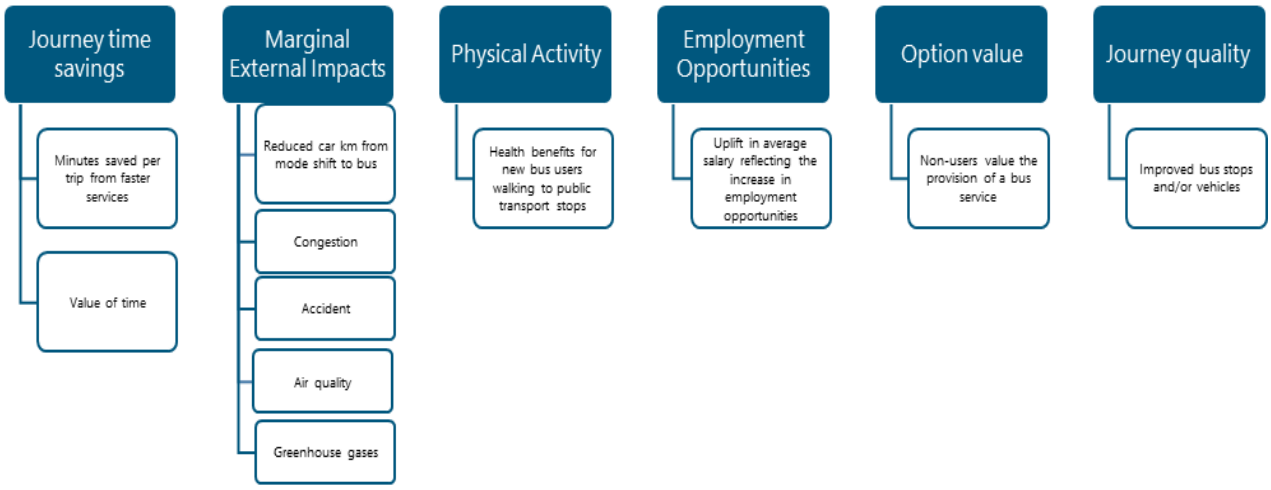
Table 8-4 Estimated annual patronage in future years and percentage change from baseline

Option	*2022*	*2026*			
	Reference case	**Forecast patronage**	***vs 2022 Base***	**Forecast patronage**	***vs 2026 reference case***
Do Nothing reference case (short) (882 section between Cirencester - Kemble)	**10,332**			**11,432**	
1 – VLR		13,665	32%	13,665	20%
2 – Guided busway between Cirencester and Kemble		13,563	31%	14,026	19%
3 – Shuttle bus Cirencester – Kemble (Via Tetbury Road)		13,848	34%	13,848	21%
4 – Shuttle bus Cirencester – Kemble (via Ewen)		13,848	34%	13,848	21%
Do Nothing reference case (long) (882 section between Cirencester - Kemble - Tetbury)	**16,128**			**17,393**	
5 – Extended shuttle bus Tetbury – Kemble – Cirencester		21,098	31%	21,098	21%
6 – Corridor Tetbury – Kemble – Cirencester (1 bus)		20,174	25%	20,174	16%
7 – Corridor Tetbury – Kemble – Cirencester (2 bus)		21,098	31%	21,098	21%
8 – Corridor Tetbury – Kemble – Cirencester (3 bus)		22,028	37%	22,028	27%
DRT with existing					
9 – Full Area DRT + Reference case (long)	*16,128*	24,904	*54%*	17,393	*43%*
10 – DRT (not Tetbury) + Reference case (short)	*10,332*	18,450	*79%*	11,432	*61%*

Economic benefits

8.38 This section appraises the Present Value Benefits (PVBs) accrued because of improved services in the Do Something options, compared with the reference case (Do Nothing scenario). Figure 8-7 summarises the main areas of economic benefit assessed in this study. Each is described in more detail below.

Figure 8-7 Structure of economic benefits assessment



Journey times

8.39 The main assumptions used in the value of time benefit calculations are:

- An average of non-working commuting (£9.95/hr) and other (£4.54/hr) market price time values was applied for all passengers, which equates to an average of £7.25/hr in 2010 market prices (as derived from Sheet A1.3.1 in the 'May 2022 v1.18 Forthcoming Change' TAG Data Book).
- No value of time benefits is included for the proposed Demand Responsive Transport (DRT) services. This reflects the likely operation whereby, although some passengers will benefit from shorter, more direct journeys, compared to fixed route public transport services for example, others may have to share rides. Dropping-off and picking-up other passengers will result in delay, particularly if there are detours involved, and therefore will not result in time savings, especially where passengers may have otherwise driven or used private hire / taxi services for their journey.

8.40 The TAG value of time was applied to the average journey time saving – difference between the 'Do Nothing' and 'Do Something' scenario and multiplied by the total 'Do Something' patronage forecast for each option.

Marginal external impacts

8.41 To calculate the marginal external impacts resulting from additional reductions in car kilometres travelled, first, the difference in patronage between the counterfactual option was calculated. These patronage forecasts also helped to inform the increased revenue resulting from additional bus ticket sales.

8.42 The marginal external impacts quantified were expressed as reductions in congestion, infrastructure, maintenance, accident, local air quality, noise and greenhouse gas costs (all of which are associated with reductions in car kilometres travelled, achieved through the additional interception of car vehicle trips). There was one Marginal External Cost – loss of indirect taxation related to car ownership and use, but for the purposes of this document we are also referring to it as a negative Marginal External Benefit (MEB).

8.43 The spreadsheet model applied TAG factors to local and national evidence to forecast changes in specific travel behaviours resulting from the tested options.

8.44 For the following scheme appraisals, all costs and prices were adjusted to 2010 prices and then deflated using the GDP deflator. This follows guidance from DfT's TAG Annual Parameters Table A5.4.2 (May 2022 v1.18).

8.45 Core assumptions made in the calculation of Marginal External Benefits (MEBs) are:

- A diversion factor of 50% was used to approximate the proportion of new bus trips resulting from mode-switching from private car options, which reflects the longer distances of the trips transferred.
- A sensitivity test was completed using 80% of new passengers switching out of their car, in line with the area Transport Strategy. However, an increase of 60% to the MEB makes a negligible difference to the overall level of benefits to the schemes.
- An average bus journey distance of 6.3km (DfT Concessionary Fares Reimbursement Calculator (DfT Guidance 7.12) – derived from National Travel Survey (NTS)) was used as a proxy for private car trip distances to enable the calculation of total vehicle kilometres travelled reductions arising from mode-switching to bus services.
    - Monetary MEC values were taken from the TAG databook (May 2022 - Table 5.4.2) for rural A-roads.

Physical activity

8.46 New passengers generated from the improved service provided for each option will increase their physical activity (compared to driving or not travelling). Health impacts of increase physical activity can be monetised using the DfT developed Active Mode Appraisal Tool (AMAT). Assumptions put into the tool were:

- Number of new walking trips generated estimated per day for each option. No cycling impact was assessed
- 800m average walk trip (this reflects the guidance distance of 400m walk to a bus stop at both ends of a bus)
- Willingness to walk longer distances to reach a higher quality service – an additional 50% was added to walking distance for both the busway and VLR option (600m each way)
- No walking infrastructure is introduced as part of the scheme
- 5 km/h average walk speed (AMAT default)
- 56.4% of pedestrians are employed (AMAT default)
- 0% of pedestrians otherwise using a car or taxi (mode shift benefits are calculated as part of marginal external costs)
- 0% return trips (number of daily trips is taken from patronage which illustrates one-way journeys)
- Intervention is applicable for 365 days per year

Employment

8.47 Improved public transport connections enable residents to access wider job opportunities and improved wage prospects. To assess the economic value of these it is important to identify the number likely to be affected and the potential uplift in earnings that may result. Assumptions are:

- Census 2011 information on rural economically active population in output areas around the route option[23]
- 2011 figures uplifted by Tempro 7.2 workers factor for Cotswolds to 2022 (+0.04)

[23] According to the location of population weighted centroids and an assumed walking distance to the route, focusing on rural communities that could more likely benefit from the improvement in connections in relation to increased earning potential specifically

- After 2022 number of workers is assumed to grow at the same rate as above, applied annually (+0.004)
- If the increase in accessibility from bus priority increases the commuter belt around Cirencester/surrounding area and gives more people greater options for accessing work closer to and around urban settlements (and employment hubs), the average wage is likely to increase.
- Workplace earnings based on median gross annual earning (2009 to 2020) - £25,400 predominantly urban (excl. London) and £22,900 predominantly rural – used to generate a percentage change. Moving workplace from a predominantly rural area to a predominantly urban area will increase income by nearly 11%.
- Recognising that the commuter area is not likely to grow into the fully rural areas, 50% of this figure has been used (5.5%), equivalent to £1,250 per employee.
- This figure was applied to a proportion of the workforce identified for each route, shown in Table 8-5, reflecting the comparative difference between the options compared to each other and the reference case.
- Options that delivery higher frequency were assumed to be more likely to attract a commuter ridership[24]

Table 8-5 Proportion of workforce potentially benefiting from wage increases

Option		Economically active population (2011) (rural)	Proportion of workforce benefitting
1	VLR comparison	644	20%
2	Guided busway between Cirencester and Kemble	644	20%
3	Shuttle bus Cirencester – Kemble (Via Tetbury Rd)	513	15%
4	Shuttle bus Cirencester – Kemble (via Ewen)	500	15%
5	Extended shuttle Tetbury – Kemble – Cirencester	3702	10%
6	Corridor Tetbury – Kemble – Cirencester (1 bus)	3702	5%
7	Corridor Tetbury – Kemble – Cirencester (2 buses)	3702	10%
8	Corridor Tetbury – Kemble – Cirencester (3 buses)	3702	15%
9	DRT service (full area) in addition to existing 882	5739	5%
10	DRT (not Tetbury)	2723	5%

[24] People are also more likely to walk further to use higher quality services like busways and VLR

Option and non-use value

8.48 The option and non-use value reflects that people value the availability of transport options even when they do not use them. The TAG databook places a monetised value on this of £123 per household for buses and £243 for rail (2010 prices and values)[25]. The latter value is used in place of a more VLR specific value, assuming that a new service would be more highly valued than a comparable bus scheme.

8.49 It is assumed that the full amount will not be realised with options in this study as a service already operates. Therefore, a proportion of the full value has been assumed reflecting the relative differences in frequency of each option. This reflects that people will value more frequent services more highly.

8.50 It is generally understood that the rule of half be applied to the TAG value where an option seeks to enhance existing services (i.e. no new route is being provide). However limited research is available to support the proportions used in this study, instead proportions have been estimated on a comparative basis between options, as shown in Table 8-6. As a rule of thumb, the better the service after improvement, the greater proportion of the option value that is applied.

Table 8-6 Proportion of Option Value included in appraisal

Option		Estimated households (2011)[26]	Proportion of option value
1	VLR	1,928	50%[27]
2	Guided busway between Cirencester and Kemble	1,928	50%
3	Shuttle bus Cirencester – Kemble (Via Tetbury Road)	1,928	40%
4	Shuttle bus Cirencester – Kemble (via Ewen)	1,928	40%
5	Extended shuttle bus Tetbury – Kemble – Cirencester	3,759	30%
6	Corridor Tetbury – Kemble – Cirencester (1 bus)	3,759	20%
7	Corridor Tetbury – Kemble – Cirencester (2 buses)	3,759	30%
8	Corridor Tetbury – Kemble – Cirencester (3 buses)	3,759	45%
9	DRT service (full area)	12,786	50%
10	DRT (not Tetbury)	7,099	30%

[25] TAG databook May 2022 – Table A4.1.8
[26] All usual residents (population weighted output area centroids within area or 400m of route) (census 2011) / 2.4 people per dwelling
[27] using the TAG option value for rail (rather than bus) as a proxy for VLR

Journey quality

8.51 Journey quality improvements are proposed as part of three of the options tested. These are:

1 – VLR

- New shelters with CCTV, real time passenger information
- New vehicles with CCTV on board, climate control, on-screen displays, audio announcements and with low floors
- Additional benefits from quality of very light rail facilities – considering value to be equivalent to new interchange facilities
- Simplified ticketing and trained drivers

2 – Busway

- New shelters
- New real time passenger information

9 – DRT (full) and 10 – DRT (partial)

- New vehicles with CCTV on board, climate control and with low floor

8.52 The TAG databook (Table M 3.2.1: Segmented values of soft bus interventions) includes monetised values for these changes. These equate to 31p per guided busway passenger, 49p per DRT passenger and £1.77 for Very Light Rail (2010 prices).

Residual asset value

8.53 Where new infrastructure is provided for a transport scheme, its life will generally be greater than the length of the appraisal. Elements such as earthworks and bridges have long lives. It is important that the life of the asset that remains at the end of the appraisal is recognised in the appraisal. The residual asset value is applied as a negative capital cost, in the last year of the appraisal. For the purposes of this appraisal, it has been assumed that this will only apply to the guided busway option and VLR. The residual value of the asset has been set at 25% of the original capital cost.

Economic costs

Operating costs

8.54 Operating costs were estimated by applying an average cost per vehicle mile to the estimated mileage for each option. DfT Bus Statistics Table BUS0408b[28] sets out annual operating cost per vehicle mile (which includes depreciation and administration costs) on local bus services by metropolitan area status and country from 2004/05.

8.55 It is noted that applying this average cost means that estimates are likely to be understated for lower distance options and higher for options where vehicles cover a larger distance each year.

- The latest DfT Bus Statistics figure (includes administration and depreciation) (2020/21) of £2.69
- Profit allowance of 8% added on to the per km costs (£2.91)
- It was assumed that operating costs will increase over time in line with TAG Data Book (May 2022 v1.18) inflation forecast.
- A rural adjustment factor reduced costs by 15% to account for the higher average speed along the corridor compared with the metropolitan areas reflected in the Bus Statistics.
- In addition, it was assumed that operating costs will increase 1.56% above inflation, recognising that operator costs increase above inflation, and that congestion and poor operating conditions create additional cost.[29]
- It was assumed that no significant exogenous impacts on bus operating costs (e.g. automation of bus driving task, or additional staff on-board the vehicle) will change them dramatically during the appraisal period
- VLR is assumed to operate at a cost of 88p per km (as set out in the Strategic Outline Business Case for RYR 139 between Cirencester and Kemble rv10: Appendix G)

8.56 It was assumed that, once implemented, network mileage remains consistent across the appraisal period. Multiplying the distance operated per year by the inflated operating costs per km gives an annual operating cost for the network. The resulting operating cost estimates per vehicle for each option are shown in the financial case.

[28] 2005 - 2020 https://www.gov.uk/government/statistical-data-sets/bus04-costs-fares-and-revenue

[29] This is based on the average real-terms annual increase in operating costs (per vehicle-mile) reported by bus operators over the period 2004/5 to 2018/19. BUS0408b(miles) Operating cost per vehicle mile on local bus services by metropolitan area status and country: Great Britain outside London, annual from 2004/05

For the economic case these are then deflated to 2010 prices to compare to the benefits of the same price base.

Capital costs

8.57 The capital costs associated with each option were estimated based on available information, such as national statistics and where possible, particularly for capital costs, benchmarked against similar known projects. The following assumptions were made on the extent of the investment associated with options 2, 9 and 10:

- £18,000 per upgraded bus shelter (2022 prices). Including shelter (£7,000) and real-time information screen (£11,000). Based on Transport for London (TfL) Freedom of Information request from 2012[30]
- £8,400,000 per km (2022 prices) for a guided busway, over a 6.5km route[31]
- Busway and VLR cost incurred in 2024 and 2025 equally
- DRT set up costs £15,000 (2022 prices) incurred in 2023
- £80,000 per DRT vehicle (2022 prices)
- Assume costs will increase over time in line with TAG Data Book inflation forecast.
- There is little precedent information on likely capital and infrastructure costs of VLR in the UK, particularly in similar conditions to the study area. The analysis presented in this report considers a scheme costing £10m per km in infrastructure costs[32] and two vehicles at £900,000 each[33]. For the economic assessment, these capital costs are subject to a 46% increase to account for optimism bias at this early scheme development stage.
    - The assessment has assumed operational costs of 88p per km as per the VLR SOBC[34], reflecting around a third of diesel bus cost per km.

8.58 Optimism bias is added onto capital costs to account for the likelihood of understating these at this early stage with a significant uncertainty around the costs. These are applied at the TAG recommended values.

- 46% stage 1 for roads – applied for guided busway capital costs
- 61% stage 1 for rolling stock – applied for DRT capital costs

[30] https://www.whatdotheyknow.com/request/bus_stopshelter_replacement_cost and 2015.
[31] Average of available information on UK precedent examples – Cambridgeshire completed in 2011 (https://en.wikipedia.org/wiki/Cambridgeshire_Guided_Busway) and Gosport phase 1B (https://documents.hants.gov.uk/transport-fundingbids/BRTLPPBusinesscase-OCT2013.pdf)
[32] Benchmarked against Coventry VLR estimates (https://www.midlandsengine.org/news-events/the-coventry-vlr-vehicle-affordable-light-rail/) [retrieved 08.11.2022]
[33] Strategic Outline Business Case for RYR 139 between Cirencester and Kemble rv10. 6.7
[34] Appendix G - OPEX Costing Summary

Exclusions

8.59 The SOBC appraisal is designed to capture the most direct impacts of investing in improved public transport services on the study corridor. This has not included analysis of some potential benefits, such as:

- **Increased local spending from new tourists / visitors to the area** – through attracting visitors to the area, local businesses will benefit from increased footfall and consumer spending. Research suggests that on average day visitors spend £33.60 per trip in the south west (2019 fact file, visit England[35]). There may be an element of displacement within this, whereby people could be travelling to Cirencester and spending this money rather than visiting another local town or attraction and spending there. An estimate of the proportion of new users by trip purpose (commuting or tourism etc.) has not been defined as part of this study.
- **Improved access to education** – a wide range of social outcomes have been shown to result from education, including cognitive development, confidence, interpersonal trust and life satisfaction. Generally, these social outcomes do not have a financial value assigned to them, meaning that it is difficult to demonstrate their value in relation to economic outcomes.
    - Research from the Department for Business, Innovation and Skills suggests that an adult learning course that improves life satisfaction has an intangible (non-market) value of somewhere between £754 and £947[36].
    - Not enough understanding is available to support how many students may be able to benefit from potential local education expansions and how many may benefit from increased access via the public transport options proposed within this study to be able to accurately apply this currently.
- **Impact of changed demand for car parking** - this could include:
    - Reduced demand for parking in Cirencester – with associated reduced revenues but also opportunities to repurpose space and/or reduce maintenance costs
    - Demand for parking at Kemble Station (and other connecting mainline stations)
- **Land value uplifts** resulting from improved connectivity

[35] Derived from £4,967,000 total spend and 147,800,000 trip (2019) https://www.visitbritain.org/value-tourism-england
[36] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/34598/12-1127-valuing-adult-learning-comparing-wellbeing-to-contingent.pdf

- **Other environmental costs and benefits** such as landscape, habitat and biodiversity impacts (with implications for biodiversity net gain) as well as impacts of construction (including greenhouse gas impacts)
- **Active mode impacts** of multimodal use of a new off-road link for cycling and/or walking (this could apply to the busway or VLR options equally where this is proposed).

Economic appraisal results

8.60 In line with TAG, the following conventions were applied in the spreadsheet economic appraisal models:

- Base price and value year: 2010.
- Appraisal period of 17 years (this reflects the life of a bus, and aligns with the DfT's electric bus tool which is used to assess electrification options in a later section of the report).
- Discount rate to convert future benefits to Net Present Value: 3.5%.

8.61 For all bespoke spreadsheet model assumptions, data sources are clearly documented, both in the spreadsheet models themselves and within the text of this report.

8.62 The benefit cost ratio results reflect the graduality of the assessment framework, with high level assumptions and patronage change driven by elasticity estimates. The economic case has distinguished between large infrastructure schemes and significantly different frequencies of service.

8.63 It is anticipated that, to distinguish between the options that are showing a 'high' value for money, the strategic, operational and commercial cases should be considered. A trial service could also provide further observed data to evidence a case for corridor improvements in the longer term.

8.64 Table 8-7 below indicates the following:

- Both the guided busway and VLR offer poor value for money, given the high capital costs and limited journey time savings.
- At current levels of demand on the corridor, and rail frequencies to the mainline station at Kemble, achieving sufficient patronage to support service frequencies higher than hourly may be challenging.
- Each of the (non-busway) bus options, linking Cirencester with Kemble only, offer high value for money, although the more direct service offers the highest Value for Money (VfM).

- Extending the service to Tetbury typically reduces the VfM, but only slightly.
- Increasing the Tetbury – Cirencester bus links to three vehicles and a 30-minute frequency provides limited additional benefits, whilst significantly increasing costs.
- Both DRT options offer a positive VfM, although the service covering the whole area is slightly higher due to the potential benefits offered to a larger number of residents. However, the more popular a DRT service becomes, the less able it is to meet the demands of the population across the operating area.

Table 8-7 Summary of total costs and benefits for each option tested

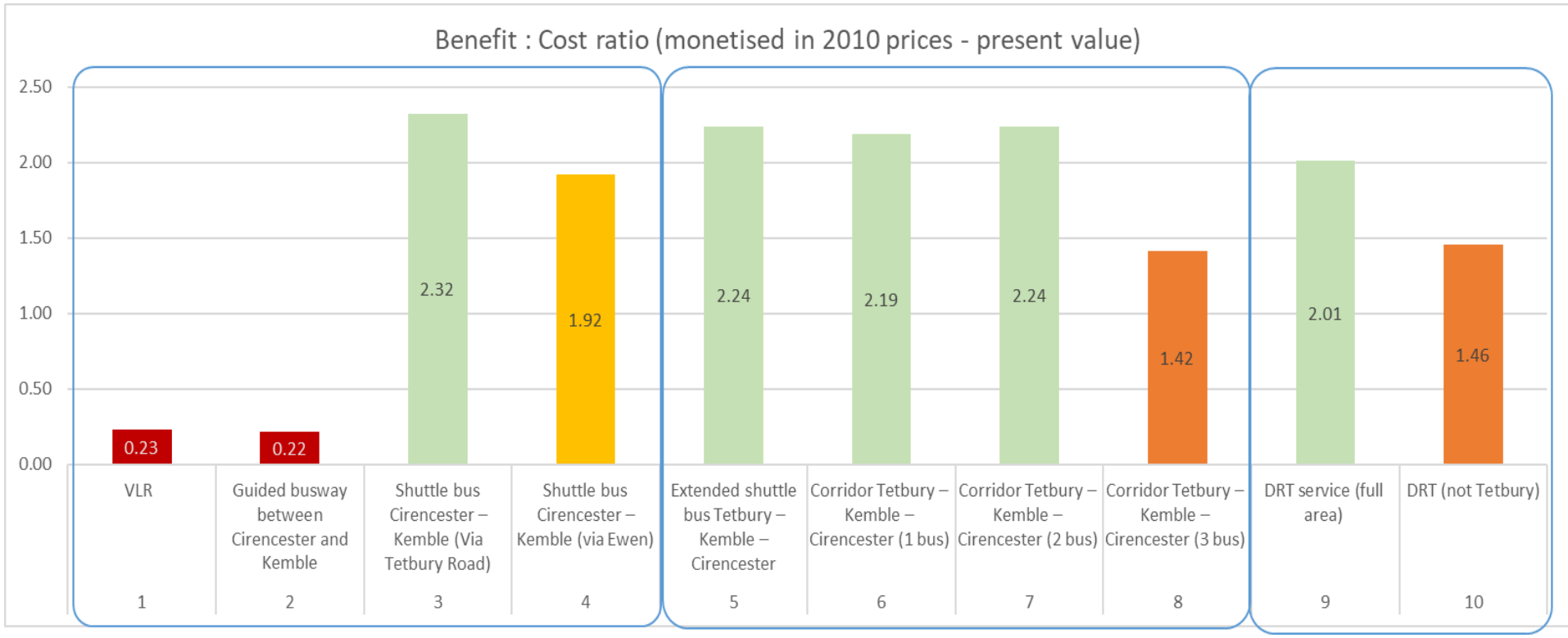
Option	***1*** Very Light Rail	***2*** Guided busway between C-K	***3*** Shuttle bus C-K (via Tetbury Rd)	***4*** Shuttle bus C-K (via Ewen)	***5*** Extended shuttle bus T-K-C	***6*** Corridor T-K-C (1 bus)	***7*** Corridor T-K-C (2 buses)	***8*** Corridor T-K-C (3 buses)	***9*** DRT service (full area)	***10*** DRT (not Tetbury)
Capital costs	£51,503,449	£42,099,664	-	-	-	-	-	-	£206,933	£142,013
Operating costs (difference from reference case)	£341,639	£2,487,262	£1,271,117	£1,509,632	£4,588,657	£2,357,194	£4,588,657	£11,283,048	£7,478,328	£4,985,552
Present Value Cost (PVC)	**£75,536,675**	**£ 63,952,772**	**£ 1,271,117**	**£ 1,509,632**	**£ 4,588,657**	**£ 2,357,194**	**£ 4,588,657**	**£ 11,283,048**	**£ 7,811,490**	**£ 5,214,193**
Journey time	£48,404	£45,965	-	-	-	-	-	-	-	-
MECs / MEBs	£4,103	£3,355	£2,068	£2,068	£2,642	£1,857	£2,642	£3,441	£9,443	£8,506
Option Value	£1,714,517	£867,126	£883,357	£883,357	£1,292,096	£852,783	£1,292,096	£1,938,143	£3,767,216	£2,260,330
Journey quality	£236,856	£39,070	-	-	-	-	-	-	£46,495	£41,924
Physical Activity	£48,071	£37,770	£16,024	£16,024	£20,602	£13,735	£20,602	£27,469	-	-
Employment	£2,483,745	£2,521,226	£2,050,730	£1,998,762	£8,952,332	£4,288,181	£8,952,332	£14,002,296	£11,890,542	£5,283,730
Residual asset value*	£12,875,862	£10,524,916	-	-	-	-	-	-	-	-
Present Value Benefit (PVB)	**£17,411,558**	**£14,039,426**	**£2,952,178**	**£2,900,211**	**£10,267,671**	**£5,156,556**	**£10,267,671**	**£15,971,349**	**15,713,697**	**£7,594,489**
Net Present Value (NPV)	**-£58,125,117**	**-£49,913,346**	**£1,681,061**	**£1,390,579**	**£5,679,013**	**£2,799,362**	**£5,679,013**	**£4,688,301**	**£7,902,207**	**£2,380,297**
Benefit : Cost Ratio (BCR)	**0.23**	**0.22**	**2.32**	**1.92**	**2.24**	**2.19**	**2.24**	**1.42**	**2.01**	**1.46**
Value for Money Category [37]	**Poor**	**Poor**	**High**	**Medium**	**High**	**High**	**High**	**Low**	**High**	**Low**

17 year totals, 2010 Prices, discounted to 2010 Present Values * 25% remaining - to 25 years asset life. Discounted to 2010

** negative value indicates a long-term saving over time

[37] According to the DfT's Value for Money Framework

Figure 8-8 Benefit : Cost Ratio results



Electrification

8.65 There may be options to electrify any new service. This possibility has been reviewed for a selection of options considered in the main economic appraisal; these were selected to present the scope across a range of different scales of intervention options and do not indicate any preferential option at this stage.

- **Option 3:** Shuttle bus via Tetbury Road (50,800 km per vehicle p.a.)
- **Option 6:** Corridor Tetbury –Kemble – Cirencester, 1 bus (102,350 km per vehicle p.a.)
- **Option 7:** Tetbury – Kemble – Cirencester, 2 buses (76,800 km per vehicle p.a.)

8.66 Due to the greater distances covered by vehicles the latter two options have incorporated the costs of an additional vehicle to account for the range limitations of existing battery technology. The high-level analysis does not account for any timetable alterations that may be required in operating these vehicles at this stage.

8.67 Electrification of these scenarios were compared using the DfT's tool, the Greener Buses Model (GBM)[38], and compare running the option as a diesel and as a battery electric vehicle. This model quantifies and monetises the impact of reduced cardon dioxide emissions and atmospheric pollutants (NO_x and PM_{10}) from electric vehicles as well as operational and grant (BSOG) change impacts.

8.68 Assumptions include vehicle costs, but exclude infrastructure costs which are particularly dependent on site specific requirements of the depot. Given the size of the fleet proposed for this route it is anticipated that infrastructure costs may be incurred as part of a wider fleet replacement project. These have been taken from precedent examples at this stage, using a cost of £350,000 per single deck vehicle, but further analysis should be undertaken should alternative fuels be progressed.

8.69 The funding conditions assumed are aligned with the last round of Zero Emission Bus Regional Areas (ZEBRA) scheme guidance. With 75% of infrastructure cost and 75% of the cost difference between an electric and equivalent diesel vehicle to be funded by central government.

8.70 Electric buses can be up to almost twice the cost of diesel buses to purchase. While they are generally understood to have lower on-going maintenance costs, battery replacement (after approximately 8 years) could involve a significant additional capital

[38] Spreadsheet tool developed for the UK Government's Zero Emission Buses Regional Areas (ZEBRA) fund, August 2021

outlay. Operational cost savings are dependent on the comparative price of diesel against electricity; default values for these are included in the DfT's Greener Buses Model.

8.71 Assumptions used in the model (where they differ from the defaults or are user defined) as part of these tests include:

- Diesel vehicles as current fleet
- Pure electric vehicles proposed
- All vehicles delivered and costs incurred in 2023
- Geography – rural
- Central carbon and air quality pollutant scenario
- Current fleet BSOG – basic rate
- Proposed fleet BSOG – zero emission rate (22p)

8.72 Initial indications using the DfT developed tool, the Greener Buses Model[39], and our understanding of electric bus costs, suggest that, over the DfT guidance appraisal period of 17 years, an investment in electrification of routes could provide benefits.

8.73 The first BCR reported below illustrates the potential return of electrifying the option (compared to operating it as with diesel vehicles).

Table 8-8 Electric bus impact compared to equivelent diesel operation

Option	Average annual km per vehicle	Number of vehicles assumed	Electrification only BCR
Option 3 – Shuttle bus via Tetbury Road	50,800	2	2.19
Option 6 - Corridor Tetbury –Kemble – Cirencester (1 bus)	102,350	4	2.06
Option 7 – Tetbury –Kemble – Cirencester, (2 buses)	76,800	3	1.30

[39] Spreadsheet tool developed for the UK Government's Zero Emission Buses Regional Areas (ZEBRA) fund, August 2021

8.74 The second BCR compares the electrified option to the existing operation, adjusting the results of the main economic appraisal (presented in Table 8-7).

Table 8-9 Electric bus impact compared to current operation

Option	(1) PVB of electrification	(2) Adjusted PVB	(3) PVC of electrification	(4) Adjusted PVC	Electrification BCR	Adjusted BCR
	From GBM	*Diesel scheme PVB + (1)*	*From GBM*	*Diesel scheme PVC + (3)*	*(1)/(3)*	*(2)/(4)*
Option 3 – Shuttle bus via Tetbury Road	£660,011	£3,612,190	£301,048	£1,572,166	**2.19**	**2.30**
Option 6 - Corridor Tetbury –Kemble – Cirencester (1 bus)	£850,212	£6,006,768	£412,210	£2,769,404	**2.06**	**2.17**
Option 7 – Tetbury – Kemble – Cirencester (2 buses)	£354,695	£10,622,366	£273,698	£4,862,355	**1.30**	**2.18**

Very Light Rail sensitivity test

8.75 An additional test compares a more optimistic scenario for VLR, in terms of patronage forecasts, costs and scope of benefits. Alternative assumptions from the 'core' case (option 1) are based on elements of significant uncertainty and/or available evidence and comprise:

- **Patronage**
  - Fares do not inflate above inflation forecasts (as with bus)
  - Patronage impact of headway change – twice VLR option 1
  - Amenity benefit impact – twice VLR option 1 (four times busway)
  - Resulting in patronage levels of 14,927 per year in the scheme opening year and 30,825 by 2032. A comparison in patronage to the reference case is shown below.

Table 8-10 Patronage forecast VLR (optimistic scenario)

Option	*2026*		*2032*	
Do Nothing (reference case)	**11,432**		**16,295**	
VLR 'Core' (option 1)	13,665	20%	22,923	41%
VLR Optimistic	14,927	25%	30,825	73%

- **Benefits**
  - VLR is more attractive for commuters and thus it is assumed that it would have a larger employment benefit (25% of the workforce benefitting)
  - Infrastructure asset is expected to have a longer lifespan – 50% value remaining after 17 years has been assumed
  - Additional benefit of reduced greenhouse gas emissions and air quality benefits of VLR operation compared to buses – this was added using the DfT's Greener Buses Model for the equivalent length of running the VLR (89,232 km per year). This assumes the impact of running VLR vehicles is the same as electric buses. It is noted that there may be additional benefits from reduced pollution from tyres on road (known as the Oslo Effect) but this is not considered significant given the rural nature of the study area, with limited population living close to the study corridor.

- Carbon impact: £170,513
- Nox impact: £1,117
- PM impact: £465

- Costs
  - Optimism bias was applied at 50% of the 'core' test on capital costs (23%) although there is little precedent information on VLR projects

8.76 This gives an improved BCR, but not significant enough to outweigh the costs and the scheme remains in the 'poor' value for money category.

Table 8-11 Total costs and benefits - optimismtic VLR scenario

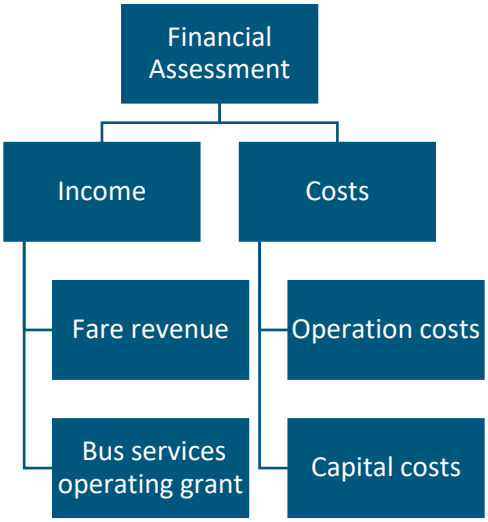
Option	***1 (optimistic)*** VLR optimistic
Capital costs	£51,503,449
Operating costs (difference from reference case)	£341,639
Present Value Cost (PVC)	**£63,690,881**
Journey time	£65,817
MECs	£8,251
Option Value	£1,714,517
Journey quality	£322,066
Physical Activity	£96,142
Employment	£3,434,492
Residual asset value*	£25,751,724
Electric vehicle impact	£172,095
Present Value Benefit (PVB)	**£31,393,009**
Net Present Value (NPV)	**-£32,297,873**
Benefit : Cost Ratio (BCR)	**0.49**
Value for Money Category [40]	**Poor**

[40] According to the DfT's Value for Money Framework

Financial case

8.77 An important aspect of the appraisal is whether the financial position of the new services will allow commercial operation, or whether some level of subsidy will be required. The following figure summarises the key components of the financial assessment. On the income side, these include both fare revenue and public sector funding, in the form of bus service operators grant (BSOG). On the costs side, both capital and operating cost estimates are included.

Figure 8-9 Components of the Financial Assessment



Fares revenue

8.78 The forecast patronage levels for each option were multiplied by the average fare income per trip (£2.11[41]) from the operator data for the 882 route (May 2022). A bus fare inflation factor was applied for future years at 1.47%.

Grant income

8.79 Bus Service Operator Grant (BSOG) is calculated per litre of fuel used. This is an income stream for operators from the Government. The amount of fuel used has been estimated based upon typical values for per km consumption. These assumptions can be summarised as:

- 2022 rate 35p per litre[42]

[41] Including adult single of £4.30 at 50% reimbursement for concessionary trips
[42] https://www.gov.uk/government/publications/bus-service-operators-grant-guidance-for-commercial-transport-operators/bus-service-operators-grant-guidance-for-commercial-transport-operators

- Rate will grow in line with fuel growth (1.56% per year). Noting the current rate has not changed for several years, this might be an optimistic assumption. Equally, BSOG is currently under review by DfT.
- Large buses typically achieve 1.48 km per litre.
- No Bus Service Operator Grant (BSOG) is received through VLR operations.

Operational costs

8.80 These are calculated in line with the assumptions in the economic case, but presented in nominal prices for the financial review.

8.81 Operating cost estimates have been calculated at a high-level, using DfT's BUS0408 Statistics Table, for English non-metropolitan areas. While an adjustment has been applied to account for the lower levels of congestion in this more rural context than the English average, it is noted that applying a mileage-based figure has some limitations and may result in over-stating costs of longer routes and under-stating shorter route costs.

8.82 The appraisal focuses on options for the Cirencester – Kemble – Tetbury corridor and operating costs have been estimated for this section of route only. This also applies to the estimates of the existing 882 service, meaning the section between Cirencester and Gloucester is not included.

Capital costs

8.83 These are calculated in line with the assumptions in the economic case, but presented in nominal prices for the financial review. Infrastructure costs for a Guided Busway and set up and vehicle costs for a DRT service have been included. Other options do not consider additional capital costs.

Net financial results

8.84 It should be noted that the financial figures presented in this report represent best estimates, based on industry knowledge and other evidence. These are indicative of the potential costs and benefits of implementing the various options and generally the aim has been to err on the side of caution and provide a pessimistic view. However, the true costs of a bus service will only be realised through a procurement exercise for a contract to run the service. Prices tendered by operators will reflect current market conditions and levels of interest from operators in providing the service.

8.85 The baseline estimates for the existing 882 service consider only the cost of operating the section of route between Cirencester and Kemble (or Tetbury), and do not include the section of route between Cirencester and Gloucester.

8.86 The costs and revenues estimated are based on the provision of a straightforward public local bus service. No account has been taken of the potential to time particular journeys to fulfil a statutory home to school transport function, whereby pupils are conveyed to and from school on behalf of GCC. This would generate revenue for the service from GCC's budget for home to school transport, further offsetting the cost of providing the service.

8.87 Table 8-12 summarises the results of the financial assessment, showing the difference from the existing, 'do nothing' scenario.

8.88 The assessment shows how all the options would require some level of ongoing subsidy; fares revenue would be insufficient from the estimated patronage to cover the costs. This is based on current circumstances. However, if more was done to increase usage, perhaps by discouraging car use (such as through car parking management and costs) then the need for ongoing subsidy would reduce. Likewise, if other schemes were introduced, such as the development of a park and ride site on Tetbury Road served by the Kemble bus service, bus usage again might see significant growth.

8.89 The best performing options financially, options 3 and 4, might expect to require subsidy of £80,000 - £100,000 per annum, although (as discussed above) this would need to be formally established through a procurement exercise.

8.90 To provide some context, the current 882 contract that requires two buses to provide the service, cost GCC £245,000 p.a.

Table 8-12 Summary of annual financial estimates (capital + operation)

Option	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1 - VLR	-£23,137	-£36,872,512	-£38,280,347	-£57,883	-£56,130	-£53,633	-£50,269	-£48,581	-£46,547	-£44,670
2 - Guided busway between Cirencester and Kemble	-£23,137	-£30,166,725	-£31,318,505	-£180,655	-£185,110	-£189,147	-£192,671	-£198,168	-£203,666	-£209,683
3 - Shuttle bus Cirencester – Kemble (Via Tetbury Rd)	-£84,127	-£85,382	-£86,591	-£87,937	-£90,301	-£92,451	-£94,344	-£95,513	-£96,508	-£97,840
4 - Shuttle bus Cirencester – Kemble (via Ewen)	-£95,797	-£97,504	-£99,187	-£101,041	-£103,981	-£106,729	-£109,245	-£111,062	-£112,732	-£114,765
5 - Extended shuttle bus Tetbury – Kemble – Cirencester	-£289,573	-£297,985	-£306,850	-£316,331	-£329,189	-£341,296	-£354,002	-£367,038	-£380,417	-£394,669
6 - Corridor Tetbury – Kemble – Cirencester (1 bus)	-£180,838	-£185,532	-£190,563	-£195,986	-£203,655	-£210,372	-£217,478	-£224,698	-£232,037	-£240,014
7 - Corridor Tetbury – Kemble – Cirencester (2 bus)	-£289,573	-£297,985	-£306,850	-£316,331	-£329,189	-£341,296	-£354,002	-£367,038	-£380,417	-£394,669
8 - Corridor Tetbury – Kemble – Cirencester (3 bus)	-£616,670	-£637,275	-£658,833	-£681,856	-£710,660	-£739,349	-£769,298	-£800,264	-£832,286	-£865,921
9 - DRT service (full area) in addition to existing 882	-£329,126	-£457,662	-£471,995	-£487,923	-£505,219	-£523,076	-£540,512	-£558,561	-£576,928	-£596,137
10 - DRT (not Tetbury)	-£200,213	-£279,204	-£286,899	-£295,530	-£304,717	-£314,775	-£324,598	-£333,708	-£342,171	-£351,074

Figures in blue show years where the scheme is not yet operational – and reflects associated capital costs and/or running existing operations

Financial sensitivity tests

8.91 Additional tests were undertaken to review the likely level of patronage needed to be achieved to reach a positive annual financial position, whereby revenue exceeds annual operational costs. This reviewed the annual net position and did not consider the cumulative position over time, where upfront capital costs would also be included.

8.92 These tests consider the financial position at a crude level and include:

- Cost per km of the service (£2.59 as outlined from DfT bus statistics above)
- Bus Services Operators Grant (BSOG) per litre (35p) (this was not included for the VLR option)
- Revenue per trip (£2.11 taken from 882 patronage data)

8.93 This test did not consider the resulting economic impact of the patronage increase nor any vehicle occupancy considerations. For DRT options particularly, a higher than optimal user base could result in people not being able to get picked-up and harm the attractiveness and the viability of the service. Indications for this type of service are that utilisation of 7-10 passengers per vehicle per hour would be considered an effective (potentially viable) operation. However, certainly in a rural context, with more dispersed demand and longer journey distances, DRT services tend to average about 3-4 passenger journeys per vehicle hour once they have become established.

8.94 The figures below assume all costs and revenues are as above, the only alteration being the annual patronage figures from the relevant scheme start year[43]. For simplicity, it is also assumed that there are no negative long-term impacts on bus patronage – only uplifts due to service improvement and forecast development.

Table 8-13: Financial sensitivity tests

Option	Patronage amend in scheme start year
Do Nothing – reference case (short)	At patronage of about 22,000 p.a., service forecast to be net positive financially from 2023
1 - VLR	At patronage of about 45,000 p.a., service forecast to be net positive financially from 2026. This is based on covering operational costs and does not consider any increased capital costs.
2 - Guided busway between Cirencester and Kemble	At patronage of about 90,000, service forecast to be net positive financially from 2026

[43] 2023 for fixed bus options, 2026 for VLR and busway and 2024 for DRT

3 - Shuttle bus Cirencester – Kemble (Via Tetbury Rd)	At patronage of about 50,000 p.a. (about five times existing), service forecast to be net positive financially from 2023
4 - Shuttle bus Cirencester – Kemble (via Ewen)	At patronage of about 55,000 p.a. (about five times existing), service forecast to be net positive financially from 2023
Do Nothing – reference case (long)	At patronage of about 48,000 p.a. (about three times existing), service forecast to be net positive financially from 2023
5 - Extended shuttle bus Tetbury – Kemble – Cirencester	Passenger journeys of about 150,000 p.a. – service forecast to be net positive financially from 2023
6 - Corridor Tetbury – Kemble – Cirencester (1 bus)	Passenger journeys of about 100,000 p.a. – service forecast to be net positive financially from 2023
7 - Corridor Tetbury – Kemble – Cirencester (2 bus)	Passenger journeys of about 150,000 p.a. – service forecast to be net positive financially from 2023
8 - Corridor Tetbury – Kemble – Cirencester (3 bus)	Passenger journeys of about 300,000 p.a. – service forecast to be net positive financially from 2023
9 - DRT service (full area) *	Passenger journeys of about 180,000 p.a. – service forecast to be net positive financially from 2024 (suggesting patronage of 16 people per vehicle hour)
10 - DRT (not Tetbury) *	Passenger journeys of about 120,000 p.a. – service forecast to be net positive financially from 2024 (suggesting patronage of 16 people per vehicle hour)

**DRT options consider the service as stand-alone (separate from existing operation for the purposes of this test)*

Commercial case

Very Light Rail

8.95 The group promoting the VLR concept envisages that a not-for-profit organisation would be formed for the purpose of receiving funds and overseeing delivery. The group would procure the services of a rail/civil engineering company to deliver the scheme.

8.96 At this point, it is not clear who would assume responsibility for operating the service. One possibility highlighted in the VLR business case would be for the service to be included within a future rail service franchise/concession.

Busway services and infrastructure

8.97 Whilst this option has been included in the business case assessment, this is essentially for comparison purposes only. No consideration has been given to the likely approach to delivering such as service. It is likely that the guideway itself would be a public

sector asset that would be made available to operators to use under a permit system, for which they would be charged a fee per bus journey for using it.

Fixed and shuttle bus services and DRT

8.98 Any new or enhanced bus or DRT service will require subsidy and, therefore, will need to be specified and procured. This process will be managed by Gloucestershire County Council, which already funds and manages the existing contract for the provision of service 882.

8.99 It is assumed that the existing contract will be terminated and rolled into a new contract for the enhanced service. Funding of the enhanced service will come from existing GCC financial support (including that for home to school transport) along with s106 monies,

8.100 As part of the s106 agreement, GCC has already indicated that it wishes developer contributions to be paid to it, in order that it undertakes the procurement of the service.

8.101 The Integrated Transport Unit (ITU) in the County Council arranges and manages many local bus contracts, so has the expertise and resources to procure the service. Equally, it has appropriate processes and procedures in place to facilitate this.

8.102 An open procurement process will be undertaken. Given the requirement for all day, 7 days per week, operation of the service should be attractive to bus operators.

Management case

8.103 Given that there is an appropriate procurement process in place to deliver the enhanced bus service, it should be relatively straightforward to manage. The opportunity to procure the new service will need to tie in with the expiry or termination of the existing contract.

8.104 As the proposals for the new service have been developed with the steering group that has overseen this study, there is support for the recommended way forward. Many stakeholders support the principle of improving the service on the Cirencester – Kemble – Tetbury corridor. Some are keen to provide complementary support, such as GWR with improvements to the infrastructure at Kemble station and through marketing and branding.

GCC's ITU has the expertise and resources to undertake the procurement exercise and contract management, as part of its usual responsibilities.

9. Conclusions

9.1 The aim of the study was to investigate and recommend option(s) for the improvement of the public transport link between Cirencester and Kemble rail station and to provide inputs which could be used to produce a business case on the chosen option. In doing this, the wider area taking in Tetbury, intermediate villages and destinations were considered in respect of demand generation and creating network viability.

9.2 Currently the bus service between Cirencester, Kemble and Tetbury is poor. The 882 service is infrequent and irregular, offers few connections with trains at Kemble, is difficult to understand, and fails to meet the needs of users and potential users.

9.3 In developing an alternative service, a series of options were appraised. These options were developed through consultation with the project steering group, including officers of Cotswold District Council and Gloucestershire County Council. Each was selected to give an order of scale, from high-cost interventions, in the form of a Guided Busway, or Very Light Rail link, to fixed route bus services of various forms and flexibly operated DRT.

9.4 The options appraised were:

- Very Light Rail
- Guided busway between Cirencester and Kemble
- Shuttle bus Cirencester – Kemble (Via Tetbury Road)
- Shuttle bus Cirencester – Kemble (via Ewen)
- Extended shuttle bus Tetbury – Kemble – Cirencester
- Corridor Tetbury – Kemble – Cirencester (1 bus)
- Corridor Tetbury – Kemble – Cirencester (2 buses)
- Corridor Tetbury – Kemble – Cirencester (3 buses)
- DRT service (full area)
- DRT (not serving Tetbury)

9.5 Each of the cases provides insight into the preferred option for the service:

Strategic case

9.6 There is a strong strategic case for improving public transport links between Cirencester, Kemble and Tetbury. It will support many policy objectives at national and local levels, in terms of providing social, economic and environmental benefits.

Gloucestershire's emerging Transport Decarbonisation Plan identifies a need for a doubling of public transport usage across the county, while Cotswold District's Plan goes further, aiming for a tripling of public transport mileage by 2045. As well as improving access and connectivity, it will contribute to a more integrated transport network, particularly improving bus/rail integration.

9.7 Given the nature of the area and relatively low demand base, options for bus provision seem to offer the most appropriate way forward, with the flexibility to alter routes, timetables and levels of provision in respect to changing circumstances. Basic bus planning principles would suggest that development of a service along the entire Tetbury – Cirencester corridor offers the best opportunity of catering for a number of different demands and achieving greatest use over time.

Economic case

9.8 Each option would have different levels of impact compared to the reference case, as well as different costs. The economic case sought to compare the scale of these impacts on a like-for-like basis to enable comparison between options.

9.9 The economic appraisal was developed to forecast patronage changes and qualify and monetise key benefits and costs, in order to estimate the value for money of each option. Through various economic inputs, consistent with the DfT approach to business cases, the following outputs were calculated:

Table 9-1 Economic case outputs

Option	Net Present Value (NPV) £m	Benefit: Cost Ratio (BCR)	Value for Money Category
1 - VLR	-£58	0.23	Poor
1 – VLR (optimistic)	-£32	0.49	Poor
2 - Guided busway Cirencester - Kemble	-£49	0.22	Poor
3 - Shuttle bus Cirencester - Kemble (via Tetbury Road)	£2	2.32	High
4 - Shuttle bus Cirencester - Kemble (via Ewen)	£1	1.92	Medium

5 - Extended shuttle bus Tetbury – Kemble - Cirencester	£6	2.24	High
6 - Corridor Tetbury – Kemble - Cirencester (1 bus)	£3	2.19	High
7 - Corridor Tetbury – Kemble - Cirencester (2 buses)	£6	2.24	High
8 - Corridor Tetbury – Kemble - Cirencester (3 buses)	£5	1.42	Low
9 - DRT service (full area)	£8	2.01	High
10 - DRT (not Tetbury)	£3	1.46	Low

9.10 The strategic outline economic assessment suggests that:

- A public transport improvement between Kemble and Cirencester has merit.
- There are benefits to extending the service to Tetbury (and/or other settlements) if reasonable frequency levels (60 or 90 minutes) are provided.
- Schemes involving large levels of investment in infrastructure are unlikely to reap similar scale benefits in the medium term.
- Demand responsive transport (DRT) could form part of a solution, but there are uncertainties around the performance of such services.

Financial case

9.11 The financial case determined whether each of the proposed services could operate as a commercial operation or would require on-going subsidy to support the service. As assessed, each option would require some form of subsidy to provide and maintain the service. However, other future supporting measures (such as increased car parking charges in Cirencester, reduced levels of parking or associated park and ride) could be introduced to improve the performance of the service.

9.12 Table 9-2 outlines the potential level of support required to offset operational costs of each option, according to the assumptions set out within this report. This does not consider the one-off capital costs.

9.13 It should also be noted that costs used in the assessment are estimates. Actual costs will only be determined when procurement of the service is undertaken. The costs quoted then will reflect local operating market conditions and the relative level of interest amongst operators to provide the service. Equally, if the service is planned to

accommodate home to school travel requirements, some of the costs will be offset by other GCC budgets.

Table 9-2 Financial case outputs

Option	Annual average net financial operational deficit post scheme start *
0 – Reference Case (short)	£24,000
1 - VLR	£53,000
2 - Guided busway Cirencester - Kemble	£190,000
3 - Shuttle bus Cirencester - Kemble (Via Tetbury Road)	£87,000
4 - Shuttle bus Cirencester - Kemble (via Ewen)	£100,000
0 – Reference Case (long)	£71,000
5 - Extended shuttle bus Tetbury – Kemble - Cirencester	£308,000
6 - Corridor Tetbury – Kemble - Cirencester (1 bus)	£191,000
7 - Corridor Tetbury – Kemble - Cirencester (2 buses)	£308,000
8 - Corridor Tetbury – Kemble - Cirencester (3 buses)	£661,000
9 - DRT service (full area)	£489,000
10 - DRT (not Tetbury)	£296,000

* *Five years following scheme start – representing a potential contract length*

Summary of recommendations

9.14 Based on the study findings, the following provides a summary of the recommendations for the improvement of public transport in the **Cirencester - Kemble – Tetbury corridor**:

- Given the importance of Cirencester as a key regional town and Kemble as a mainline rail hub, along with forthcoming growth with The Steadings, some investment in public transport along the study corridor will be key to delivering viable and attractive sustainable transport options in the area.
- There is a strong case for improving the existing public transport offer, with regular scheduled bus services between Kemble and Cirencester and potential for onward

travel to Tetbury / Malmsbury. Integration of timetables with rail services at Kemble Station will support multimodal trips.

- Larger infrastructure investment is unlikely to attract sufficient patronage to offset significant costs and has limited potential to achieve a good value for money.
- In terms of supporting policy objectives and meeting stakeholder aspirations, there is a case for improving the bus service. To be suitably attractive this should operate daily, regularly (hourly) and comprehensively (i.e. from early morning through to the evening). A service covering the entire corridor will gain greater use than a shuttle to/from Kemble railway station. An hourly service will enable connections with trains at Kemble and provide a basis for establishing a 'hub' in Cirencester, where various bus services could be timed to connect.
- The bus service should be free-standing and run separately from the Gloucester – Cirencester service, such that each 'leg' can be developed in the light of its own strengths and opportunities. Therefore, based on the current 882 contracted service (requiring 2 buses), one vehicle would be assigned to the Cirencester – Gloucester route, offering a bus every 2 hours in each direction, and the other to the Cirencester – Tetbury corridor. This would be supplemented by an additional bus to provide an hourly service in both directions.
- The option recommended to be taken forward is the 2-bus Cirencester – Kemble – Tetbury service (option 7). It offers reasonable value for money. The hourly timetable is easy to understand and promote, is suitably attractive and aligns well with the rail service.
- The service will operate under contract to Gloucestershire County Council, but should be overseen and developed with inputs from wider stakeholder interests. Whilst Section 106 contributions will help establish and support the service improvements in the early stages, there may be a need to identify other longer term funding sources in the future to maintain the service. Growth in patronage will ideally help sustain the service, but other sources may need to be considered, such as revenue raised locally from car parking charges.
- Given the importance of encouraging different types of users to the service, the option of providing the quickest journey between Tetbury and Cirencester is favoured, with minimal wait time for train connections at Kemble station. This would offer timed connections for those travelling to/from Cirencester, rather than those from Tetbury. Therefore, at peak times of the day, the timetable could be amended to facilitate connections to/from the Tetbury direction as well. However, this would mean the timetable having some irregularity, reducing the ease of use.

- Once the principle of the service has been agreed, the finer detail of the route taken in Cirencester can be determined, including that to be taken between Spratsgate Lane and the town centre (i.e. either direct via Somerford Lane and Sheep Street, via Chesterton or Love Lane Industrial Estate) and whether the route extends beyond the town centre. Ultimately, the route will use the east-west link road through The Steadings.
- At the Tetbury end of the route, extending some journeys to/from Westonbirt Arboretum may be beneficial and attract some additional use.
- Whilst it would be possible for certain journeys to divert via some of the villages in the corridor, this would again compromise the attractiveness of the service. Therefore, it may be preferable to serve the villages in a different way, either by community transport or through the introduction of a DRT service. A software system for managing DRT bookings and vehicle scheduling is already being used for other DRT services introduced elsewhere in the county.
- Whilst it would be possible for alternate buses to run from Kemble station to/from Tetbury and Malmesbury, this might compromise the attractiveness of the service. Therefore, initially, establishing the principle of the hourly service between Tetbury and Cirencester is recommended.
- Kemble station is an important point on the route, with buses running up to the station building (on the London-bound platform side of the station). Infrastructure at the station should be improved with continuous kerbed footway to the bus stop, shelter, clear signage and information, including real time information showing when buses are due (both on train departure screens as well as at the bus stop itself). There would be opportunity to specifically brand the service, highlighting the rail connections, something that would be supported by GWR.
- Renaming the station 'Kemble for Cirencester' would help in promoting the ability to travel by train (and bus) to Cirencester. Bus/rail integration would also be promoted by including Kemble on the Plusbus scheme, or by including a through ticket on national rail ticketing system.
- Tourism using public transport should be promoted (both locally and further afield), including specific ideas for days out by train/bus. Reinvigoration of the Cotswold Explorer ticket would help support this.
- Every opportunity should be taken to raise the profile of the service, through branding and marketing, high quality and comfortable buses, good customer care, promotional information, and upgrading bus stops along the route.

9.15 With regards to the development of improved public transport for Cotswold Water Park, recommendations are as follows:

- The existing 51 bus service (Cheltenham – Cirencester – Swindon) provides the basis of a service to/from the Water Park. Diverting the route to serve more of the Park would reduce its attractiveness for existing users.
- Based on the proposals for improving the bus service between Tetbury and Cirencester (as summarised above), there is no scope to extend or divert that service to the Water Park, without additional vehicles (and cost). Even if that was an option, it is likely that use via Kemble station would be relatively low.
- However, the Water Park attracts many visitors and so offers some potential to trial a dedicated bus shuttle, perhaps just on summer weekends initially. A fixed route, timetabled service would offer the most visible service. This could complement (and connect with) both the existing 51 service and any enhanced service on the Kemble – Cirencester corridor. It could offer links to the easterly parts of the Water Park and connect different attractions.
- Significant promotion of the service would be important, both locally and further afield, with ideas for days out by bus (with suggested activities and walks). It would be important to get the backing of the attractions, with them highlighting the service within their own marketing materials and possibly offering discounts to those using the bus.
    - Service branding and associated infrastructure improvements (bus stopping points and information) would help to promote the service.
    - Any trial service would require revenue funding.

9.16 Cirencester is an important centre for education provision. This creates significant travel demands and helps support the provision of wider transport services. The opportunities created by this need to be harnessed and built upon for wider benefit of the town and local communities. The following recommendations are made:

- The opportunities and benefits of wider transport integration need to be recognised and considered collectively by all interested parties. It would be beneficial to establish a Cirencester Area Transport Group, with membership including Cirencester District Council, Gloucestershire County Council, Cirencester College, Royal Agricultural University, secondary schools and transport operators, with the aim of improving public transport services in the area through collaboration and taking a holistic view of needs, issues and solutions.

- In the short term, it is unlikely that improvements made to bus services in the Tetbury – Cirencester corridor will help the RAU. Equally, Cirencester College will only benefit if the improved service is routed via Chesterton. Therefore, there may be scope to develop a bespoke shuttle bus service between Kemble station and RAU/Cirencester College, particularly if more attractive rail fares for students and/or staff to/from Kemble station could be offered. The shuttle could be linked with existing shuttle minibus arrangements made by RAU, or entirely new provision. More demand for such a service may arise from further development and expansion of RAU.
- Where possible, the network benefits of the Cirencester College bus network should be further extended to increase provision across greater parts of the day and ultimately to non-college days, by finding other unmet demands that can be met by increased use of existing vehicles and drivers.

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