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Barrington Close and Fairford Close, Kingswood, Bristol

Bromford and EG Carter & Co Ltd

Transport Statement

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1 Introduction

- 1.1 Rappor has been instructed by Bromford and EG Carter & Co Ltd to prepare a Transport Statement (TS) in support of a planning application concerning the redevelopment of land at Barrington Close and Fairford Close, Kingswood, Bristol.
- 1.2 Full planning permission is sought for the demolition of 72 existing residential dwellings to be replaced by the erection of 85 residential dwellings (net increase of 13 residential dwellings) with associated infrastructure and landscaping.
- 1.3 The proposed accommodation schedule is as follows:
 - a) 17 x one-bedroom flats;
 - b) 7 x two-bedroom flats/maisonettes;
 - c) 41 x two-bedroom houses;
 - d) 17 x three-bedroom houses; and
 - e) 3 x four-bedroom houses.
- 1.4 Pre-application correspondence was received from South Gloucestershire Council (SGC), who provided high level advice on the development proposals (Ref: 21027 Barrington Close & Fairford Close).
- 1.5 The Transport comments within the pre-application response are referenced throughout this report, where relevant, and are summarised as follows:
 - a) *'A Transport Assessment was not considered necessary, but a Transport Statement was recommended';*
 - b) *'The loss of garages and parking spaces needs to be considered 'and replacement parking provided for anyone with a right to park there';*
 - c) *'A 5.5m carriageway and 2m footways on either side or a shared surface road with a width of 6.8m is required';*
 - d) *"Where margins are proposed behind car parking spaces it would be better if they were in front of the parking spaces either as wheel stops or widened paths so that overhanging vehicles don't obstruct those paths";*
 - e) *"An Electric Vehicle Charging Strategy should be provided";*
 - f) *'Provision of a detailed parking schedule is required';*
 - g) *"Stage 1 Road Safety Audit should be provided for the layout";*
 - h) *'Swept path analysis of a large 11.3m long waste collection vehicle to be provided'; and*
 - i) *"Travel Plan to be submitted".*
- 1.6 The SGC pre-application correspondence is attached at **Appendix A**.
- 1.7 A Travel Plan has been submitted under separate cover in accordance with SGC Travel Planning Guidance.



Report Structure

- 1.8 A TS is an appropriate form of assessment, in accordance with SGC's pre-application comments, for the scale of the proposed development, which will result in a net increase of 13 residential dwellings. The key issues that need to be addressed / reviewed within this TS, with reference to the size and location of the development proposal, are as follows:
- a) Review of the site location, composition, and local highway network;
 - b) Analysis of local highway safety data for the most recent five-year period available;
 - c) Description of site accessibility and opportunities for sustainable travel;
 - d) Review of relevant local transport planning policy and relevant planning history;
 - e) Description of the development proposals, including access arrangements, pedestrian connections, parking, refuse and emergency access; and
 - f) Suitability of the internal layout;
 - g) Forecast trip generation and predicted impact upon the operation of the local highway network in comparison with existing uses.
- 1.9 Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe. The TS concludes that the proposed development, in highway and transportation terms, is acceptable, and therefore there are no highway grounds that should prevent the planning application from being permitted.



2 Existing Conditions

Site Location and Composition

- 2.1 The application site is located within the suburban town and unparished area of Kingswood, located on the eastern edge of the City of Bristol. It falls within the South Gloucestershire district and is approximately 2.85km north of the Longwell Green Retail Park, 3km south-west of Emersons Green, 6km north of Keynsham and 6.5km east of Bristol City Centre.
- 2.2 The site consists of a residential area covering both Barrington Close and Fairford Close. It is typically bound by residential dwellings in all directions whilst to the south the site is bound by the Barrington Green Play Area. Furthermore, an existing public footpath network wraps immediately around the eastern and southern sides of the application site.
- 2.3 The site location, its context and relationship with the immediate adjoining areas is demonstrated on the plan attached at **Appendix B** whilst **Appendix C** demonstrates the local highway network and the features described in the remainder of this section.

Local Highway Network

Barrington Close & Tyndale Road

- 2.4 Barrington Close is a two-way single carriageway, which predominantly routes in an east to west alignment through the southern parcel of the application site. It is subject to a 30mph speed limit and street lighting, and formal footway provision are present on both sides of the carriageway.
- 2.5 At its eastern extent Barrington Close is a '*no through*' road and at its western extent it forms both the eastern and southern arms of an informal staggered crossroad junction with Tyndale Road and Frys Hill. Throughout its length Barrington Close provides access to a number of garages (*which are to be replaced as part of the planning application*) located within the application site boundary.
- 2.6 The section of Barrington Close, which forms the southern arm of the Barrington Close / Tyndale Road / Frys Hill crossroads junction, solely provides access to Barrington Court. Tyndale Road forms the western arm of the crossroads junction (at its eastern extent) and is a short stretch of road approximately 57m in length, which forms the minor arm of a priority junction with Lees Hill at its western extent.
- 2.7 Traffic calming in the form of road narrowing is present along Barrington Close, east of the informal staggered crossroad junction: three narrowed points are present. Furthermore, on-street parking is currently present on both sides of the carriageway east of the junction before the narrowed points.

Fairford Close

- 2.8 Fairford Close is a short stretch of road, approximately 62m in length, which routes in a broadly south-west to north-east alignment through the northern parcel of the application site. It is subject to a 30mph speed limit with street lighting and formal footway provision present.
- 2.9 Fairford Close provides access to parking associated with existing local residential dwellings at its north-eastern extent and transitions into Highview Road at its south-western extent. Traffic calming in the form of road narrowing is provided upon entry to Fairford Close.



Highview Road

- 2.10 Highview Road is a predominantly two-way single carriageway, which routes in both a north-west to south-east and a south-west to north-east alignment. It is subject to a 30mph speed limit with footway provision on either side of the carriageway and street lighting is present throughout. Additionally, on-street parking is present throughout Highview Road.
- 2.11 Highview Road forms a reverse slanted 'L' shape due to its alignment. At its north-eastern extent it forms the minor arm of a priority junction with Pound Road whilst at its north-western extent it forms the minor arm of a priority junction with Lees Hill.

Lees Hill

- 2.12 Lees Hill is a two-lane single carriageway, which routes in a broadly north to south alignment to the west of the application site. It is subject to a 30mph speed limit with formal footway provision on either side of the carriageway and street lighting present.
- 2.13 At its northern extent Lees Hill forms the minor arm of a priority junction with Pound Road and at its southern extent forms one of the arms of a double mini roundabout junction with New Cheltenham Road, Church Road, and Spring Hill.

Wider Highway Network

- 2.14 The site is beneficially located to access the local highway network. The A420 can be accessed approximately 800m to the south of the centre of the application site via a number of different routes. The A420 in turn provides access to Chippenham to the east and Bristol City Centre to the west.
- 2.15 The A4174 ring road can also be accessed approximately 950m to the east of the centre of the application site via a number of different routes. The most direct route is via Barrington Close and Lees Hill, or Fairford Close and Highview Road, followed by Pound Road, Champion Road, Anchor Road, and Station Road Link. The A4174 ring road runs around the northern and eastern edge of Bristol providing future residents with a suitable commuting route by private car around major employment zones in Bristol.

Local Highway Safety

- 2.16 To determine whether there are any existing highway safety issues within the vicinity of the site, the CrashMap database www.crashmap.co.uk has been reviewed for the surrounding local highway network for the most recent five-year period, up to December 2022. The results of the search area are demonstrated in the CrashMap extract at **Figure 2.1**.
- 2.17 The full CrashMap reports are attached at **Appendix D**.



Figure 2.1 CrashMap Extract (Source: www.crashmap.co.uk)

2.18 The review identified that one serious and one slight personal injury collision (PIC) have taken place over the five-year review period resulting in two injuries. Of those two injuries, one was serious, and one was slight in severity.

Serious

2.19 The serious PIC occurred on Wednesday 21st November 2018 at 19:25 during the hours of darkness when it was raining without high winds and a wet or damp road surface was present. The incident occurred at the Pound Road / Highview Road junction when a car performing a 'U turn' collided with a motorcycle resulting in the motorcycle rider sustaining serious injuries.

Slight

2.20 The slight PIC occurred on Saturday 31st March 2018 at 16:17 during daylight hours when weather conditions were fine without high winds and a dry road surface was present. The incident occurred at the Pound Road / Sherbourne Close junction when a van (or goods vehicle 3.5 tonnes mgw and under) was reversing and collided into a parked car, parked within the carriageway. As the reversing van was performing the manoeuvre it hit a pedestrian that was standing stationary in the carriageway, resulting in the pedestrian sustaining slight injuries.

2.21 A record of only two PICs on the surrounding highway network over the five-year study period does not suggest that there is deficiency in the layout or geometry of the local highway network. Furthermore, with the low forecast development traffic (as confirmed in **Section 6**), in real terms, this is expected to continue.

2.22 It is therefore reasonable to determine that the Pound Road / Highview Road, Lees Hill / Highview Road and Lees Hill / Tyndale Road junctions are safe and suitable for the minor intensification (a net increase of 13 residential dwellings) in use as a result of the development proposals, without any highway mitigation works required.



3 Site Accessibility and Opportunities for Sustainable Travel

- 3.1 When considering the overall sustainability of a site, with regards to transport and highways it is important that a site can be demonstrated to be accessible for all potential users without resulting in a heavy reliance on travel by car, particularly single occupancy journeys.
- 3.2 Within the local context of the application site, this can be assessed against the proximity to local services and amenities, which residents and / or visitors may require access to on a day-to-day basis. Equally, it can be assessed based on the access to sustainable (non-car) transport modes, which provide alternative options for travelling to any services or amenities located further afield from the site.

Walking and Cycling

Walking

- 3.3 The Institution of Highways and Transportation (now the: Chartered Institution of Highways and Transportation) guidance document '*Providing for Journeys on Foot*' (published 2000) suggests an acceptable walking distance of 1km for commuting purposes and a preferred maximum walking distance of 2km.
- 3.4 Paragraph 4.4.1 of Manual for Streets (MfS) states that walkable neighbourhoods are typically characterised as having a range of facilities within 10 minutes walking distance (around 800 metres). However, it states that this is not an upper limit, and that walking offers the greatest potential to replace short car trips, particularly those under 2km.
- 3.5 This guidance is supported by the National Travel Survey (NTS), which found that over the past four years 80% (2019), 82% (2020), 82% (2021), 83% (2022) of trips under a mile (1.6km) are undertaken on foot (NTS0308). It should be noted that the NTS for 2020, which was undertaken during the COVID-19 pandemic had less than half the response rate and experienced substantial missing data. As such the highway conditions could not be classed as '*normal*', which is likely to have impacted on how people travel. However, the 2020 NTS journeys on foot under a mile is validated by the 2021 and 2022 NTS, which demonstrates a 2-percentage point and 3-percentage point, respectively, increase in journeys by foot under a mile since 2019. These findings also demonstrate that a steady increase in the number of trips under a mile undertaken on foot is present.
- 3.6 Continuous footway provision is present throughout the local highway network, which provides a permeable walking network within vicinity of the application site. This network provides safe and convenient access from the application site to local services and amenities, detailed in **Table 3.1**.

Cycling

- 3.7 Cycling also has the potential to substitute for short car trips, further facilitating sustainable travel, particularly those trips under five miles (8km) and trips of 30 - 40 mins are considered acceptable for commuting purposes. The NTS 2022 (Table NTS0303) notes that the average cycle trip is approximately 3.6 miles (5.8km). The growth of electric bikes is also increasing the propensity to cycle and reducing journey times.
- 3.8 The Local Transport Note 1/20: Cycle Infrastructure Design, produced by the Department for Transport (DfT), states the following at paragraph 2.2.2:

'Two out of every three personal trips are less than five miles in length – an achievable distance to cycle for most people.'



- 3.9 Therefore, and as substantiated by DfT findings, facilities and amenities within five miles, or 8km, of the application site are classed as being within an acceptable cycling distance. The entirety of Keynsham and Bristol City Centre in addition to the suburban areas of Filton, Stoke Gifford, Cheswick Village, Emersons Green, Longwell Green, Redland, Bishopston, and Horfield, amongst others, are all within approximately 8km from the centre of the application site.
- 3.10 The roads within and surrounding the area are suitable for cyclists to travel along, with services and facilities accessible both within Kingswood and the neighbouring suburban areas.
- 3.11 Furthermore, National Cycle Network (NCN) Routes 4 and 16 are both in proximity to the application site. NCN Route 16 can be accessed approximately 855m to the south-east of the centre of the application site whilst NCN Route 4 can be accessed approximately 950m east of the centre of the application site.
- 3.12 NCN Route 16 closely follows the same routing as the A4174 and as such provides access around the eastern and northern edge of Bristol whereas NCN Route 4 provides access into Bristol City Centre. NCN Route 4 additionally facilitates travel to Cribbs Causeway and onwards travel to Newport when travelling west / north-westbound from the application site. Travelling east / south-eastbound from the application site NCN Route 4 provides access to Bath, and onward travel to London via a number of towns enroute.
- 3.13 NCN Route 4 and Route 16 are demonstrated in **Figure 3.1**.

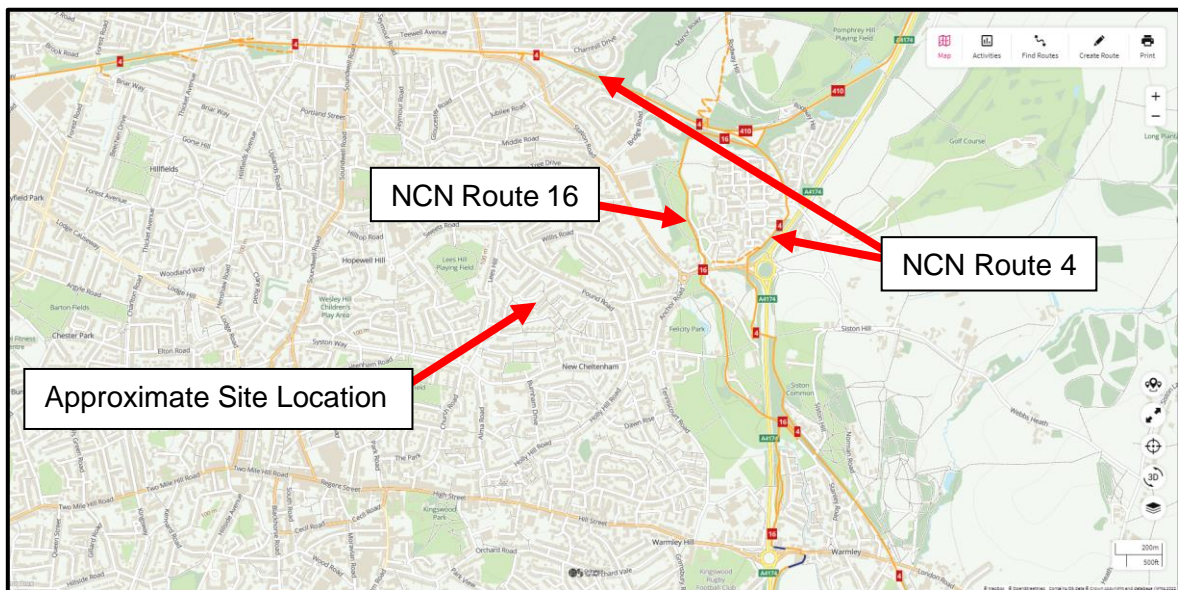


Figure 3.1 National Cycle Network Map Extract

STRAVA Heatmap

- 3.14 STRAVA is an internet service that tracks physical exercise, predominantly cycling and running, using GPS data. The GPS data is stored in a database, which allows STRAVA users to visually see the extent that routes and roads are used by other users in the form of heatmaps. The data is updated monthly.
- 3.15 The STRAVA heatmap indicates the more frequently used routes, by STRAVA users, on a light (white) to dark (purple) scale. **Figure 3.2** illustrates that the surrounding roads and routes are frequently utilised by cyclists using STRAVA.

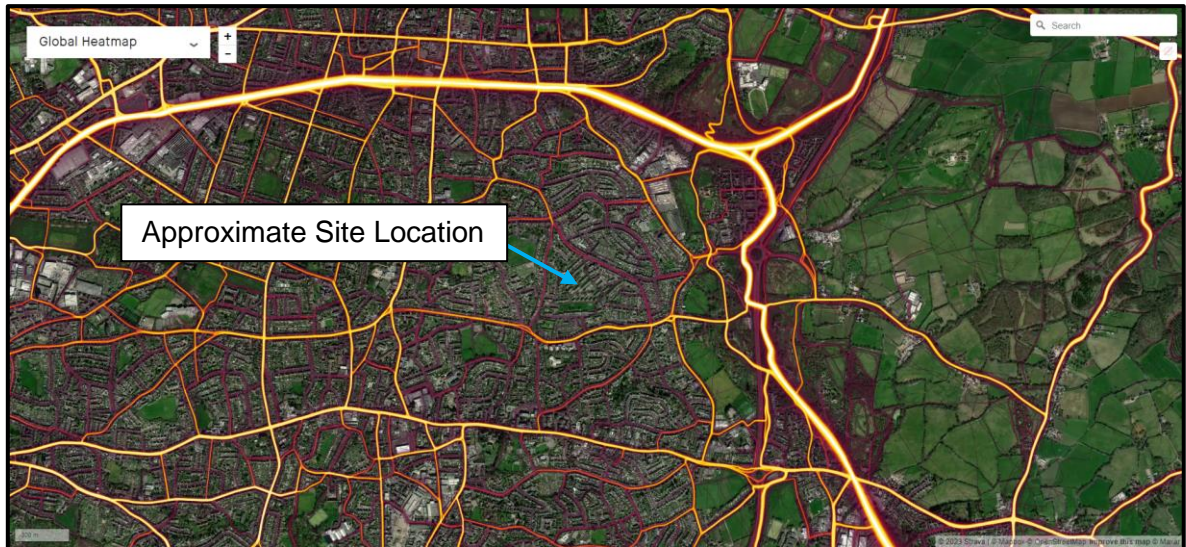


Figure 3.2 STRAVA Heatmap Extract (Source: www.strava.com)

Electric Scooters

- 3.16 A Government electric scooter trial was previously held in the West of England by Voi allowing residents to hire 'e-scooters' with designated parking areas located across the areas holding the trial.
- 3.17 Following the success of the trial a new operator, TIER, Europe's largest micro-mobility provider won the competitive tender to provide shared micro-mobility services for the West of England Mayoral Combined Authority.
- 3.18 TIER e-scooters were deployed on the streets of Bristol from Saturday 14th October 2023 and e-bikes and cargo bikes are planned to follow. An initial 2,000 TIER vehicles were made available during the launch period with a planned total of 4,000 being aimed to provide. E-scooters from TIER are available on both a short-term and long-term rental basis.
- 3.19 Three designated TIER e-scooter parking zones are all within approximately 800m of the centre of the application site (the closest being approximately 400m) offering future residents an alternative sustainable travel option. **Figure 3.3** demonstrates the parking zone near the application site.



Figure 3.3 'E-scooter' Parking Zones Located Near to The Application Site

Proximity to Local Services and Amenities

- 3.20 It is key to a site's sustainability that there are a range of services and amenities nearby. **Table 3.1** demonstrates the local services and amenities.
- 3.21 For robustness, the distances and their corresponding journey times have been measured from the centre of the application site, whilst they were calculated via two methods; firstly, in accordance with Institution of Highways and Transportation (IHT) and 'Road Bike' (RB) guidelines for walking speed (1.4m/s) and cycling speed (4m/s) respectively, and secondly, via Google Maps, which additionally accounts for the gradient of the route when undertaking such journeys.
- 3.22 **Table 3.1** demonstrates a number of services and amenities, that are required on a daily basis, can be found within 1600m of the application site, including public transport provision for travel further afield. Furthermore, the site is situated in a walkable neighbourhood, as defined by MfS (walkable neighbourhoods require a range of services and amenities within 800m).



3.23 It should be noted that the local area to the application site is subject to a ‘rising’ and ‘falling’ topography as captured in the difference in the expected travel times between either the IHT or RB methodologies and the Google methodology in **Table 3.1**. However, a maximum elevation of 14m is present when travelling from the site northbound towards The Jolly Cobbler. As evidenced by **Table 3.1** these elevation differences are minimal within the immediate area and increase further afield from the application site. If cyclists do require dismounting of their cycle to travel up a ‘rising’ gradient, then this will only be for a short duration. Furthermore, e-bikes and other forms of micro-mobility (such as E-scooters) are increasingly popular travel choices to that of a private car, which minimise effort / energy required to traverse localised increases in gradient.

Service / Amenity	Approx. Distance	Approx. Walking Time		Approx. Cycling Time	
		IHT	Google	RB	Google
Barrington Green Play Area	170m	2 mins	2 mins	1 min	1 min
Central Convenience	350m	4 mins	4 mins	1 min	2 mins
Chungs Fish Bar	350m	4 mins	4 mins	1 min	2 mins
Highview Road Bus Stops	350m	4 mins	5 mins	1 min	2 mins
Alma Road Westbound Bus Stop	550m	7 mins	7 mins	2 mins	2 mins
Grants Barber Shop	550m	7 mins	7 mins	2 mins	3 mins
Green Bamboo Chinese Takeaway	550m	7 mins	8 mins	2 mins	3 mins
Alma Road Eastbound Bus Stop	600m	7 mins	7 mins	3 mins	2 mins
The Jolly Cobbler Public House	600m	7 mins	8 mins	3 mins	3 mins
The Kingswood Centre Day Care Centre	650m	8 mins	8 mins	3 mins	2 mins
New Cheltenham Community Centre	700m/750m*	9 mins	10 mins	3 mins*	4 mins*
Kingswood Hub (Pharmacy, Library, Civic Centre and Police Station)	900m/1100m*	11 mins	14 mins	5 mins*	6 mins*
New Horizons Learning Centre	1000m	12 mins	13 mins	4 mins	4 mins
Kingswood Leisure Centre	1300m/1400m*	15 mins	19 mins	6 mins*	6 mins*
Kings Chase Shopping Centre	1300m/1400m*	15 mins	20 mins	6 mins*	7 mins*
The Park Primary School	1300m/1400m*	15 mins	19 mins	6 mins*	8 mins*
The Orchard Medical Centre	1500m/1600m*	18 mins	23 mins*	7 mins*	8 mins*

**Note - using the Google routing methodology outlined, the Google Maps routing tool does not allow for cyclists and pedestrians to utilise the same routes where this is not feasible. Therefore, routing and distances differ for walking and cycling due to this.*

Table 3.1 Proximity to Services and Amenities



Public Transport

Bus Services

- 3.24 The nearest bus stops to the application site are located approximately 350m from the centre of the application site along Pound Road. The 'Highview Road' bus stops both consist of a hard standing shelter, printed timetable information and a flag. Furthermore, both stops provide a raised kerb to enable easier access / egress of buses for passengers. The north-westbound stop additionally comprises a bus layby and 'BUS STOP' cage markings whilst the eastbound stop comprises 'BUS STOP' cage markings embossed on the carriageway.
- 3.25 Both 'Highview Road' bus stops provide access to the number 6 bus service.
- 3.26 Additional bus services can be accessed from the 'Alma Road' bus stops on New Cheltenham Road, both within an approximate 600m walking distance from the centre of the application site. Both 'Alma Road' stops consist of a hard standing shelter, a raised kerb, 'BUS STOP' cage markings and flag whilst the eastbound stop additionally comprises a pole and printed timetable information.
- 3.27 Both 'Alma Road' bus stops provide access to the number 7 and 86 bus services whilst the eastbound stop additionally provides access to the SB1 bus service, which is a school service.
- 3.28 **Table 3.2** presents a summary of these bus services whilst full bus timetable information is provided at **Appendix E**.

Service	Operator	Route / Destinations Served	Operates	Timetable Summary		
				First Service	Approx. Frequency	Last Service
6	First in Bristol Bath & the West	Kingswood – Bristol Centre	Mon - Fri	05:27	30 mins	23:09
			Sat	06:38	30 mins	22:43
			Sun	07:23	30 mins	23:34
		Bristol Centre – Kingswood	Mon - Fri	06:54	30 mins	23:46
			Sat	07:38	30 mins	00:00
			Sun	08:16	30 mins	23:55
7	First in Bristol Bath & the West	Staple Hill – Whitehall – Bristol Centre	Mon - Fri	05:15	30 mins	23:36
			Sat	07:27	30 mins	23:23
			Sun	08:03	30 mins	23:03
		Bristol Centre – Whitehall – Staple Hill	Mon - Fri	06:16	30 mins	00:19
			Sat	07:52	30 mins	22:52
			Sun	08:53	30 mins	22:24
86	Stagecoach West	Yate – Emersons Green – Kingswood	Mon - Fri	08:41	120 mins	18:51
			Sat	08:41	120 mins	18:51
			Mon - Fri	09:11	120 mins	19:21



Service	Operator	Route / Destinations Served	Operates	Timetable Summary		
				First Service	Approx. Frequency	Last Service
		Kingswood – Emersons Green – Yate	Sat	09:11	120 mins	19:21
SB1	First in Bristol Bath & the West	New Cheltenham – St Brendans College	Mon - Fri	07:43 – Once Daily		

Table 3.2 Bus Services and Frequencies
 (Source: www.travelinesw.com December 2023)

- 3.29 Services from the ‘*Highview Road*’ bus stops can be accessed every day of the week, departing approximately once every 30 minutes. Additional services from the ‘*Alma Road*’ bus stops can be accessed every day of the week, departing approximately every 30 – 120 minutes.
- 3.30 As demonstrated in **Table 3.2**, the bus services available at the ‘*Highview Road*’ and ‘*Alma Road*’ bus stops are suitable to offer future residents alternative travel options from the site to nearby destinations where employment and leisure opportunities can be found. Services depart before 09:00 and return after 17: 00 offering a genuine alternative to travel by car for commuting purposes.

Summary

- 3.31 The site is sustainably located, with opportunities for access to local services and facilities via a number of transport modes including walking, cycling, micro-mobility modes and public transport. The nearest bus stops to the site are located along Pound Road, an approximate 350m walking distance, which provides regular bus services to the surrounding areas every day of the week (including weekends) whilst additional services can be accessed along New Cheltenham Road.
- 3.32 In summary, the site is suitably located in terms of being able to offer a range of sustainable travel choices to residents, as an alternative to travel by car and is located within a walkable neighbourhood as defined by MfS guidance.



4 Planning Policy & Guidance

- 4.1 The relevant transportation policies and guidance include those set out in the following national and local documents:
- a) National Planning Policy Framework (September 2023);
 - b) Planning Practice Guidance Travel Plans, Transport Assessment and Statements in Decision Taking (March 2014);
 - c) Manual for Streets (2007) and Manual for Streets 2 (2010);
 - d) West of England Combined Authority Joint Local Transport Plan 4 2020 – 2036 (2020);
 - e) South Gloucestershire Local Plan – Core Strategy 2006 – 2027 (2013);
 - f) South Gloucestershire Local Plan – Policies, Sites and Places Plan (2017); and
 - g) South Gloucestershire Waste & Recycling Collection: guidance for new developments – Supplementary Planning Document (2019).
- 4.2 The main thrust of recent national and local policy and guidance is to:
- a) make effective and efficient use of land;
 - b) reduce car dependency;
 - c) make walking and cycling trips easier; and
 - d) encourage public transport trips.

National Policy

National Planning Policy Framework (NPPF) September 2023

- 4.3 National guidance on planning is set out in the revised National Planning Policy Framework (NPPF) published in September 2023 by the Ministry of Housing, Communities and Local Government. It sets out the Government’s planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development.
- 4.4 Paragraph 85 states that “*Planning policies and decisions should recognise that sites to meet local business and community needs in rural areas may have to be found adjacent to or beyond existing settlements, and in locations that are not well served by public transport. In these circumstances it will be important to ensure that development is sensitive to its surroundings, does not have an unacceptable impact on local roads and exploits any opportunities to make a location more sustainable (for example by improving the scope for access on foot, by cycling or by public transport)*”.
- 4.5 Chapter 9 of the NPPF deals with ‘*Promoting sustainable transport*’ and Paragraph 104 of the NPPF states:

“Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- a) the potential impacts of development on transport networks can be addressed;*
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;*



d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and

e) patterns of movement, streets, parking, and other transport considerations are integral to the design of schemes and contribute to making high quality places.”

4.6 Paragraph 105 states that “*The planning system should actively manage patterns of growth in support of these objectives*” [the objectives outlined in paragraph 104]. “*Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making*”.

4.7 Paragraph 110 states:

“In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users;

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 46; and

d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.”

4.8 Paragraph 111 states that “*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe*”.

4.9 Paragraph 112 states:

“Applications for development should:

a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment areas for bus or other public transport services, and appropriate facilities that encourage public transport use;

b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;

c) create places that are safe, secure, and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;

d) allow for the efficient delivery of goods, and access by services and emergency vehicles; and



e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”

Regional Policy

West of England Combined Authority Joint Local Transport Plan 4 2020 – 2036 (2020)

- 4.10 The Joint Local Transport Plan 4 (JLTP4) - led by the West of England Combined Authority, working with Bath & North East Somerset, Bristol, North Somerset, and South Gloucestershire Councils – looks at transport up to 2036.
- 4.11 The vision for the JLTP4 is to connect *‘people and places for a vibrant, inclusive and carbon neutral West of England’*. There are five overarching objectives to achieve this vision:
- a) *‘Take action against climate change and address poor air quality;*
 - b) *Support sustainable and inclusive economic growth;*
 - c) *Enable equality and improve accessibility;*
 - d) *Contribute to better health, wellbeing, safety, and security; and*
 - e) *Create better places.’*
- 4.12 A key local policy is to *‘encourage residents and employees to make more sustainable and healthier travel choices’*. This is set to be supported by travel planning measures, encouraging modal shift and maximising the awareness of sustainable and active travel choices.

Local Policy

South Gloucestershire Local Plan – Core Strategy 2006 – 2027 (2013)

- 4.13 The Core Strategy is the key document comprising the Local Plan and “sets out a vision for the area based on evidence, community objectives and the detailed spatial strategy for future development in South Gloucestershire to 2027”.
- 4.14 “The Core Strategy is comprised of three main elements:”
- a) *“The first part sets out the role and purpose of the Core Strategy”;*
 - b) *“The second part of the document builds on information above and sets out the overarching policies to provide strategic alignment with the Sustainable Community Strategy, join up with other plans and programmes, and fulfil South Gloucestershire Council’s high-level objectives for tackling climate change and delivering sustainable communities”;* and
 - c) *“The final part of the document deals with issues facing each part of the district and sets out spatial policies to achieve priorities such as mixed and balanced communities, economic development, job creation and transport investment”.*

South Gloucestershire Local Plan – Policies, Sites and Places Plan (2017)

- 4.15 The management of transport impact is considered within Policy PSP11 which states that a proposed development which will generate travel is acceptable where:
- a) *‘Appropriate, safe, accessible, convenient, and attractive access is provided for all mode trips arising to and from the proposal;*
 - b) *Any new or improved bus stops meet the Council’s adopted standards and the appropriate national guidance;*



- c) *Commercial development is located on safe useable walking routes, that are an appropriate distance to a suitable bus stop facility, served by appropriate public transport services, linking to major settlement areas;*
- d) *Appropriate on-site loading, in loading and waiting facilities are provided for commercial developments;*
- e) *It would not generate traffic that would:*
 - *create or contribute to severe congestion;*
 - *severely impact on the amenities of communities surrounding access routes;*
 - *have an unacceptable effect on highway and road safety;*
 - *harm environmentally sensitive areas*
- f) *any new transport related infrastructure provided in relation to the proposal would not create or exacerbate traffic congestion or have an unacceptable effect on highway and road safety;*
- g) *unobstructed emergency vehicle access is provided; and*
- h) *potential significant transportation impacts are accompanied by an appropriate Transport Assessment and where necessary a Travel Plan.'*

4.16 Policy PSP16 – Parking Standards states that “*New development proposal(s) will be acceptable where the following parking standards are met*”. The policy provides standards for cycle parking and car parking for residential dwellings including dimensions required for garages to be counted as parking spaces. These standards are discussed in greater detail in **Section 5**.

Summary

4.17 The proposed development is generally in accordance with local and national transportation guidance and policies, given the relative scale and location of the application site, providing a safe access, and not having a severe impact on the existing highway.



5 Proposed Development

- 5.1 Full planning permission is sought for the demolition of 72 existing residential dwellings to be replaced by the erection of 85 residential dwellings (net increase of 13 residential dwellings) with associated infrastructure and landscaping.
- 5.2 The proposed accommodation schedule is as follows:
- a) 17 x one-bedroom flats;
 - b) 7 x two-bedroom flats/maisonettes;
 - c) 41 x two-bedroom houses;
 - d) 17 x three-bedroom houses; and
 - e) 3 x four-bedroom houses.
- 5.3 The architect's site layout plans are attached at **Appendix F**.

Access Strategy/Arrangements

Vehicular Access

- 5.4 Vehicular access to the majority of the proposed residential dwellings is to be achieved via Barrington Close (the southern parcel) whilst an additional minor number of the proposed residential dwellings (the northern parcel) are to be accessed from Highview Road and Fairford Close.
- 5.5 Both access points will remain the same as the existing arrangements / conditions on-site. This is suitable given the absence of any recorded collisions within the latest five-year period of data in proximity to either point of access, as identified in the local highway safety review undertaken and presented in **Section 2**.
- 5.6 However, an intensified vehicle access should be reviewed and justified as being able to provide visibility splays in accordance with the relevant national or local guidance as appropriate.
- 5.7 As the proposed development will result in an increased number of dwellings being served via the Highview Road / Fairford Close junction and the Lees Hill / Tyndale Road junction, a visibility assessment has been undertaken for both junctions.

Visibility Assessment

- 5.8 To demonstrate that the proposed site access can operate safely and in a suitable manner, a visibility assessment has been undertaken.
- 5.9 For design purposes, given that Highview Road, Lees Hill, and the surrounding highway network, is subject to a 30mph speed limit, guidance contained within MfS at Table 7.1 for speeds of 30mph has been applied. MfS guidance at Table 7.1 states that a 'Y' distance of 43m should be demonstrated as achievable for speeds of 30mph.
- 5.10 In terms of the 'X' distance the standard 2.4m parameter has been applied.
- 5.11 Based on these parameters, emerging visibility splays of 2.4m x 43m in either direction along Highview Road from the junction should be demonstrated as achievable. The drawing attached at **Appendix G** demonstrates that emerging visibility splays of 2.4m x 43m can be provided entirely within highway boundary at the existing Highview Road / Fairford Close and Lees Hill / Tyndale Road junctions. The highway boundary data is attached at **Appendix H**.



- 5.12 It is noted that parking occurs along the southern side of Highview Road and the eastern side of Lees Hill, within proximity to the accesses and visibility splays. However, as per MfS2 at para 10.7.1 '*at urban junctions where visibility is limited by buildings and parked cars, drivers of vehicles on the minor arm tend to nose out carefully until that can see oncoming traffic, and vice-versa*'. MfS 2 further states that is '*quite common yet does not appear to create significant problems*' and where '*speeds are low, encroachment may be acceptable*'. This is also an existing situation and given that there will not be a significant increase in use as part of the development proposals, the current arrangements are deemed suitable, this is also confirmed through the Road Safety Audit.
- 5.13 Given the existing speed limit restriction along both Highview Road and Lees Hill together with low vehicle speeds, numerous existing dropped kerb vehicle crossover arrangements, along their respective lengths, and no recorded PICs in the area, the intensification of the existing access arrangements will not result in an unacceptable impact on highway safety, and therefore will not conflict with paragraph 111 of the NPPF.
- 5.14 It can therefore be determined that the existing Highview Road / Fairford Close and Lees Hill / Tyndale Road junctions are safe and suitable, in accordance with Paragraph 110 of the NPPF, which is further demonstrated by the fact that no collisions have occurred within the vicinity of either junction within the latest five-year period of collision data, as detailed within **Section 2** of this report.

Swept Path Analysis

- 5.15 Swept path analysis demonstrating the suitability of the access arrangements to enable an estate car to access / egress the Highview Road / Fairford Close junction in a forward gear is shown on the drawing attached at **Appendix I**.

Pedestrian Access

- 5.16 Pedestrian access to the site is to be achieved from the footways adjacent Highview Road, Fairford Close and Barrington Close. The footway along the western side of Fairford Close is to be extended internally connecting to the provision along the main stretch of Highview Road where provision does not currently exist.
- 5.17 Additionally, an existing footpath network, which wraps around the eastern and southern boundaries of the site (discussed in **Section 2**) provides pedestrian access from Highview Road, Cranham Close, Sherbourne Close, Caddick Close, Gilpin Close and Witcombe Close. This footpath network therefore provides a permeable walking network from / to the site to / from nearby services and amenities outlined in **Section 3**.

Internal Site Layout

- 5.18 Internal carriageways within the site are typically 6m wide with short stretches measuring 4.8m wide that help to act as internal traffic calming features. In addition, 2m wide footways are provided on either side of the internal carriageways. The internal layout of the site has been designed to achieve a 20mph design speed.
- 5.19 The internal measurements of the site layout are demonstrated on the drawing attached at **Appendix J**.

Visibility Assessment

- 5.20 To demonstrate that the proposed internal layout of the site can operate safely and in a suitable manner, a visibility assessment has been undertaken.



- 5.21 As the internal layout of the site has been designed to achieve a 20mph design speed, a guidance contained in Table 7.1 of MfS for speeds of 20mph has been used to calculate the extent of the emerging visibility splays required at the internal junctions.
- 5.22 In terms of the 'X' distance the standard 2.4m parameter has been applied.
- 5.23 Based on these parameters, emerging visibility splays of 2.4m x 25m should be demonstrated as achievable. The drawing attached at **Appendix G** demonstrates that emerging visibility splays of 2.4m x 25m can be provided from each internal junction as necessary.

Swept Path Analysis

- 5.24 Swept path analysis demonstrating the suitability of the internal layout of the site to enable an estate car to suitably manoeuvre on-site, in addition to access / egress the proposed parking bays suitably, is shown on the drawing attached at **Appendix K**.

Servicing and Emergency Access

- 5.25 The internal layout has been designed to accommodate the typical servicing and delivery requirements of residential developments.
- 5.26 All of the proposed residential dwellings are provided with internal bin storage, that have been suitably located so as to reduce bin carry distances as far as possible, which are accessible for residents to pull to designated bin collection points on collection day.
- 5.27 Refuse collection guidance set out in MfS and Building Regulations 2010 Approved Document Part H (amended in 2015) states that the preferable limit for resident bin carry distances is 30m whilst the limit for bin operatives is 25m. However, Section 1.8 of Building Regulations Part H and Section 6.8.9 of MfS state that residents "*should not be required to carry waste more than 30m*" and "*should be sited so that the carry distance does not usually exceed 30m*". The 30m carry distance is therefore a recommended distance and should not preclude the granting of planning permission for developments where the recommended 30m carry distance is slightly exceeded.
- 5.28 It is acknowledged that South Gloucestershire Council provide guidance in their '*Waste & recycling collection: guidance for new developments*' supplementary planning document (SPD) stating that bin operatives should not be required to carry bins for a distance greater than 10m. However, strict adherence to this 10m limit for all dwellings would result in the internal layout of the site being dictated by the refuse servicing requirements and would greatly impact the quality of place currently achieved. This would therefore contrast with national guidance contained within MfS which states at Section 6.8.1 that "*The design of local roads should accommodate service vehicles without allowing their requirements to dominate the layout*".
- 5.29 A swept path analysis demonstrating a refuse vehicle entering each site access in a forward gear, manoeuvring suitably on-site, and egressing in a forward gear is attached at **Appendix L**. This drawing also demonstrates the bin carry distances for residents and bin operatives, which are generally in accordance with MfS, SGC and Building Regulation guidance, where possible.
- 5.30 The internal layout has been designed to ensure a fire appliance can safely access the majority of the development and the fire hose can get within 45m of the furthest point of the majority of residential dwellings, in accordance with Building Regulations 2010 Approved Document Part B (amended 2022), as demonstrated on the drawing attached at **Appendix M**.



- 5.31 Where a fire hose cannot access the furthest point of a residential dwelling, it is proposed to provide sprinklers for Plots 24 – 28, 55 – 58 and 75 – 82 to achieve Building Regulations compliance, if needed. The fire strategy will be fully developed at detailed design stage.

Parking Provision

- 5.32 The proposals follow urban design best practice and balances the aims of providing active frontages onto streets, open areas, and pedestrian thoroughfares, minimising the extent of exposed rear gardens, whilst ensuring that the highway infrastructure does not dominate the layout.
- 5.33 Plots 75-85 define an active frontage overlooking Barrington Green and the pedestrian route, and form part of a '*perimeter*' block with plots 69-74, reducing the extent of exposed rear gardens, with appropriate back-to-back overlooking distances. These homes accommodate a level change of 3m from north to south through stepped house types and the perimeter block depth dimension does not provide space within the red line for an extension of the road to their fronts. A road option was explored outside of the red line, but this was not favoured by SGC, and this would also have led to the road becoming dominant next to the area of play.
- 5.34 The parking spaces for plots 75-85 are located further away than elsewhere in the proposals but this is balanced with the urban design aims and the constraints of the steeply sloping part of the site.

Car Parking

- 5.35 A total of 119 car parking spaces and 15 visitor parking spaces will be provided on-site for residents.
- 5.36 The South Gloucestershire Local Plan: Policies, Sites and Places Plan PSP16 provides parking standards for the site within SGC's jurisdiction and sets out the following as minimum standards:
- a) 1-bed dwelling: 1 space;
 - b) 2-bed dwelling: 1.5 spaces (rounded down to nearest whole number and where flats are proposed 1 space can be provided with the residual 0.5 provided as unallocated visitor parking);
 - c) 3-bed dwelling: 2 spaces;
 - d) 4-bed dwellings: 2 spaces; and
 - e) 5-bed or more: 3 spaces.
- 5.37 It should be noted that SGC caveat that if lower provision than the minimum standards is proposed for a development then justification must be provided, this therefore demonstrates that SGC will accept sites with a lower parking provision than set out in their guidance.
- 5.38 A summary of the proposed parking provision is provided in **Table 5.1** and the scheme summary in **Table 5.2**.



No. of Bedrooms	No. of Dwellings	Minimum Parking Requirements	Proposed Parking Spaces
1-bed	17	17	17
2-bed	48	68	62
3-bed	17	34	34
4-bed	3	6	6
Total	85	125	119

Table 5.1 SGC Residential Parking Requirements

No. of Bedrooms	No. of Dwellings	Minimum Parking Requirements	Proposed Parking Spaces
1-bed Flat	16	16	16
1-bed Flat over Garage	1	1	1
2-bed Flat/Maisonette	7	7	7
2-bed House	41	61	55
3-bed House	17	34	34
4-bed House	3	6	6
Total	85	125	119
Visitor	-	20	15
Total	85	145	134

Table 5.2 Scheme Car Parking Summary

- 5.39 The provision of 119 car parking spaces is six spaces below the minimum standard. Therefore, it is acknowledged that the proposed provision is less than the minimum standards. Whilst this may be the case, the level of car parking provision on-site is appropriate for the type, scale, and location of the development. The site is within a highly accessible location, with access to facilities and amenities including public transport, as detailed in **Section 3**, and therefore a lower level of car parking provision on-site is considered suitable.
- 5.40 An assessment with regards to existing car ownership has also been undertaken to inform the level of car parking provision on-site. Existing car ownership statistics have been obtained from the 2011 Census data for the Kings Chase Ward of South Gloucestershire for which the site is situated within.
- 5.41 The assessment demonstrates that based on average car ownership, a total of 78 car parking spaces could be expected to be required in 2023 and 84 car parking spaces would be required in 2028. On this basis the development proposals would constitute an over-provision versus likely car ownership levels, demonstrating that the proposed parking provision is suitable to accommodate the likely future demand of residents.
- 5.42 Therefore, a suitable level of car parking provision is provided on-site to accommodate the likely vehicle demand. The car ownership analysis is provided at **Appendix N**.
- 5.43 Furthermore, as demonstrated in **Table 5.1** parking provision is in accordance with SGC standards for 1 bed, 3 bed and 4 bed dwellings. The shortfall of six parking spaces occurs with the provision for 2 bed dwellings.
- 5.44 **Table 5.3** breaks down the proposed parking provision for 2 bed dwellings as either flats/maisonettes or houses and the subsequent expected level of car ownership identified in 2023 and 2028, as per the assessment provided at **Appendix N**.



	2 Bed Flat/Maisonette	2 Bed House
Proposed Parking Provision	7	55
2023 Expected Level of Car Ownership	6	39
Net Difference	+1	+16
2028 Expected Level of Car Ownership	6	42
Net Difference	+1	+13

Table 5.3 2 Bed Dwelling Parking Provision vs Expected Level of Car Ownership

5.45 **Table 5.3** demonstrates that the proposed level of parking provision for 2 bed flat/maisonettes would be an over provision of one space in both 2023 and 2028 compared to expected levels of car ownership for this dwelling type and an over provision of 16 spaces and 42 spaces for 2 bed houses in 2023 and 2028.

5.46 Therefore, the proposed marginal under provision for 2 bed dwelling types compared to the SGC standards is suitable in accordance with expected levels of car ownership across the site and has been suitably justified through both the sustainable location of the development and an assessment of car ownership census data and subsequently the expected level of car ownership at the development in 2023 and 2028.

5.47 It is also recognised that the development will result in a loss of garages and potential loss of parking provision for existing tenants. Therefore, two parking surveys were undertaken to determine the number of replacement parking spaces required as a result of the development proposals. These parking surveys are discussed in greater detail in **Section 6** and are in accordance with SGC's pre-app response attached at **Appendix A**:

'The loss of garages and parking spaces needs to be considered 'and replacement parking provided for anyone with a right to park there'.

Visitor Car Parking

5.48 The SGC Policies, Sites and Places Plan PSP16 also provides standards for visitor parking. As previously stated, the policy advises that where 2 bed flats are proposed with one space, the residual 0.5 of the 1.5 spaces requirement should then be provided as unallocated visitor parking, totalling an additional 3 visitor parking spaces on-site.

5.49 The standards also advise that an additional 0.2 visitor spaces per dwelling should be provided, totalling an additional 17 visitor spaces.

5.50 In total, 20 visitor parking spaces should be provided on-site to be in accordance with PSP16 policy requirements. Therefore, the provision of 15 visitor parking spaces on-site is an under provision of five visitor parking spaces. This is appropriate given the availability of on-street parking in the surrounding area, discussed in **Section 6**, the scale and type of development, the provision of 35 designated car parking spaces over the expected level of car ownership in 2028, in addition to the 15 proposed visitor spaces, will help to ensure that there will be no over-spill within the internal layout of the site or on the surrounding local highway network.



Electric Vehicle Provision

- 5.51 Access to 7kW electric vehicle charging points will be provided to all residential units in accordance with Building Regulations 2022 Approved Document Part S.

Cycle parking

- 5.52 Cycle parking on-site is required to be provided at a minimum of 1 secure, undercover space per 1-bed dwelling and 2 secure, undercover spaces per 2-bed or more dwelling for newly built and converted dwellings without garages in accordance with SGC Local Plan: Policies, Sites and Places Plan PSP16 Schedule A.
- 5.53 Based on the proposed accommodation schedule a total of 153 spaces for cycle parking should be provided. This will be provided in the form of a secure space located in the curtilage of each dwelling.
- 5.54 For Plots 1-9 a safe, secure, and covered cycle shelter will be provided.

Road Safety Audit

- 5.55 A Stage 1 Road Safety Audit (RSA) has been carried out for the proposed development for planning purposes. The RSA did not identify any areas of concern at this stage and is included at **Appendix O**.

Summary

- 5.56 The access arrangements for the application site and the internal layout are suitable to accommodate the development traffic whilst suitable on-site provision will be made for vehicle and cycle parking and manoeuvring.
- 5.57 The level of car parking provision is suitable to accommodate the expected level of car ownership at the site in both 2023 and in 2028, whilst the level of cycle parking provision is in accordance with the standards provided in the SGC Local Plan: Policies, Sites and Places Plan PSP16 Schedule A.
- 5.58 The waste collection and fire safety arrangements proposed are suitable and have no significant impact on the operation or safety of the local highway network.



6 Parking Surveys

- 6.1 This Section discusses the two parking surveys undertaken to determine the number of potential replacement parking spaces required for displaced vehicles and Bromford garage customers due to the loss of existing garages and parking spaces through the development proposals.
- 6.2 The first parking survey (Customer Parking Survey) was undertaken during June 2023 by Bromford and surveyed existing Bromford customers and local residents surrounding the site about their requirements for replacement parking spaces.
- 6.3 The second parking survey (Local Parking Capacity Survey) was undertaken in September 2023 by Rappor and surveyed a pre-determined area around the site to understand the existing level of parking capacity in vicinity of the site.

Customer and Local Residents Parking Survey – June 2023

- 6.4 As previously stated, the customer and local residents surrounding the site parking survey undertaken by Bromford was undertaken to determine the potential level of replacement car parking required for existing users of the site. It comprised two separate parts: a garage survey (for existing garage customers using garages at the site); and a parking survey (for existing customers/residents in Fairford Close (retained properties), Highview Road and Sherbourne Close).
- 6.5 The results of the garage survey determined that three replacement parking spaces will be required to replace the loss of garages for existing Bromford customers of the site whilst the parking survey results determined that six replacement parking spaces will be required for the loss of parking spaces of existing Bromford customers and local residents surrounding the site. Therefore, as determined by the Customer and Local Residents Parking Survey undertaken by Bromford a total of nine replacement car parking spaces are required to accommodate the existing demand.
- 6.6 It should be noted that initially three parking spaces were to be provided to accommodate for displaced vehicles, visitors, and garage customers but this was increased to ten spaces as a result of feedback from the consultation. For further information please read the Statement of Community Involvement.

Local Parking Capacity Survey – September 2023

- 6.7 To determine if the nine replacement car parking spaces required can be accommodated on the local highway network a parking survey was undertaken by Rappor. The parking survey conducted, and the evidence set out in this report, incorporate SGC guidance contained within the SGC Parking Survey Technical Advice Note (TAN) (2022).

Parking Survey Methodology

- 6.8 SGC provide guidance in their TAN on “*how applicants should demonstrate ‘appropriate evidence of the availability of on-street car parking during evenings and weekends’ to support planning applications for Houses in Multiple Occupation (HMOs) in South Gloucestershire*”. It is noted that the TAN, and guidance contained within, is to help support planning applications for Houses in Multiple Occupations (HMOs) in South Gloucestershire but in the absence of guidance for parking surveys to support planning applications for non-HMO sites the TAN has been applied.



- 6.9 Two parking surveys were conducted on Tuesday 12th September 2023 after 20:00 and another on Saturday 16th September 2023 between 12:00 – 16:00.
- 6.10 The weekday survey (Tuesday 12th September) was a single parking survey undertaken after 20:00, as per the guidance provided by SGC in their TAN.
- 6.11 The weekend survey (Saturday 16th September) was a parking beat survey of 60-minute 'beats' across a four-hour period. SGC state in their guidance that weekend surveys must be conducted between 11:00 and 16:00 and comprise parking beat surveys in 30-minute segments across a two-hour period. However, given the extent of the survey area it was not possible to conduct the weekend survey in 30-minute segments. Nonetheless the survey was undertaken within the specified time frame for surveys to be conducted within.
- 6.12 The parking surveys covered the entirety of Highview Road, Frys Hill, Tyndale Road, Barrington Court and Cranham Close. In addition, to segments of The Green, Canons Walk, Pound Road, Sherbourne Close, Caddick Close, Gilpin Close, Barrington Close (the area which will remain unchanged from the development proposals) and Lees Hill. The parking survey area was an approximate 200m walking distance in each direction of the application site, where achievable.
- 6.13 The survey area covered, including the 200m walking distance required by SGC in their TAN, is demonstrated in the drawing included at **Appendix P**.
- 6.14 The drawing included at **Appendix Q** demonstrates the parking restrictions observed on-site within the survey area.
- 6.15 The survey area was within Kingswood located to the east of Bristol and each surveyed road is a typical residential street with on-street parking, street lighting and footway provision on both sides of the carriageway. Four notable land uses are located within vicinity of the application site: Barrington Green Play Area; New Horizon Learning Centre; Southey Park Play Area; and Lees Hill Playing Field.
- 6.16 Any car parked within the survey area at the time of the conducted surveys were included in the counts to provide a robust assessment of the level of available capacity.
- 6.17 The survey was undertaken to determine the spare capacity within the vicinity of the site to ensure that the nine replacement car parking spaces can safely be accommodated.

Parking Survey Results

- 6.18 The recorded number of parked cars and the respective parking stress is demonstrated in **Table 6.1**.
- 6.19 Drawings have been produced demonstrating the approximate location of parked cars at each survey interval and are included at **Appendix R**.
- 6.20 Photographic evidence taken during the conducted surveys is included at **Appendix S**.
- 6.21 The recorded results from the parking survey were used in parking capacity calculations. To calculate the existing parking stress percentage additional steps were required, these were as follows:
- a) The various sections of each road included within the survey area were measured using a mixture of street view and satellite imagery through Google maps;
 - b) Each measured section was then split into the total number of 6m lengths (in some instances 2.4m where spaces were perpendicular), 6m (2.4m where



appropriate) has been used as the average length of a car to accommodate suitable separation distances;

- c) Using the total number of 6m lengths (or 2.4m lengths if appropriate) the total number of car parking spaces was then determined (297 total across the surveyed area); and
- d) The total recorded number of parked cars was then compared to the measured available number of spaces to determine the parking stress percentage.

	Tuesday 12 th September Post 20:00	Saturday 16 th September 12:00 – 13:00	Saturday 16 th September 13:00 – 14:00	Saturday 16 th September 14:00 – 15:00	Saturday 16 th September 15:00 – 16:00
Pound Road	24 / 67%	36 / 100%	26 / 72%	31 / 86%	34 / 94%
Cranham Close	3 / 43%	5 / 71%	4 / 57%	5 / 71%	5 / 71%
Canons Walk	0 / 0%	0 / 0%	0 / 0%	0 / 0%	0 / 0%
Sherbourne Close	35 / 51%	34 / 50%	28 / 41%	30 / 44%	33 / 49%
Caddick Close	11 / 79%	17 / 121%	10 / 71%	10 / 71%	9 / 64%
Gilpin Close	15 / 50%	15 / 50%	14 / 47%	16 / 53%	18 / 60%
Highview Road	26 / 58%	28 / 62%	26 / 58%	28 / 62%	27 / 60%
The Green	6 / 100%	1 / 17%	1 / 17%	1 / 17%	4 / 67%
Frys Hill	9 / 90%	10 / 100%	13 / 130%	9 / 90%	10 / 100%
Barrington Close	11 / 52%	12 / 57%	14 / 67%	16 / 76%	15 / 71%
Barrington Court	2 / 200%	4 / 400%	5 / 500%	5 / 500%	4 / 400%
Tyndale Road	6 / 100%	5 / 83%	3 / 50%	3 / 50%	3 / 50%
Lees Hill	30 / 59%	30 / 59%	30 / 59%	30 / 59%	33 / 65%
Total	178 / 60%	197 / 66%	174 / 59%	184 / 62%	195 / 66%

Table 6.1 Parking Survey Results

6.22 The parking capacity calculations are included at **Appendix T**.

6.23 **Table 6.1** demonstrates that in the peak period recorded (Saturday 16th September 12:00 – 13:00) across both the weekday and weekend survey a maximum of 197, or 66%, of the 297 available on-street parking spaces were occupied. Therefore, even in the peak period recorded a total of 100, or 34%, of the available on-street parking space were not occupied and available to accommodate further on-street parking.

6.24 The highest recorded number of parked cars on each surveyed segment, the time the peak was recorded, and the respective parking stress are summarised in **Table 6.2**. It should be noted that the available parking capacity demonstrated in **Table 6.2** only considers legal parking. However, illegally parked cars have been included in the counts to provide a robust assessment, which is why in some instance there are roads over 100% capacity.



- 6.25 **Table 6.2** demonstrates although some roads are recorded as overcapacity in their respective peak period, due to illegal parking, across the surveyed area there still remains a substantial amount of available parking capacity to accommodate further parking on-street, even during peak periods. For example, during the peak period recorded on Sherbourne Close a total of 33 further parking spaces were available on-street. Alternatively, on Highview Road and Lees Hill 17 and 18 spaces were available, respectively, during the respective peaks of both roads.
- 6.26 On the basis of the parking survey results, there is more than sufficient car parking capacity available on-street to accommodate the replacement nine car parking spaces required, plus any potential over-spill from the development.

Road	Peak Recorded Parked Cars	Peak Time	Peak Parking Stress	Peak Parking Available
Pound Road	36	Saturday 16 th September 12:00 – 13:00	100%	0
Cranham Close	5	Saturday 16 th September 12:00 – 13:00, 14:00 – 15:00 & 15:00 – 16:00	71%	2
Canons Walk	0	n/a	0%	2
Sherbourne Close	35	Tuesday 12 th September Post 20:00	51%	33
Caddick Close	17	Saturday 16 th September 12:00 – 13:00	121%	-3
Gilpin Close	18	Saturday 16 th September 15:00 – 16:00	60%	12
Highview Road	28	Saturday 16 th September 12:00 – 13:00 & 14:00 – 15:00	62%	17
The Green	6	Tuesday 12 th September Post 20:00	100%	0
Frys Hill	13	Saturday 16 th September 13:00 – 14:00	130%	-3
Barrington Close	16	Saturday 16 th September 14:00 – 15:00	76%	5
Barrington Court	5	Saturday 16 th September 13:00 – 14:00 & 14:00 – 15:00	500%	-4
Tyndale Road	6	Tuesday 12 th September Post 20:00	100%	0
Lees Hill	33	Saturday 16 th September 15:00 – 16:00	65%	18

Table 6.2 Parking Capacity Summary

Summary

- 6.27 It has been demonstrated that there is sufficient parking to accommodate the nine replacement car parking spaces and consequently the development is safe and suitable and will not result in an unacceptable impact on highway safety. The proposals will therefore not conflict with Paragraph 111 of the NPPF.



7 Forecast Trip Generation

- 7.1 When considering a residential development, it is generally accepted that the critical periods in terms of traffic impact on the adjacent highway network are the weekday morning and evening peak hours, when traffic flows associated with the site combined with the traffic flows on the adjacent highway network are at their greatest. It follows that should the impact of development traffic on the local road network be considered acceptable during these periods then it would also be acceptable during other, less busy, periods of the week.
- 7.2 Given that the development proposals will result in a net increase of 13 residential dwellings it is necessary to not only assess the existing and the proposed trip generation of the site but also the proposed trip generation of the net increase in residential dwellings.

TRICS Assessment

- 7.3 In order to assess the trip generation associated with the site, residential sites with similar characteristics have been identified in the TRICS 7.10.1 database and average vehicle trip rates have been obtained.
- 7.4 In regard to land use, an assessment has been undertaken for *Residential – Houses Privately Owned*. This is a robust assessment given that a proportion of the existing residential dwellings on-site and the proposed residential dwellings on-site are comprised of flats and the entirety of the development is to be affordable housing.
- 7.5 Available TRICS sites were filtered to provide a comparable assessment to that proposed, based on the following selection criteria:
- a) Sites located in the UK, excluding Greater London and Ireland;
 - b) Sites located in Edge of Town and Suburban Areas;
 - c) Sites within a one-mile radius population of < 50,001; and
 - d) Sites within a five-mile radius population of < 500,001.
- 7.6 A copy of the TRICS report is provided at **Appendix U. Table 7.1** set out the resultant vehicle trip rates derived from the TRICS database assessment.
- 7.7 The remainder of this section will set out the expected vehicle trips for the existing site, the proposed development, and the net increase in residential dwellings.

Time Period	Trip Rates per dwelling		
	Arrivals	Departures	Total
AM Peak (08:00-09:00)	0.147	0.351	0.498
PM Peak (17:00-18:00)	0.333	0.143	0.476

Table 7.1 TRICS Trip Rates

Existing Trip Generation: 72 Flats

- 7.8 **Table 7.2** sets out the vehicle trips, which could be expected to be associated with the existing site (72 flats) based on the trip rates provided in **Table 7.1**.



Time Period	Trip Generation - 72 Flats		
	Arrivals	Departures	Total
AM Peak (08:00-09:00)	11	25	36
PM Peak (17:00-18:00)	24	10	34

Table 7.2 Existing Estimated Trip Generation - 72 Existing Dwellings

7.9 **Table 7.2** identifies that the existing site could be expected to generate 36 and 34 vehicle trips during the AM and PM peak periods, respectively.

Forecast Trip Generation: 85 Dwellings

7.10 The forecast trip generation, based on the trip rates provided in **Table 7.1**, of the development proposals is set out in **Table 7.3**.

Time Period	Trip Generation - 85 Dwellings		
	Arrivals	Departures	Total
AM Peak (08:00-09:00)	12	30	42
PM Peak (17:00-18:00)	28	12	40

Table 7.3 Forecast Trip Generation - 85 Proposed Dwellings

7.11 **Table 7.3** identifies that the proposed 85 dwellings could be expected to generate 42 and 40 vehicle trips during the AM and PM peak periods, respectively.

Net Trip Impact Assessment

7.12 A comparative net trip impact assessment has been completed comparing the existing number of dwellings to the proposed number of dwellings on the site. The result of this assessment is set out in **Table 7.4**.

Comparison	Peak Period	Net Trip Impact Assessment		
		Forecast Trips		
		Arrivals	Departures	Two-way
Existing Dwellings (Table 7.2)	AM Peak (08:00 - 09:00)	11	25	36
	PM Peak (17:00 - 18:00)	24	10	34
Proposed Dwellings (Table 7.3)	AM Peak (08:00 - 09:00)	12	30	42
	PM Peak (17:00 - 18:00)	28	12	40
Comparison	AM Peak (08:00 - 09:00)	+1	+5	+6
	PM Peak (17:00 - 18:00)	+4	+2	+6

Table 7.4 Net Trip Impact Assessment

7.13 **Table 7.4** identifies that the proposed development could be expected to generate six new vehicle trips during both the AM and PM peak periods.



Summary

- 7.14 In view of the potential trip generation at the application site, it is predicted that the development proposals would not have a detrimental traffic impact on the surrounding highway network and cannot be considered to have a severe or significant impact on the safety or operation of the local highway network.
- 7.15 A net increase of six two-way vehicle trips during both the AM and PM peak periods will have a minimal impact on the safe operation of the local highway network.



8 Summary and Conclusions

- 8.1 Rappor has been instructed by Bromford and EG Carter & Co Ltd to prepare a TS in support of a planning application concerning the redevelopment of land at Barrington Close and Fairford Close, Kingswood, Bristol.
- 8.2 Full planning permission is sought for the demolition of 72 existing residential dwellings to be replaced by the erection of 85 residential dwellings (net increase of 13 residential dwellings) with associated infrastructure and landscaping.
- 8.3 This TS has demonstrated the following:
- a) A review of the local highway network and collision data in the vicinity of the site indicates that there are no apparent problems in relation to the current operation or safety of the local highways;
 - b) The site is located within a walkable neighbourhood, as defined by MfS, and has access to existing services and amenities, supported by suitable pedestrian infrastructure and public transport links;
 - c) The site is compliant with transport planning policy guidance;
 - d) The proposed site access arrangements are safe and suitable. This is further validated by the absence of any recorded PICs within proximity to either access point;
 - e) The internal layout is suitable to accommodate forecast vehicles;
 - f) Proposed car parking provision on-site is suitable to accommodate the expected car ownership levels at the site in both 2023 and 2028. Further, on-street parking can also be suitably accommodated within the local highway network, as evidenced by the local parking capacity survey;
 - g) The level of proposed cycle provision is in accordance with local standards;
 - h) Forecast trip generation, based on similar sites within the TRICS database, indicates that the proposed development would result in an additional six two-way trips on the local highway network in both the AM and PM peak hours; and
 - i) This level of increase indicates that the proposals will not have a significant impact on highway safety and the residual cumulative impacts cannot be considered severe in relation to Paragraph 111 of the NPPF.

Conclusion

- 8.4 Rappor concludes that approval of this planning application will not result in an unacceptable impact on highway safety or a severe impact on the local highway network, and as such there are no significant highways and transportation matters that should prevent the planning application from being permitted.

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