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SENIOR LIVING URBAN (EPSOM) LTD
GUILD LIVING CARE COMMUNITY
EPSOM HOSPITAL
WOODCOTE GREEN ROAD

TRANSPORT ASSESSMENT

DECEMBER 2019

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Project Code:	**B/GLEpsom.1**
Prepared by:	**RG**
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Senior Living Urban (Epsom) Ltd
Guild Living Care Community
Epsom Hospital
Woodcote Green Road
Transport Assessment

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1 Introduction

1.1 Mayer Brown Ltd have been instructed by Senior Living Urban (Epsom) Ltd to provide highways and transport related assistance in support of a planning application for a new Later Living Community on land at Epsom General Hospital.

1.2 The proposed development comprises the demolition of existing hospital buildings (C2 land use) to provide a Later Living Community (C2 land use) including a coffee shop, restaurant and a nursery (D1 land use) that are open to use by visitors, staff, patients and visitors at the adjacent hospital and the general public (likely to only be residents of the adjacent residential properties).

1.3 Guild Living, who will be the operator of the proposed development, have the following principles/commitments for the operation/management of the site and relevant to this Transport Assessment:

- Only 40% of Guild Living Residences will be marketed/sold with parking;
- 80% of nursery spaces (children) would be allocated to NHS staff;
- Two Private Car Club vehicles will be provided on site for use by residents only;
- Two mini-buses for group trips/outings will also be provided on site; and

1.4 Following this introduction, Section 2 of this report provides details of the existing site and accessibility. The development proposals are described in Section 3 and relevant planning policy is reviewed in Section 4. An assessment of existing traffic flows and predicted trips is included at section 5, whilst the traffic impact of the proposals is assessed in Section 6. An assessment of the proposed parking levels is provided in Section 7 and a review of local collision data in Section 8. Finally, mitigation measures are detailed in Section 9 and the summary and conclusions are provided in Section 10.

Scoping with Surrey County Council

1.5 A pre-application scoping meeting was held at County Hall in Kingston with Scott Dickson, Senior Transport Development Planning Officer at Surrey County Council (SCC), and Lita Ferguson, Transport Planning Assistant at SCC, on Friday 18th October 2019. This meeting, along with a Scoping Report issued in advance, were used to agree the format of this assessment and the scope of the associated traffic surveys. A copy of the agreed Scoping Meeting Minutes is attached to this report at **Appendix A**.

2 Existing Site Context & Accessibility

Site Location

2.1 The site is located approximately 1km south of Epsom Town Centre in the borough of Epsom & Ewell. The site is bordered by Woodcote Green Road to the south, Epsom General Hospital to the north and east and residential properties to the west. The surrounding area is mostly residential.

2.2 The site location is shown in **Figure 2.1.** It currently forms part of the Hospital grounds, with the land having been sold for development as part of the NHS Trust's site delivery plans.

Figure 2.1: Site Location

2.3 Currently, the main access to the site is located on Woodcote Green Road. This is a staff-only access to the southern parts of the Epsom General Hospital site.

2.4 Woodcote Green Road provides access to numerous residential side roads to the south of the site and joins the A24 at a signalised junction to the north of the site.

2.5 The A24 Dorking Road is a busy main road that links Epsom Town Centre (and beyond this Ewell, North Cheam and Morden) to the north, to Ashtead and Leatherhead to the south. To the south, the A24 also provides access to the M25. There is direct access to numerous side roads that serve predominantly residential areas between the hospital

and Ashtead to the south, whilst to the north the A24 provides a route past Epsom station and on through the town centre.

2.6 The site in relation to the wider highway network is shown in **Figure 2.2.**

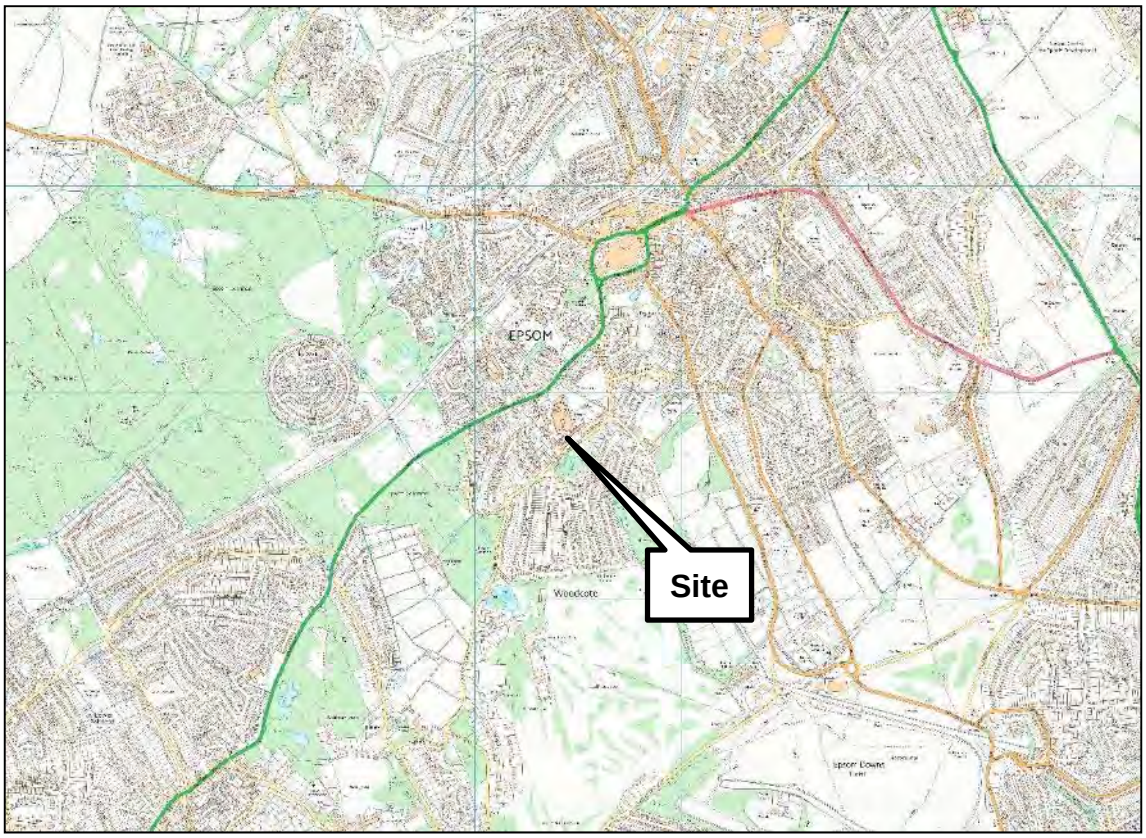


Figure 2.2: Wider Highway Network

Accessibility

2.7 As with any development it is important to demonstrate that it complies with the national, regional and local governmental policies which focus on encouraging alternative means of travel in order to reduce reliance on the private car.

2.8 The site is located close to local facilities and retail developments, hence there is potential for trips to be made on foot, by bicycle and by public transport.

Accessibility by Foot

2.9 On Woodcote Green Road there are footways on both sides of the road that are well lit and there is a zebra crossing located between the two hospital accesses as shown in **Figure 2.3**.

Figure 2.3: Footways and Zebra Crossing on Woodcote Green Road

2.10 There are several pedestrian crossing points along the A24 Dorking Road, with the nearest one to the site being a pedestrian refuge island to the north east of Footpath FP 124 which links Woodcote Green Road to Dorking Road. In addition, there are signalised pedestrian crossings to the west of the hospital entrance just past the junction with White Horse Drive, and at the signalised junction with Woodcote Road to the northeast of the site.

2.11 The Institution of Highways and Transportation (IHT) *Guidelines for Providing for Journeys on Foot* (2000) suggested acceptable walking distances for pedestrians without mobility impairment. Table 3.2 of the document refers to a maximum walk distance of 2,000m for typical journeys on foot from residential developments. On this basis, **Figure 2.4** illustrates the walk catchment for the site.

2.12 However, it is recognised that some residents at the site will be unable to walk this distance, and therefore buggy / electric scooter storage and charging areas will be provided around the site. These will enable residents who are not able to walk easily to still travel around the local area on footways.

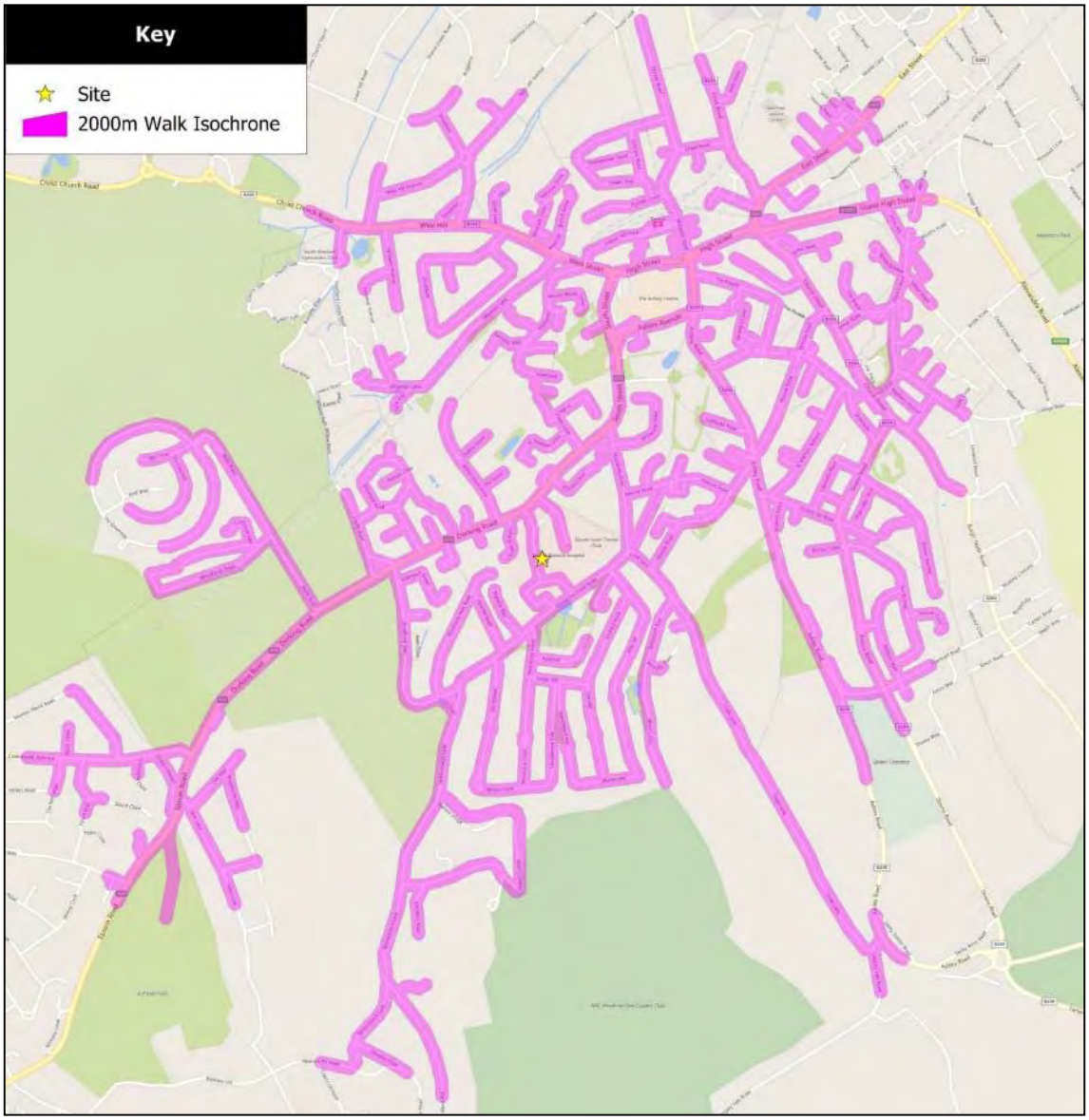


Figure 2.4: Walk Isochrones from Site

2.13 **Figure 2.4** shows that Epsom Town Centre and Epsom rail station is within walking distance of the site for pedestrians without mobility impairment. Epsom Town Centre has a variety of local facilities/amenities, examples of which include:

- Takeaways / Fast food outlets;
- Restaurants / Cafes;
- Shops;
- PureGym;
- Odeon Cinema;
- Travelodge Epsom Central;
- Waitrose Supermarket;
- Banks; and

- Epsom Rail Station.

2.14 Epsom rail station is approximately 1.1km (or a 20-minute walk assuming a leisurely walking speed for an older person of 54m/min) from the site.

Accessibility by Bicycle

2.15 Minimal levels of cycling are expected from residents, although some staff members and visitors may choose this mode of transport to access the site.

2.16 The Department for Transport's (DfT) 'Cycle Infrastructure Design' (October 2008) states in paragraph 1.51 that *"in common with other modes, many utility cycle journeys are under three miles, although, for commuter journeys, a trip distance of over five miles is not uncommon. Novice and occasional leisure cyclists will cycle longer distances where the cycle ride is the primary purpose of their journey. Experienced cyclists will often be prepared to cycle longer distances for whatever journey purpose".* On this basis **Figure 2.4** illustrates the 8km (5 mile) catchment for the site by bicycle.

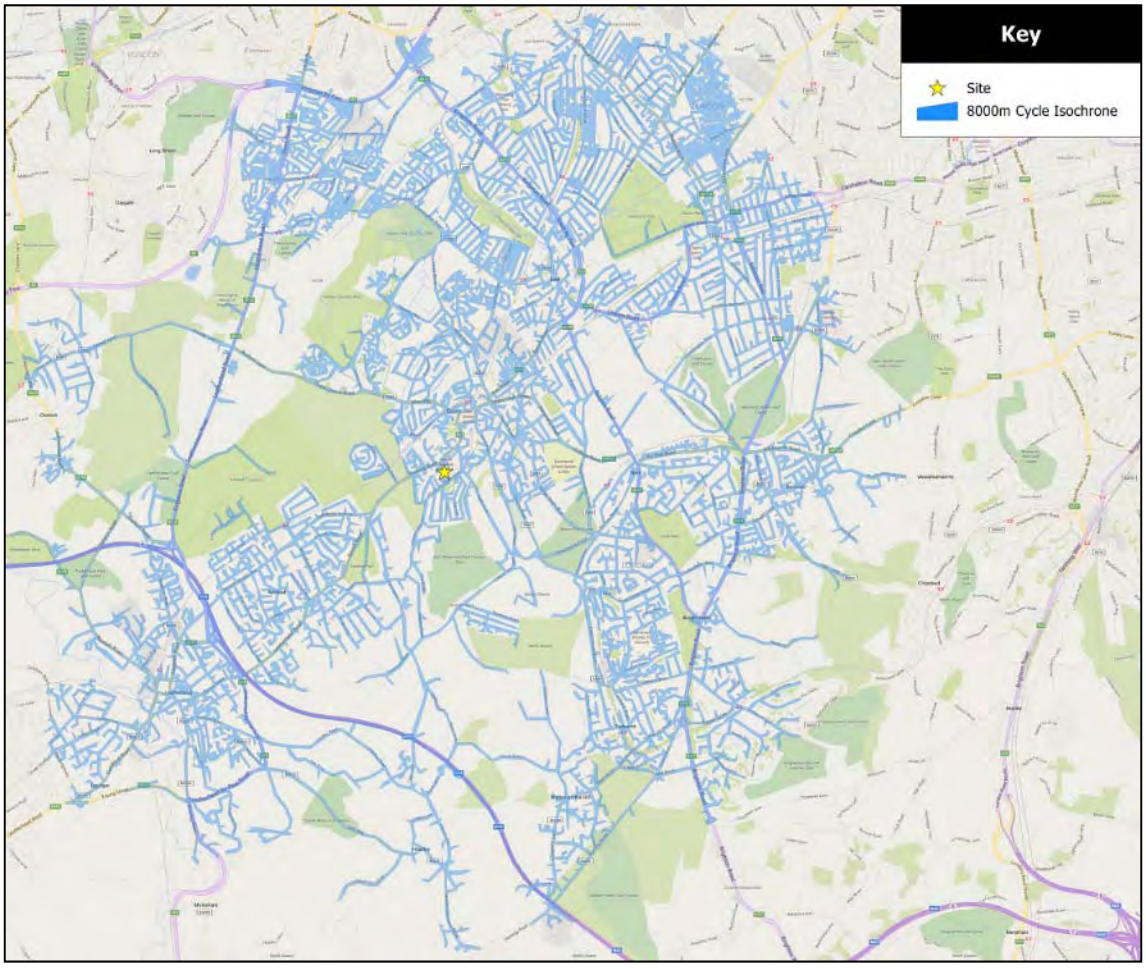


Figure 2.4: Cycle Isochrones from Site

2.17 **Figure 2.4** shows that all of Epsom is easily accessible from the site within an 8km cycle ride. Ashtead, Leatherhead, Tadworth, Banstead and Chessington are all also accessible. There are several stations located within the 8km cycle catchment.

2.18 On-road advisory cycle lanes are marked out on both sides of Woodcote Green Road from Hylands Road in the west to Chalk Lane in the east.

2.19 A greenway is shown on Surrey County Council's cycling map from the corner of Woodcote Green Road and Chalk Lane that provides a link through Rosebery Park toward the town centre. Chalk Lane is also a signed advisory route which links to off-road cycle routes across Epsom and Walton Downs.

Accessibility by Bus

2.20 There are bus stops on Woodcote Green Road adjacent to the hospital access and served by bus routes 166, 293, 467 and E5 and shown in **Figure 2.5**. These comprise pole and flag with timetable information, and the eastbound stop also has a bench. The eastbound stop is located approximately 70m from the site's pedestrian access with the westbound stop around 130m away.

Figure 2.5: Bus Stop on Woodcote Green Road

2.21 Epsom Hospital (Stops P, Q and R) are the next nearest bus stops to the site, located along the A24 Dorking Road and shown in **Figure 2.6**. They provide a bus service in

both directions and are served by bus routes 166, 293, 318, 406, 408, 467, 479, 489, 516, 519, 617, 618, 619, 623, 668, 676 and E5.

Figure 2.6: Bus Stop on Dorking Road

2.22 An extract of the SCC bus network map for Epsom & Ewell is provided as **Figure 2.7** and a summary of the routes and frequencies of the bus services is shown in **Table 2.1**.

2.23 A staff shuttle bus also runs between Epsom General Hospital, Sutton Hospital and St Helier Hospital, approximately every 35 to 50 minutes during weekdays. This is now called the H1 service. This service is also open to patients and members of the public, and costs £1.50 per journey for these users.

2.24 Additionally, TfL and the Epsom NHS Trust have agreed to extend the 470 bus service, which currently ends in Epsom Town Centre, to travel to Epsom General Hospital. The bus will use Woodcote Green Road and enter the hospital site via the entrance on that road. A bus stop will be provided close to the shuttle bus stop. The bus will exit the site via the Dorking Road and return to Epsom Town Centre.

2.25 As the bus is operated by TfL it will be on the Oyster card network. The bus operates six days a week (excluding Sundays) and between the hours of 7:00 and 21:00.

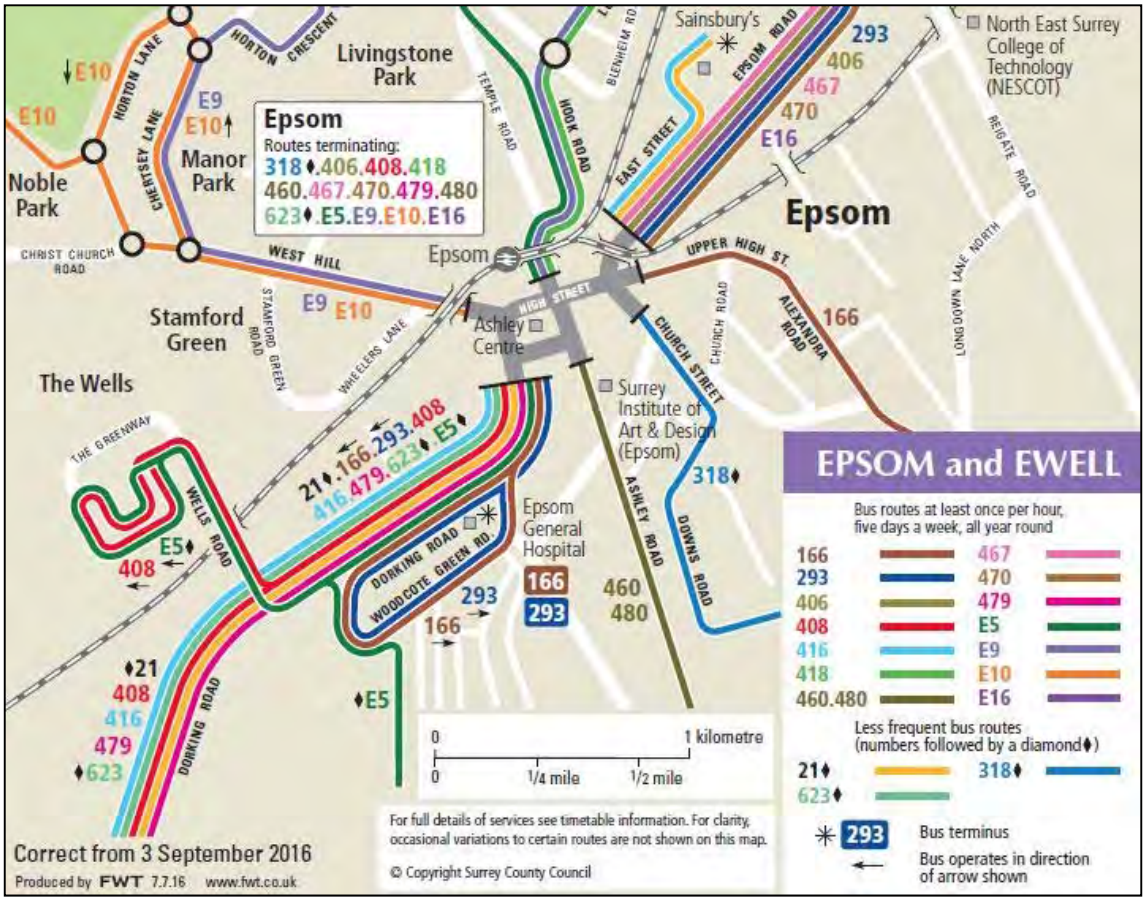


Figure 2.7: Extract from Surrey County Bus Network Map Extract

Service No.	Route	AM Peak Frequency	PM Peak Frequency	Saturday Frequency	Sunday Frequency
21	Crawley - Dorking - Leatherhead - Epsom	1 service	1 service at 16:53	Every 2 hours	No service
166	Epsom General Hospital – Banstead – Croydon	Hourly	Hourly	Hourly	No service
293	Epsom – North Cheam - Morden	3-4 per hour	3 per hour	3 per hour	2 per hour
318	Epsom – Ewell – North Cheam – Morden	1 service	1 service	No service	No service
406	Epsom – Ewell – Kingston upon Thames	1 service	1 service at 15:10	No service from this stop	No service from this stop
408	Epsom – Leatherhead – Cobham/Effingham	1 service	1 service	No service	No service
467	Epsom – Ewell - Hook	1 service in other direction	1 service at 15:10	No service from this stop	No service
479	Guildford – Little Bookham – Leatherhead – Epsom	3 services	3 services	2 per hour	Every 2 hours
617	Banstead – Epsom – St Andrews School	School Service – One Am and one PM service			
618	Walton on the Hill – Epsom – St Andrews School – Therfield School	School Service – One Am and one PM service			
619	Lower Kingswood – Tadworth – Epsom – St Andrews School – Therfield School	School Service – One Am and one PM service			
623	Ashtead – Epsom	Friday Service only - at 10:42	Friday Service only - at 13:45	No Service	No Service
668	North Cheam – Ewell – Epsom – St Andrews School	School Service – One Am and one PM service			
E5	Langley Vale – Epsom - Watersedge	1 service	1 service	Every 2 hours	No service

Table 2.1: Bus Service Frequency

2.26 **Table 2.1** shows that there is a reasonable level of service to local key destinations such as Dorking, Leatherhead, Banstead, Morden, Croydon and Guildford.

Accessibility by Rail

2.27 As detailed above, Epsom rail station is approximately 1.1km from the site and is accessible by bus routes 166 and 293 from Woodcote Green Road, which both stop approximately 150m from the station on High Street. Sheltered cycle parking facilities and a car park are provided at this station, as well as a taxi rank.

2.28 Epsom railway station is served by Southern Rail and South Western Railway, with direct trains to nearby locations such as Sutton, Horsham and Dorking (Main), or locations further afield such as Guildford, London Victoria and London Bridge. An extract of the Southern Rail network map is provided as **Figure 3.13**.

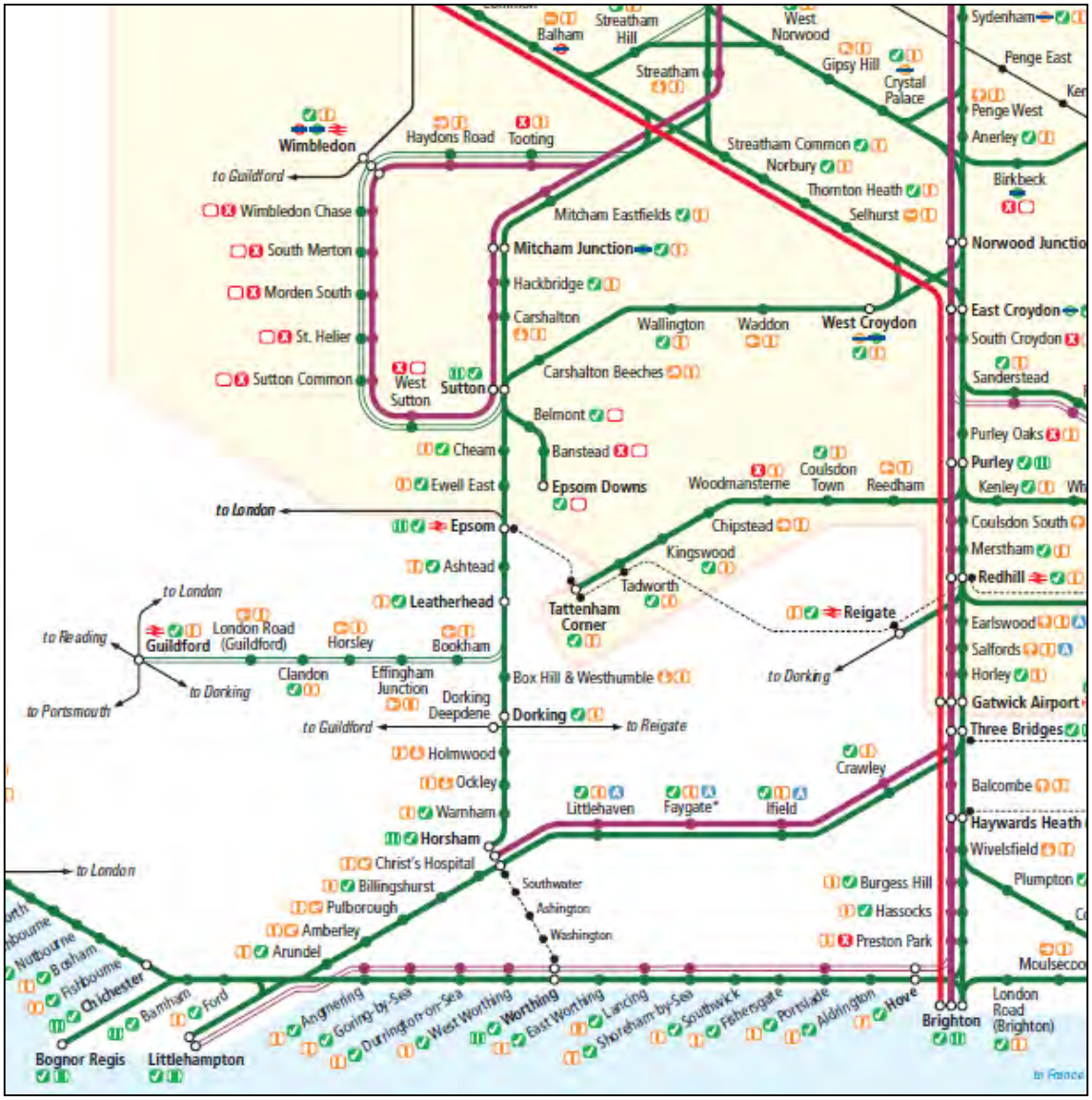


Figure 2.8: Extract of Southern Rail Network Map

2.29 A summary of the rail services provided from Epsom railway station is shown in **Table 2.2**.

Route	AM Peak (07:00-09:00)	PM Peak (17:00– 19:00)	Saturday	Sunday
Dorking (main) – London Waterloo	4	4	2 per hour	1 per hour
Guildford – London Waterloo	3	4	2 per hour	1 per hour
Epsom (Surrey) – London Waterloo	3	-	-	-
Effingham Junction – London Waterloo	1	-	-	-
Dorking (Main)/Horsham – London Victoria via Sutton	4	4	2 per hour	2 per hour
Epsom (Surrey) – London Victoria via Hackbridge	4	4	-	2 per hour
Epsom (Surrey) – London Bridge via Sutton	1	2	2 per hour	-
Guildford / Dorking (main) – London Bridge	3	-	-	-

Table 2.2: Rail Service Frequency from Epsom Railway Station

2.30 **Table 2.2** shows that Epsom railway station provides frequent trains to various locations locally and regionally.

Amenities in Proximity to the Site

2.31 **Table 2.3** below lists the amenities located within 500m of the proposed site.

No.	Amenity	Distance from Site
	Food outlet	
1	Costa Coffee Epsom Hospital	190m
2	Ingredients Restaurant Epsom Hospital	200m
3	Coffee House Epsom Hospital	210m
4	M&S Epsom Hospital Simply Food	400m
5	Lava Lounge (restaurant) (previously White Horse)	400m
6	Amato Inn	450m
	Access to cash	
7	Epsom Hospital cash point	200m
	Access to an outdoor open space	
8	Public benches, open space and pond (opposite rear entrance to hospital on Woodcote Green Road)	90m
9	Public benches, open space (opposite Digdens Rise)	170m
10	Epsom Sports Club	500m
	Access to a recreation or leisure facility for fitness or sports	
11	Epsom Sports Club (various clubs/courts/playing fields)	500m
	Publicly available postal facility	
12	Post box (Woodcote Hurst)	140m
13	Post box (adjacent Woodcote Green Road/Woodcote Road/Chalk Lane)	350m
	Community facility	
14	Epsom Hospital library	200m
15	Epsom Sports Club (various clubs/courts/playing fields)	500m
	Over the counter services associated with a pharmacy	
16	Epsom General Hospital Pharmacy	350m
	Public sector GP surgery or general medical centre	
17	Epsom General Hospital	Same site

Table 2.3: List of Amenities within 500m of the Site

Calculation of the Public Transport Accessibility Index (AI)

2.32 **Table 2.4** below lists the distances between the main entrance to the proposed building(s) and each compliant public transport node – a compliant public transport node being a bus service within 650m and a railway station within 1km. Given that the proposed development is made up of more than one building and therefore there are more than one entrance, distances were measured from the centre of the site.

No.	Public Transport Node	Distance from Site
Bus stop within Epsom Hospital		
1	Epsom Hospital	280m
Bus stops on Woodcote Road		
2	Epsom Hospital Southside (Stops S & T)	120m
3	Hylands Road (southern & northern sides)	190m
4	Woodcote Park Road	500m
5	Avenue Road (eastern & western sides)	600m
Bus stops on A24 Dorking Road		
6	Epsom Hospital (Stops Q & P)	400m
7	Epsom Hospital (Stop R)	550m
8	Elmslie Close (western & eastern sides)	500m
9	Westlands Court	650m
Rail		
	n/a – Epsom railway station over 1km from the site	

Table 2.4: Distances to Compliant Transport Nodes

2.33 It should be noted that Epsom railway station is only just beyond the 1km limit for inclusion as a compliant transport note.

2.34 Using the above information and the frequency of the services serving each stop, the Public Transport Accessibility Index (AI) has been calculated for the site using the Transport for London (TfL) Public Transport Accessibility Level (PTAL) methodology. This results in an AI of 5.16 for the site. The AI calculations are attached to this report at **Appendix B**.

Summary

2.35 This section demonstrates that the proposed site is in an accessible location and can be accessed by modes of transport other than the private car, including regular bus services from Woodcote Green Road, and that there are a wide range of local facilities within close proximity of the site. The site therefore accords with local and national guidance which seeks to encourage a reduction in the length and number of private car trips and is considered to be sustainable.

3 Development Proposals

3.1 The proposals comprise redevelopment of a part of the existing Epsom Hospital, including the demolition of some 'unfit for purpose' hospital buildings on the site to provide a 'Later Living' development comprising the following:

- C2 apartments with some care options;
- C2 apartments with additional care options;
- Care suites for residents unable to live independently – this may include some short-term transitory care between hospital and home;
- Up to 35 staff on site (7 overnight);
- Key worker/nurses' accommodation to replace existing units within Epsom General Hospital's Woodcote Lodge;
- Childcare nursery – with spaces for up to 40 children;
- Public amenities, including retail, restaurant and café;
- An Automated Parking System (APS) car park for residents, staff and visitors;
- Additional parking spaces for visitors at surface level;
- Secure and sheltered cycle parking;
- A private, development 'Car Club' with vehicles (located within the APS car park, and space provided for a public 'Car Club' vehicle at surface level; and
- Shuttle buses for resident day trips etc.

3.2 The proposed site layout is illustrated in the architect's drawing attached as **Appendix C** of this Transport Assessment.

Schedule of Accommodation

3.3 A summary of the Schedule of Accommodation for the proposed development is provided in **Table 3.1** below.

Dwelling Type	No. of Units / Area
Guild Living Residence – 1 bed	*68*
Guild Living Residence – 2 bed (small)	*158*
Guild Living Residence – 2 bed (medium)	*32*
Guild Living Residence – 2 bed (large)	*28*
Guild Living Residence – 3 bed	*20*
Total Guild Living Residences	**306**
Guild Care Residence	10
Guild Care Suite	28
Key Worker Residence (Hospital staff)	24
Childcare (Nursery)	219 sqm (35-40 children)
Amenities (including retail, restaurant and café)	816 sqm

Table 3.1: Schedule of Accommodation

3.4 The definitions of the three types of accommodation referenced above are as follows:

- Guild Living Residences (GLR) – 1, 2, 3-bedroom main C2 with care options;
- Guild Care Residences (GCR) – larger GCS option / smaller GLR option; and
- Guild Care Suites (GCS) – members requiring greater range of care/services.

Access Arrangements

3.5 Access and egress to the site is provided via separate entrance and exit points on Woodcote Green Road, with the entrance located near the southwestern corner of the site and the exit located just to the west of the existing hospital access that is being stopped up. The hospital access that is being retained is located further to the east of the proposed exit.

3.6 Within the site the separate entrance and exit points create a one-way internal route under Building West where a drop-off area will be provided at the main site entrance to allow residents and visitors to drop off/collect their cars. Departing vehicles will continue along the internal route to the exit, whilst those that have arrived will use (driven by a concierge) a one-way route adjacent to Woodcote Green Road along the front of the site to re-join the internal route just within the entrance of the site. To access the APS to the north of the site, a two-way route is provided as a continuation of the entrance route before it turns under Building West. Following collection from the APS, vehicles re-join the main access route to exit the site at the same location. An additional turning head/roundabout will be provided adjacent to the APS entrance for delivery and emergency vehicles to manoeuvre.

3.7 These access arrangements are illustrated in **Figure 3.1**.

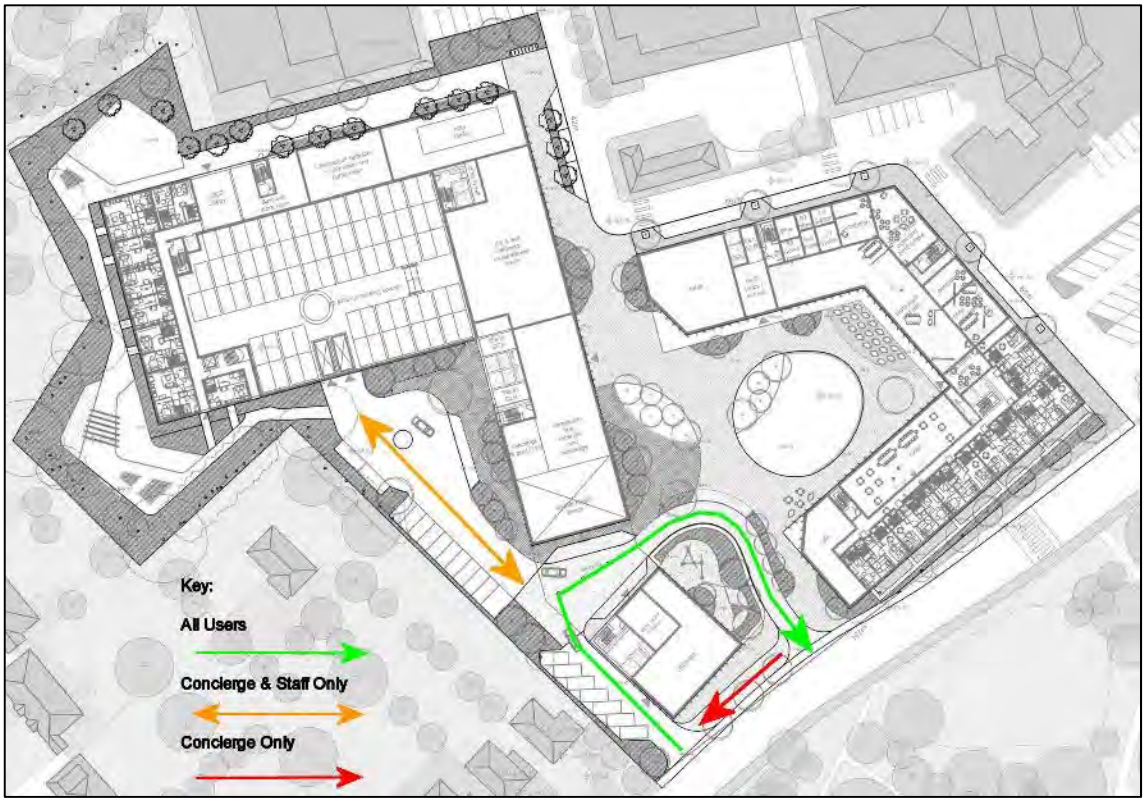


Figure 3.1: Access Arrangements and Internal Movements

3.8 Drop off/collection for the nursery provided as part of the scheme will be accessed via the main access where parking bays are provided with vehicles departing via the separate egress.

3.9 The site entrance road is 3.7m wide with 4m radii provided on both sides of the bellmouth where it joins the main carriageway, whilst the egress is 4m wide with 4m radii provided. 2.4m x 43m visibility splays, commensurate with the requirements set out in the Department for Transports (DfT) Manual for Streets (MfS) for a 30mph road, are provided at the site egress.

3.10 The entrance/exit manoeuvres from Woodcote Green Road have been assessed via swept path analysis for a number of vehicles with the drawings attached to this report at **Appendix D**.

3.11 The site has been designed in a pedestrian friendly manner with vehicle-free access throughout the site and linking to the existing footway and cycle-lane on Woodcote Green Road. It is recognised that some residents at the site will be unable to walk great distances, and therefore buggy/electric scooter storage and charging areas will be provided within the site. These will enable residents who are not able to walk easily to still travel around the local area on footways.

Parking Provision

3.12 As part of the development proposals a two-storey, 150 APS would be provided onsite for use by residents, staff and visitors. The APS would be accessed via the site access on Woodcote Green Road with a turning head/drop off area provided in the vicinity of the main reception to allow residents and visitors to drop off/collect their cars with a concierge service to drive the vehicle to and from the APS.

3.13 Further parking for visitors is provided at grade for up to 20 vehicles along the western boundary of the site and accessed via the site access on Woodcote Green Road. Drop off/collection for the nursery will also be provided in the same location.

3.14 The required manoeuvres for accessing the APS, at grade parking and nursey has been assessed via swept path analysis for a large car with the drawings attached to this report at **Appendix D**.

Automated Parking System

3.15 The APS will consist of car lifts, with an Automated Guided Vehicle System which uses traffic management software and lasers for self-guidance to manage the automated storage and retrieval of vehicles on trays.

3.16 The APS is to be managed and used by the operator. Residents and visitors will not be independently using the APS but will instead leave their vehicles at a drop-off area located adjacent to the entrance lobby of the building.

3.17 A basic guide to the operation procedure is provided below:

- The car is driven onto a pallet in the APS entrance lobby area and automatic signs/signals guide the driver to position the vehicle correctly.
- The robotic system measures the car's size to determine a suitable parking space available for the car.
- After turning off the engine, the driver and passengers (if any) lock the car, exit the lobby area and collect a ticket at the ticket machine nearby.
- Once sensors determine that everyone is clear of the lobby area, the outside lobby doors are automatically closed and inside doors leading into the APS opened.
- Mechanical systems transport the car on the pallet from the lobby to the parking area and place it in a parking space automatically. An empty pallet is returned to the entrance.
- The parked car remains in its parking space until the driver requests its return.

- To retrieve the car the driver enters their ticket into the ticket machine and is directed to the exit lobby area, where the car will be delivered.
- After the car is placed in the exit lobby, inside doors close and outside lobby doors open, allowing the driver and passengers to enter the car and drive away.

3.18 In relation to the proposed development, it is envisaged that drivers would drive to one of the drop off areas adjacent to the main reception and pass their keys to the concierge who in turn would utilise the APS and retain the ticket. The concierge would also collect the vehicle when requested by the driver, delivering it to the drop off area to enable the driver and any passengers to alight.

3.19 The benefits of utilising an APS includes:

- Significant energy efficiency improvements compared to conventional car parks.
- Improved BREEAM, LEED and Green Star Credit scoring.
- Reduction in the amount of space required for a specific number of spaces.
- Reduced running cost.
- Significant reductions in CO2, ECO2, NOx and PM10 emissions.

3.20 APS systems have specific spaces with charging points built in so that electric cars can be charged whilst they are parked.

Servicing Arrangements

3.21 Dedicated bays for servicing and refuse collection are provided and accessed via the hospital access that will remain post-development. This will allow the potential for existing refuse collection routes to be used and will restrict access into the proposed development by larger vehicles. Further detail regarding waste collections is provided within the separate Waste Collection and Management Strategy.

3.22 The required manoeuvres for accessing the bays for servicing and refuse collection has been assessed via swept path analysis for appropriate servicing and refuse collection vehicles with the drawings attached to this report at **Appendix D**.

Cycle Parking

3.23 There are 50 secure, covered cycle spaces provided for residents, staff and visitors located throughout the site.

4 Planning Policy Background

4.1 This section examines transport policies and seeks to demonstrate that the proposed development accords with the relevant objectives. Consideration is given to national and local guidance.

National Guidance

National Planning Policy Framework

4.2 The NPPF was published on 27th March 2012 and replaced all Planning Policy Guidance and Statements. The NPPF sets out the Government's planning policies for England and how they are expected to be applied, providing a framework within which councils can produce their own planning guidance.

4.3 The underlying focus of the NPPF is achieving sustainable development and states that the purpose of the planning system is to contribute to this.

4.4 The NPPF sets out 12 core planning principles to underpin plan-making and decision-taking. The principle relating to transport states:

"actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable" (paragraph 17).

4.5 Section 4 of the NPPF relates to 'Promoting sustainable transport' and states that *"the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel"* (paragraph 29).

4.6 The NPPF states that *"all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment"* (paragraph 32). Plans and decisions should take account of whether:

- *"the opportunities for sustainable transport modes have been taken up..."*
- *"safe and suitable access to the site can be achieved for all people"*
- *"improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe"* (paragraph 32).

4.7 The NPPF states that plans and decisions should *"ensure developments that generate significant movement are located where the need to travel will be minimised and the use*

of sustainable transport modes can be maximised" (paragraph 34). The proposed development is well located to benefit from being close to Epsom town centre with good public transport facilities and adjacent residential areas.

4.8 The use of sustainable transport modes is high on the agenda and the NPPF states that developments should be located and designed where practical to:

- *"give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;*
- *"create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;*
- *"consider the needs of people with disabilities by all modes of transport"* (paragraph 35).

4.9 The proposed development includes provision for pedestrians and cyclists and the movement of people with disabilities has also been allowed for in the design of the development.

4.10 The NPPF states that *"Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities*" (paragraph 37). The proposed development comprises a mix of land uses for residents and visitors – residential dwellings, leisure facilities, restaurant, retail etc. In addition, the site's proximity to nearby residential areas and location close to Epsom town centre is considered beneficial and in accordance with the NPPF.

4.11 A Travel Plan is regarded as a key tool to facilitate sustainable travel and *"all developments which generate significant amounts of movement should be required to provide a Travel Plan"* (paragraph 36). Details of the Travel Plan that will be submitted as part of the planning application are set out in Section 9 of this Transport Assessment.

4.12 With regards to parking standards for residential and non-residential development, the NPPF states that local planning authorities should take into account:

- *"the accessibility of the development;"*
- *"the type, mix and use of development;"*
- *"the availability of and opportunities for public transport;"*
- *"local car ownership levels; and"*
- *"an overall need to reduce the use of high-emission vehicles"* (paragraph 39).

4.13 Details of the proposed parking provision at the new development in relation to the relevant parking standards are set out in Section 7 of this Transport Assessment.

National Planning Practice Guidance

4.14 On 6th March 2014 the Government launched the National Planning Practice Guidance (NPPG), a streamlined version of its planning practice guidance with links to the NPPF. Through its launch, the NPPG cancelled a number of existing guidance documents.

4.15 With regards to Travel Plans and Transport Assessments in decision-taking, the NPPG states that these are *"ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements"* (paragraph 003). This links to paragraphs 32 and 36 of the NPPF, detailed above.

New NPPG Guidance

4.16 The National Planning Practice Guidance published new guidance on the 26th June 2019 relating to "Housing for older and disabled people." It addresses the following:

- The need to plan for the housing requirements of older people (an increasing older population) and disabled people, and the needs to be addressed;
- The benefits of accessible and adaptable housing, types of housing;
- The need to allocate sites for specialist housing;
- Assessing the viability of proposals for specialist housing; and
- Inclusive design.

4.17 In terms of allocating sites for specialist housing, the guidance states that it is up to the plan-making body but that it can *"encourage the provision of sites in suitable locations"* which may be appropriate where there is a need. In this regard, paragraph 013 states: *"The location of housing is a key consideration for older people who may be considering whether to move (including moving to more suitable forms of accommodation). Factors to consider include the proximity of sites to good public transport, local amenities, health services and town centres."* Paragraph 016 also refers to the location of developments (along with viability) as an important factor in the assessment of planning applications.

4.18 Inclusive design (from the outset of a project) is considered particularly important *"when considering historic buildings and conservation, and highways"* (paragraph 017) and paragraph 018 is probably most relevant:

"How can places be designed to be age-friendly and accessible for all?

The inclusive and age-friendly design of public spaces such as town centres, and of individual buildings, including housing, has clear benefits. Inclusive design can help older and disabled people live more independently and reduce health and social care costs.

Inclusive design should not only be specific to the building, but also include the setting of the building in the wider built environment, for example, the location of the building on the plot; the gradient of the plot; the relationship of adjoining buildings; and the transport infrastructure. As set out in the revised National Planning Policy Framework, developments should address the needs of people with disabilities and reduced mobility in relation to all modes of transport.

Issues to consider include:

- *ease and comfort of movement on foot and with mobility aids between homes, services and town centres;*
- *proximity and links to public transport and local amenities;*
- *parking spaces and setting down points in proximity to entrances;*
- *the positioning and visual contrast of street furniture and the design of approach routes to meet the needs of people with different needs, including wheelchair users, people who need to rest while they walk and people with visual impairments;*
- *whether entrances to buildings are clearly identified, can be reached by a level or gently sloping approach and are well lit;*
- *the accessibility of public spaces including step free spaces and seating; and*
- *the availability of public toilets.*

Design principles such as those set out in the HAPPI report are applicable to housing for older people and age-friendly places including:

- *Integration with the surrounding context*
- *Social spaces that link with the community*
- *Space standards that facilitate flexibility*
- *Enhanced natural light*
- *Priority for pedestrians in outdoor spaces."*

4.19 Finally, paragraph 019 lists the characteristics of a dementia-friendly community including *"easy to navigate physical environment"* and *"appropriate transport."*

Local Guidance

Epsom and Ewell Local Plan

4.20 The Epsom and Ewell Local Plan provides the local policy framework for the borough against which planning applications will be assessed. The Plan consists of:

- The Core Strategy 2007;
- Plan E – An Area Action Plan for Epsom Town Centre (2011);
- Plan E Proposals Map; and
- Development Management Policies Document (2015).

The Core Strategy 2007

4.21 The Core Strategy was adopted in July 2007. It identifies key issues and the social, economic and environmental objectives for the future development of the Borough up to 2022 and a strategy to achieve them.

4.22 The Core strategy seeks to guide change in a way which reinforces those distinctive characteristics which make living and working in Epsom and Ewell something people do as a matter of conscious choice. The aims of the Plan are:

- Conserving Resources;
- Creating a quality environment and special places;
- Addressing community needs – now and in the future; and
- Encouraging a prosperous economy.

4.23 The vision of the Plan is "*that development should be achieved in accordance with the principles of sustainability and the four aims above*". The vision will be delivered through pursuing objectives. These include:

- *Focusing development on previously developed land within the built-up area or in the hospital cluster… and ensuring it is located where access to services can be secured and where it can make the most efficient use of the site;*
- Minimising the need to travel and encouraging opportunities for trips to be made by alternative modes of travel to the motor car; and
- *Encouraging highway safety and environmental improvement measures which reduce the detrimental impacts of high traffic volumes*.

4.24 A key objective of the proposed development is to minimise the need for residents, staff and visitors to travel by car.

4.25 Policy CS1 is the overarching principle that will apply to new development. It states: "The Council will expect the development and use of land to contribute positively to the

social, economic and environmental improvements necessary to achieve sustainable development - both in Epsom and Ewell, and more widely…"

4.26 Policy CS16 refers to transport and states: "*Encouragement will be given to development proposals and management policies which foster an improved and integrated transport network and facilitate a shift of emphasis to non-car modes as a means of access to services and facilities…*

Development proposals will be required to be consistent with, and contribute to, the implementation of the Surrey Local Transport Plan and should:

- *minimise the need for travel, through measures such as travel plans or the provision or enhancement of local services and facilities;*
- *provide safe, convenient and attractive accesses for all, including the elderly and disabled, and others with restricted mobility, and provide links to the existing network of footways, bridleways and cycleways, so as to maximise opportunities for their use;*
- *be appropriate for the highways network in terms of the volume and nature of traffic generated, and ensure that the safety, convenience and free flow of traffic using the highway are not adversely affected;*
- *avoid highway improvements which harm the environment and character of the area;*
- *provide appropriate and effective parking provision, both on and off-site, and vehicular servicing arrangements; and*
- *ensure that vehicular traffic generated does not create new, or exacerbate existing, on street parking problems, nor materially increase other traffic problems, taking account of any contributions that have been secured to the provision of off-site works.*

All major developments should be well located for convenient access by non-car modes, including walking, cycling and high-quality public transport."

4.27 As previously stated, the development proposals are intended to limit car use whilst at the same time providing sufficient parking for operational purposes. A Travel Plan is being submitted for the development as part of the planning application.

Development Management Policies Document 2015

4.28 The purpose of the Development Management Policies Document is to support the strategic objectives and deliver the vision of the Core Strategy.

4.29 Policy DM35 refers to transport and new development and states: "…*All planning applications for major developments should be accompanied by a Transport*

Assessment. Smaller developments should be accompanied by a Transport Statement where appropriate."

4.30 Policy DM36 – Sustainable Transport for New Development states: "*In order to secure sustainable transport patterns and usage across the Borough we will:*

a) Require new development… to develop and implement a proportionate, robust and effective Travel Plan in accordance with Surrey County Council's adopted Travel Plan Good Practice Guide;

b) Prioritise the access needs of pedestrians and cyclists in the design of new developments, protect and enhance pedestrian and cycle access routes to, and where possible, through development sites, including the protection or enhancement of the strategic cycling and walking networks; and

c) require new development to provide on-site facilities for cyclists as appropriate, including showers, lockers and secure, convenient cycle parking, in accordance with standards."

4.31 Policy DM37 refers to parking standards and mentions that new development will have to demonstrate that the scheme provides an appropriate level of off-street parking and that the development meets the car parking standards and cycle parking standards.

4.32 The final part of the policy then states: "*We will consider exceptions to this approach if an applicant can robustly demonstrate that the level of on-site parking associated with their proposal would have no harmful impact on the surrounding area in terms of street scene or the availability of on-street parking*."

4.33 A Travel Plan for the development is being submitted alongside this Transport Assessment, whilst details regarding car and cycle parking are discussed further in Section 7 of this report.

Surrey Local Transport Plan 3

4.34 The Surrey Local Transport Plan 2011 – 2026 (LTP3) has the following Vision: "*To help people to meet their transport and travel needs effectively, reliably, safely and sustainably within Surrey; in order to promote economic vibrancy, protect and enhance the environment and improve the quality of life*."

4.35 The objectives of the LTP3 are:

- *'Effective Transport: To facilitate end to end journeys for residents, businesses and visitors, by maintaining the road network, delivering public transport services and where appropriate providing enhancements*

- *Reliable Transport: To improve the journey time reliability of travel in Surrey.*
- *Safe Travel: To improve the road safety and security of the travelling public in Surrey.*
- *Sustainable Transport: To provide an integrated transport system that protects the environment, keeps people healthy and provides lower carbon transport choices.'*

4.36 The Surrey Transport Development Planning Good Practice Guide provides the following strategies to accompany and support the above objectives:

- *'Air Quality: By considering air quality management areas (AQMAs) and generally managing air quality across the county.*
- *Climate Change: Similar to air quality above, by seeking to limit road transport emissions.*
- *Congestion: By managing delays and journey time reliability.*
- *Freight: By managing the routes that HGVs use.*
- *Parking: By ensuring appropriate levels of off street parking in development and managing negative effects of displacement on street.*
- *Public Transport: To improve buses and related facilities / information and help journey time reliability.*
- *Cycling: To promote cycling and cyclist safety.*
- *Travel Plans (TPs): To promote TPs for appropriate developments and assist in their effective management and consequent delivery of TP goals.'*

4.37 Off-street parking will be provided at the development and are discussed further in Section 7 of this report. The proposed development is supported by a Travel Plan that encourages alternatives to car use.

SCC Vehicular and Cycle Parking Guidance

4.38 The following are taken from the SCC Parking Standards (January 2018) for C2 developments:

- Car parking – Maximum of 1 space per 2 residents or individual assessment/justification.
- Disabled parking – No fixed standard.
- Cycle parking – Minimum number based on 'individual assessment'.
- EV charging – 20% of available spaces fitted with a fast charge socket and a further 20% of available spaces to be provided with power supply to provide additional fast charge socket.

4.39 Parking is assessed further in Section 7 of this report.

5 Traffic Flows & Trip Generation

5.1 When considering a new residential development (including C2), it is generally accepted that the following times are the critical periods in terms of traffic impact on the adjacent highway network:

- The weekday morning peak hour; and
- The weekday evening peak hour, when traffic flows associated with the site combined with the traffic flows on the adjacent highway network are at their greatest.

5.2 It follows that should the effect of the proposed development on the local highway network be considered acceptable during the above periods then it would also be acceptable during other, less busy, periods of the week.

5.3 This section sets out an assessment of the existing traffic flows on the adjacent highway network and consideration of any growth applicable to these flows at the time of occupation/opening of the proposed development. It then sets out an assessment of the trip generation of the proposed development and the distribution of the vehicular trips onto the local highway network.

Existing Traffic Flows

5.4 Traffic surveys were undertaken at both the Woodcote Green Road entrances to Epsom General Hospital between Tuesday 21st and Thursday 23rd May 2019 (during school term time). Additionally, registration plate beat surveys were undertaken of the existing hospital park in the development site for the Guild Living community, enabling an assessment of traffic that will be removed from Woodcote Green Road (and diverted to the Dorking Road hospital entrances) to be undertaken.

5.5 Additionally, in response to the request from SCC during the scoping of this assessment, traffic surveys were carried out at the following junctions on Tuesday 12th and Wednesday 13th November 2019 between the hours of 07:00 to 19:00. The survey was undertaken during school term time to ensure representative flows.

- A24 Dorking Road / Woodcote Side;
- A24 Dorking Road / Woodcote Road signalised junction; and
- A24 South Street / A24 Ashley Avenue signalised junction.

5.6 The results of all the traffic surveys are contained at **Appendix E** to this Transport Assessment. The results of the traffic surveys indicate the following peak hours, agreed by SCC for assessment:

- Weekday (Tuesday) AM peak hour – 07:15 to 08:15; and
- Weekday (Tuesday) PM peak hour – 17:00 to 18:00.

5.7 The peak hour observed traffic flows are illustrated in (Traffic Flow Diagram) TFD01 at the back of this report.

Network Traffic Growth

5.8 As agreed with SCC, the following baseline and future assessment years have been considered:

- 2019 – observed baseline traffic flows; and
- 2025 – being just over five years from the late-2019 planning submission.

5.9 Growth factors have therefore been applied to the 2019 surveyed traffic flows in order to obtain base flows for the above future year of assessment. The growth factor has been applied to all surveyed traffic flows, therefore representing a robust assessment. The growth factors were sourced through the National Transport Model (NTM) data within the TEMPRO software package using TEMPRO 7.2b datasets for the geographical area of Epsom and Ewell 008, Area type: Urban, Road type: All. The growth factors used are set out in **Table 5.1**.

Peak	2019 – 2025
Weekday AM peak	1.0775
Weekday PM peak	1.0783

Table 5.1: NTM/TEMPRO Growth Factors

5.10 The observed traffic flows in TFD01 have been uplifted using the above growth factors. The resulting base traffic flows for the 2025 weekday AM and PM peak hours are set out in TFD02 at the back of this report.

Traffic Generation

5.11 The following section sets out the predicted trip rates and trips for the proposed development. The trip rates have been agreed with SCC.

Residential Care Community

5.12 The industry standard TRICS database has been interrogated to obtain trip rates for the proposed residential care units. Vehicular trip rates have been obtained based on sites with the following criteria.

For the 306 Guild Living Residences:

- 03/N Retirement Flats;

- Sites in England (excluding Greater London);
- Suburban and Edge of Town sites only; and
- Sites with no Travel Plan.

For the 38 Guild Care Residences:

- 03/P Assisted Living;
- Sites in England (excluding Greater London);
- Edge of Town Centre sites only (the only sites available); and
- Sites with no Travel Plan.

5.13 The exact sites used for assessment were chosen by SCC and a copy of the TRICS output is provided in **Appendix F** and the trip calculations at **Appendix G**. The weekday AM and PM and Saturday peak hour vehicular trip rates and trips for the proposed residential care units are set out in **Tables 5.3 and 5.4**.

Peak Hour	Retirement Flats Trip Rate (Per Dwelling: 306)					
	Arrivals		Departures		Total	
	Trip Rate	Trips	Trip Rate	Trips	Trip Rate	Trips
Weekday AM (07:00-08:00)	0.031	9	0.026	8	0.057	17
Weekday PM (17:00-18:00)	0.053	16	0.048	15	0.101	31
Daily	0.943	289	0.936	286	1.879	575

Table 5.3: Trip Rates – Retirement Flats

Peak Hour	Assisted Living Trip Rate (Per Dwelling: 38)					
	Arrivals		Departures		Total	
	Trip Rate	Trips	Trip Rate	Trips	Trip Rate	Trips
Weekday AM (07:00-08:00)	0.047	2	0.070	3	0.117	4
Weekday PM (17:00-18:00)	0.093	4	0.140	5	0.233	9
Daily	1.329	51	1.329	51	2.658	101

Table 5.4: Trip Rates – Assisted Living

5.14 It should be noted that the SCC methodology has assumed that trip rates would be applied to all units of all types within the development. However, as only 40% of the Guild Living Residences will be marketed/sold as having parking spaces and occupiers of the Guild Care Residences unlikely to be able to live independently and use a car, and therefore the predicted trips using the SCC methodology can be considered a robust estimation of trips.

5.15 In addition, there are 24 'Key worker' apartments, but these will be a direct replacement for the nurses' accommodation currently provided on the site within Woodcote Lodge. Therefore, any trips that result from these units will already be counted as part of the traffic surveys so no further assessment of these will be made.

Nursery

5.16 The TRICS database has also been interrogated to obtain trip rates for the proposed nursey. Vehicular trip rates have been obtained based on sites with the following criteria.

- 04/D Nursery;
- Sites in England (excluding Greater London);
- Suburban and Edge of Town sites only; and
- Sites with no Travel Plan.

5.17 The sites used for assessment were approved by SCC and a copy of the TRICS output is provided in **Appendix F** and the trip calculations at **Appendix G**. The weekday AM and PM and Saturday peak hour vehicular trip rates and trips for the proposed nursery are set out in **Table 5. 5**.

Peak Hour	Nursery Trip Rate (Per Pupil: 10)					
	Arrivals		Departures		Total	
	Trip Rate	Trips	Trip Rate	Trips	Trip Rate	Trips
Weekday AM (07:00-08:00)	0.134	1	0.063	1	0.197	2
Weekday PM (17:00-18:00)	0.137	1	0.177	2	0.314	3
Daily	0.987	10	0.983	10	1.970	20

Table 5.5: Trip Rates – Nursery

5.18 As previously stated, it is proposed that the nursery would accommodate between 35 and 40 children and that 80% of the spaces would be allocated to NHS staff. Therefore, the trip assessment is based on only 10 of the children resulting in new trips (75% of 40).

5.19 The resulting Residential Care Community and Nursery traffic flows for the 2025 weekday AM and PM peak hours are set out in TFD05 at the back of this report.

Other uses

5.20 There are other uses proposed on the site, such as retail, a restaurant and a café. These are intended to be ancillary to the care community and chosen to meet the demands of staff and visitors at the adjacent hospital. Although they will be open to the public, they are not expected to be direct vehicular trip attractors, not least as they will not be visible from Woodcote Green Road and therefore will not attract any pass-by trips.

5.21 It was agreed with SCC that the likely impact of these uses, and the likelihood of them being visited by the general public with no other reason to be visiting the site, would be assessed through undertaking surveys at the existing Costa Coffee, M&S Food and WHSmith units within Epsom General Hospital.

5.22 Questionnaire surveys took place on-site between the hours of 11:00 and 15:00 on Tuesday 12th and Wednesday 13th November 2019 with visitors entering the Costa Coffee, M&S Food and WHSmith units asked for their reason for being there with a selection of responses provided. The results of these surveys are summarised in **Table 5.6** and **Figure 5.1** below with the full data attached to this report at **Appendix H**.

Response	Number	%
I am a patient at the hospital	29	6.3%
I am visiting the hospital on other business	40	8.6%
I came to the hospital specifically to visit Costa / M&S / WHSmith	5	1.1%
I have / had an out-patient appointment at the hospital	50	10.8%
I will be / was visiting a patient at the hospital	72	15.5%
I work at the hospital	268	57.8%
TOTAL	**464**	**100%**

Table 5.6: Hospital Retail Visitor Survey Results

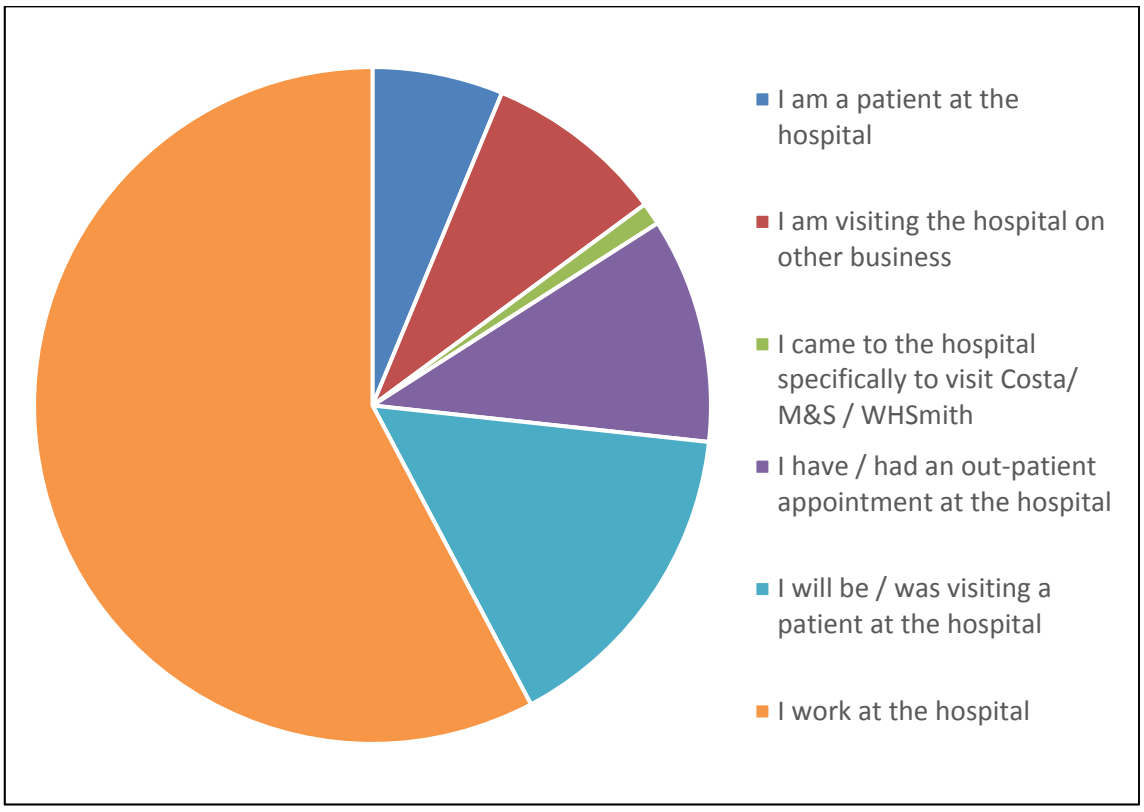


Figure 5.1: Hospital Retail Visitor Survey Results

5.23 The results of the surveys demonstrate that a minimal number of visitors to the retail units at the hospital over the two days made a dedicated trip to do so (i.e. they had no other reason for being at the hospital). Therefore, it is not considered to be necessary to undertake any further assessment of the potential for dedicated vehicle trips to the retail, restaurant and café elements of the proposed development.

Epsom Hospital Trips to be Re-assigned

5.24 As a result of the proposed development, staff from Epsom Hospital who currently use the Woodcote Green Road entrances to access parking located within the development redline will instead have to access the hospital via Dorking Road. Therefore, there are a number of existing trips included in the observed survey numbers that need to be removed from Woodcote Green Road for the future scenarios and re-assigned to Dorking Road.

5.25 As previously discussed, as part of the traffic surveys undertaken at Epsom General Hospital between Tuesday 21st and Thursday 23rd May 2019, registration plate beat surveys were undertaken of the existing hospital parking located within the proposed development redline. Analysis of the survey data has resulted in the Tuesday peak hour arrivals and departures being removed and re-assigned in **Table 5.7** below with the full data attached to this report at **Appendix I**.

Peak	Arrivals	Departures	Total
Weekday AM (07:00-08:00)	105	15	120
Weekday PM (17:00-18:00)	2	101	103
Daily	152	148	300

Table 5.7: Hospital Trips to be Removed and Re-assigned

5.26 The resulting hospital traffic flows to be removed and re-assigned for the 2025 weekday AM and PM peak hours are set out in TFD03 at the back of this report.

Net Change in Trips

5.27 The predicted development trips shown in **Table 5.3**, **5.4** and **5.5** have been combined and compared to the existing hospital trips that will be removed in **Table 5.7**. The results are illustrated in **Table 5.8** below.

Peak	Development Trips	Exisiting Trips	Change
Weekday AM (07:00-08:00)	23	120	-97
Weekday PM (17:00-18:00)	43	103	-60
Daily	696	300	+396

Table 5.8: Net Change in Trips

5.28 **Table 5.8** shows that the proposed development is predicted to result in a decrease in trips during the AM and PM peaks, whilst overall daily trips will increase. This is to be expected as the existing hospital trips to be removed will be mostly staff trips at the beginning and end of the working day, whilst the trips associated with the proposed care residences will be more evenly distributed during the day.

Traffic Distribution

Proposed Development Trips

5.29 It is proposed to distribute the predicted proposed development traffic in accordance with the observed traffic flows taken from the junction turning count surveys. The distribution percentages at each junction for the 2025 weekday AM and PM peak hours are set out in TFD04 at the back of this report.

Hospital Trips to be Removed and Re-assigned

5.30 It is proposed to remove and re-assign the trips associated with hospital staff currently accessing the parking within the development redline from Woodcote Green Road in accordance with the observed turning proportions turning in to and out of the site from the junction turning count surveys, as set out in TFD03 at the back of this report.

Construction Traffic Management

5.31 A separate Construction Traffic Management Plan is submitted as part of the planning application for the proposed development which includes details of the number, routing and management of construction vehicles.

Multi-modal Trip Generation

5.32 Multi-modal trip generation for the proposed development has been predicted based on data from the National Travel Survey (NTS), *Table NTS0601a, Average number of trips (trip rates) by age, gender and main mode: England*. The 2018 data for the number of trips per person per year by the age group 70+ has been reproduced in **Table 5.9** below, along with the calculated trips per person per day and the number of development trips based on an occupancy level of 1.5 people per Guild Living Residence (306). The full data for 2018 from the NTS is attached to this report at **Appendix J**.

NTS Trips Per Person 70+			
Mode	**Per Person Per Year**	**Per Person Per Day**	**Development Per Day**
Walk	212	0.6	267
Walks of over a mile	*47*	0.1	*60*
Bicycle	8	0.0	11
Other local bus	53	0.1	67
Non-local bus	1	0.0	1
Surface Rail	6	0.0	8
Taxi / minicab	11	0.0	14
Other public transport	2	0.0	3

Table 5.9: Predicted Multi-modal Trips

6 Traffic Impact

6.1 This section sets out an assessment of the vehicular impact of the proposed redevelopment on the local highway network with reference to the results of junction capacity assessments.

6.2 In terms of the assessment of the change in traffic flows on the local highway network resulting from the proposed redevelopment, this section considers the following scenarios. The corresponding traffic flow diagrams (contained at the back of this report) for the assessed scenarios are also listed below:

- 2019 observed flows – TFD01;
- 2025 base flows – TFD02; and
- 2025 base flows plus development flows – TFD06.

6.3 SCC have confirmed that there are no committed developments locally that need to be included in the assessment.

Junction Capacity Assessments

6.4 In order to determine the impact of the proposed development on the local highway network and as agreed with SCC, capacity assessments have been carried out for the following junctions for the weekday AM and PM peak hours:

- The proposed site access on Woodcote Green Road;
- A24 Dorking Road / Woodcote Side;
- A24 Dorking Road / Woodcote Road signalised junction; and
- A24 South Street / A24 Ashley Avenue signalised junction.

6.5 The junctions have been assessed for the following scenarios:

- 2019 Observed – AM Peak;
- 2019 Observed – PM Peak;
- 2025 Base – AM Peak;
- 2025 Base – PM Peak;
- 2025 Base + Proposed Development – AM Peak; and
- 2025 Base + Proposed Development – PM Peak.

6.6 The results of the capacity assessments for each junction for the traffic flow scenarios listed above are set out below.

PICADY Assessments

6.7 PICADY Assessments have been carried out at the proposed site access on Woodcote Green Road and the A24 Dorking Road / Woodcote Side Junction and the results are detailed below in **Tables 6.1** and **6.2**. A copy of the PICADY output is provided in **Appendix K**.

The Proposed Site Access on Woodcote Green Road

6.8 The proposed access junction is at a different location to the existing arrangements and therefore only the 2025 forecast scenario has been tested. For purposes of analysis, all traffic has been assumed to be travelling in and out of one junction (rather than separate entry and exit locations as proposed).

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
2025 + Development				
Site access	0.027	0	0.051	0
Woodcote Green Road	0.015	0	0.019	0

Table 6.1: PICADY summary – Woodcote Green Road / Site Access

6.9 **Table 6.1** demonstrates that the access junction will work well within capacity following redevelopment of the site.

A24 Dorking Road / Woodcote Side

6.10 This junction is a priority junction with a ghosted right turn island. There is a signal-controlled pedestrian crossing on the eastern arm of Dorking Road, although the pedestrian surveys indicated very limited usage of this crossing and therefore it has not been included in the junction model.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
2019 Observed				
Woodcote Side (left turn)	0.774	3	0.438	1
Woodcote Side (right turn)	0.423	1	0.123	0
Dorking Road	0.503	1	0.596	2
2025 Baseline				
Woodcote Side (left turn)	1.066	17	0.496	1
Woodcote Side (right turn)	0.965	2	0.177	0
Dorking Road	0.565	1	0.661	2
2025 + Development				
Woodcote Side (left turn)	1.063	17	0.480	1
Woodcote Side (right turn)	0.869	2	0.191	0
Dorking Road	0.525	1	0.693	2

Table 6.2: PICADY Summary – A24 Dorking Road / Woodcote Side

6.11 **Table 6.2** indicates that the junction will operate well within capacity in all scenarios during the PM peak. However, in the 2025 base scenario, Woodcote Side will operate over capacity during the AM peak. A review of the results and the layout of the junction suggests that it may be the right-turning traffic blocking the left-turning vehicles and preventing these from entering the junction.

6.12 The proposed development results in a marginal improvement in junction capacity during the peak hours, reducing the ratios of flow to capacity slightly on all arms.

LINSIG Assessments

6.13 LINSIG Assessments have been carried out for the Exeter Road link A24 Dorking Road / Woodcote Road and A24 South Street / A24 Ashley Avenue signalised junctions and the results are detailed below in **Tables 6.3** and **6.4**. A copy of the LINSIG output is provided in **Appendix L**. Signal Officers at SCC provided the datasheets for the junctions which set out junction phasing, staging and intergreens. Saturation flows for each arm of both junctions were calculated from geometry.

A24 Dorking Road / Woodcote Road

6.14 Average cycle times for each peak hour were observed based on ten cycles starting in the middle of each peak hour, which showed average cycle times of 120 seconds during the morning peak and 124 seconds during the evening peak hour.

Arm	AM Peak		PM Peak	
	DoS (%)	Queue	DoS (%)	Queue
2019 Observed				
Dorking Road (northeast)	81.5	28	72.6	23
Woodcote Road	81.6	12	70.4	9
Dorking Road (southwest)	65.4	15	65.6	15
Practical Reserve Capacity	+10.3%		+24.0%	
2025 Baseline				
Dorking Road (northeast)	87.8	33	78.2	27
Woodcote Road	87.8	14	76.1	10
Dorking Road (southwest)	70.4	18	70.8	18
Practical Reserve Capacity	+2.5%		+15.1%	
2025 + Development				
Dorking Road (northeast)	88.0	33	74.3	24
Woodcote Road	86.4	14	71.3	7
Dorking Road (southwest)	71.3	19	72.7	18
Practical Reserve Capacity	+2.3%		+21.1%	

Table 6.3: LinSig Summary – A24 Dorking Road / Woodcote Road

6.15 **Table 6.3** indicates that the junction currently works within capacity, with modelled queuing on the northern arm being slightly higher than the surveyed traffic queues but suitably reflective of road conditions at this location.

6.16 A total of 12 vehicles will be added in the morning peak hour and 21 in the evening peak hour following development. This has only a marginal impact on the junction operation, with an increase of just one additional queuing vehicle during the morning peak hour and the junction continuing to operate within capacity. During the evening peak hour, junction operation improves, with reduced queuing due to the reassignment of some hospital traffic onto Dorking Road.

A24 South Street / A24 Ashley Avenue

6.17 Average cycle times for each peak hour were observed based on ten cycles starting in the middle of each peak hour, which showed average cycle times of two minutes during both morning and evening peaks.

6.18 The left-turn lane from Ashley Avenue includes give way markings. However, based on the signal staging and observations of the traffic survey videos, traffic does not stop to give way at this location. Therefore, the give way element has been excluded from the model.

In addition, the southern arm of the A24 includes two flare lanes, with the right turn flare lane feeding off a straight-ahead flare lane. This layout cannot be replicated within LinSig, so the right turn lane has been assumed to be a long lane rather than a short lane. The numbers of vehicles making this movement are very low (fewer than 30 per hour in the 2019 surveys) and therefore this will not unduly affect the modelling results.

Arm	AM Peak		PM Peak	
	DoS (%)	Queue	DoS (%)	Queue
2019 Observed				
Ashley Avenue	57.7	13	58.6	12
A24 south	56.7	8	59.1	8
A24 north	58.3	8	58.5	7
Practical Reserve Capacity	+54.3%		+52.4%	
2025 Baseline				
Ashley Avenue	62.2	15	62.9	13
A24 south	61.1	8	63.7	9
A24 north	62.9	8	63.2	8
Practical Reserve Capacity	+43.1%		+41.4%	
2025 + Development				
Ashley Avenue	63.3	15	63.1	14
A24 south	61.5	9	64.5	9
A24 north	61.0	8	63.7	8
Practical Reserve Capacity	+42.1%		+39.6%	

Table 6.4: LinSig Summary – A24 / Ashley Avenue

6.19 **Table 6.4** indicates that the junction currently works within capacity, with modelled queuing commensurate with the surveyed traffic queues.

6.20 The addition of 12 vehicles in the morning peak hour and 21 vehicles in the evening peak hour has only a marginal impact upon the operation of the junction, with queuing increasing by a maximum of one vehicle and PRCs reducing by just 1%.

Summary

6.21 The results of the junction capacity assessments show that three of the junctions assessed would operate within capacity following implementation of the development. The junction of the A24 with Woodcote Side will operate over capacity in the 2025 base scenario, but the addition of development traffic and reassignment of hospital traffic results in a marginal improvement in capacity. On the basis of the results of the capacity test assessments it is considered the local highway network would not be adversely affected following implementation of the proposed development.

7 Parking Assessment

7.1 This section sets out a review of the proposed parking provision in relation to the relevant parking standards. It then sets out an assessment of the parking provision in relation to the predicted parking demand.

Parking Policy & Assessment

7.2 The parking standards for all development within Epsom & Ewell, with the exception of C3 residential development, are set out in SCC's 'Vehicular and Cycle Parking Guidance' adopted in January 2018. The guidance states that; *"All parking levels…are recommended as a maximum unless otherwise stated."*

Car Parking

7.3 The SCC recommended maximum vehicular parking levels relating to the proposed development are set out in **Table 7.1** below.

Land Use	Max. Parking
Care Home / Nursing Home	1 space per 2 residents OR Individual assessment/justification
Day Nurseries / Creche	0.75 car spaces per member of staff plus 0.2 spaces per child

Table 7.1: SCC Parking Standards

7.4 Due to the number of future residents being unknown, it is considered appropriate for the proposed parking provision to be assessed by 'individual assessment/justification'. The SCC guidance states that with regards to 'individual assessment'; *"it should be demonstrated that demand for parking is either met on site or mitigated and managed as appropriate."*

7.5 As part of the development proposals, a two-storey APS would be provided onsite for use by residents, staff & visitors. The APS will have a total of 150 spaces with the following proposed allocation:

- 120 spaces for residents;
- 20 spaces for visitors; and
- 10 spaces for staff.

7.6 As previously stated, only 40% of the 306 Guild Living Residences will be marketed/sold as having parking spaces ensuring that the proposed level of provision for residents will be sufficient to accommodate the residential demand.

7.7 A predicted parking accumulation for the APS based on arrivals and departures by car has been produced using the approved predicted residential care community trip rates. For this assessment, it has been assumed that the APS would be full overnight, although in reality this is extremely unlikely as it assumes the following:

- That all 120 residences sold with a parking space do own a car and all spaces are in use;
- That there would be 20 cars associated with visitors staying overnight with residents; and
- There would be 10 cars associated with staff staying overnight (despite the fact that overnight staffing levels are not expected to exceed 7 and not all of them would drive).

7.8 The predicted accumulation is illustrated in **Figure 7.1**.

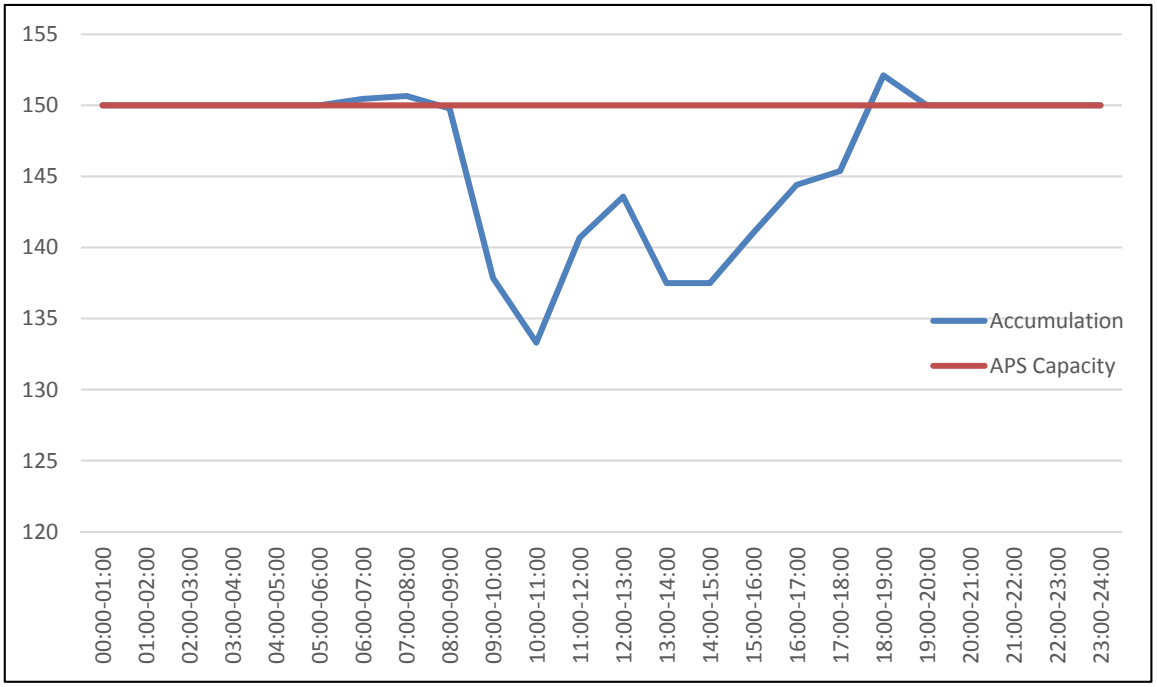


Figure 7.1: Predicted APS Parking Accumulation

7.9 **Figure 7.1** demonstrates that the predicted parking accumulation rarely exceeds the capacity of the APS despite the robust/unlikely scenario used for the assessment. If the overnight occupancy was no greater than 98% (147 vehicles) then the APS would not be predicted to go over capacity.

7.10 Notwithstanding this, if the APS were to reach capacity, there are an additional 20 parking spaces provided at surface level along the western boundary of the site for use by visitors and staff. A predicted parking accumulation for the surface level parking has

been produced using the approved predicted development trip rates and based on the following:

- Nursery arrivals and departures by car;
- Development arrivals and departures by Taxi;
- Development arrivals and departures by LGV (light goods vehicle); and
- The predicted APS overflow parking from **Figure 7.1**.

7.11 The predicted accumulation is illustrated in **Figure 7.2**.

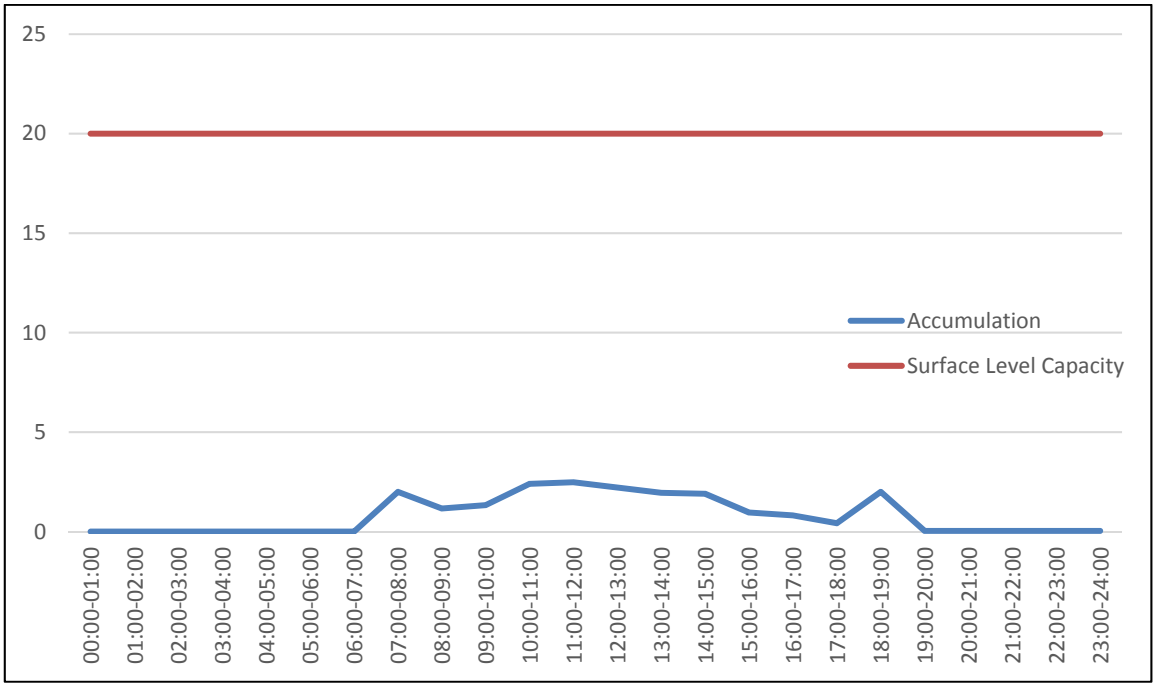


Figure 7.2: Predicted Surface Level Parking Accumulation

7.12 **Figure 7.2** demonstrates that the surface level parking provides more than enough capacity to accommodate the predicted demand.

7.13 The parking accumulation calculations are attached to this report at **Appendix G**.

7.14 It is acknowledged that the trip rates used for the accumulation are weekday and that a development of this nature can be expected to receive more visitors at the weekend. However, it is considered that the above robust assessment demonstrates that there will be sufficient spare capacity to accommodate the potential for higher visitor numbers at both the weekend and during holiday periods etc.

Disabled Parking

7.15 There is no fixed standard provided within the SCC guidance for the level of disabled parking required. Whilst it is likely that a development of this nature will accommodate

a number of residents with mobility impairments etc, the proposed APS/concierge operation would negate the requirement for disabled bays as the owner would leave their vehicle at the main site entrance under Building West to be driven into the APS by a member of staff.

7.16 It is proposed that one disabled space would be provided at surface level.

Car Clubs

7.17 The SCC guidance states that; "…Car clubs will be supported where appropriate…".

7.18 It is proposed that two private car club vehicles managed and operated by the developer for use by residents only will be provided within the APS. These can be booked for use by residents as and when they are needed and will enable them to do without owning a car of their own, and the associated costs.

7.19 In accordance with the advice received from SCC at the scoping meeting, one of the surface level parking spaces will be allocated as a public use car club car space.

Electric Vehicle (EV) Charging

7.20 The SCC guidance for EV charging is set out in **Table 7.2** below.

Residential Development	EV Charging Requirement	Charge Point Specification	Power Requirement
C2 Care / Nursing Home	20% of available spaces to be fitted with a fast charge socket	7kw Mode 3 with Type 2 Connector	230v AC 32 Amp Single Phase dedicated supply
	A further 20% of available spaces to be provided with power supply to provide additional fast charge socket	Feeder pillar or equivalent permitting future connection	

Table 7.2: SCC EV Charging Standards

7.21 An appropriate level of charging points, in accordance with the guidance set out in **Table 7.2**, will be provided within the APS.

Cycle Parking

7.22 The SCC guidance for Minimum Cycle Parking Levels states that Care homes/Nursing homes should be based on 'individual assessment'. It is proposed that, due to the level of mobility of some of the residents preventing them from being able to use cycles, sheltered and secure cycle parking/storage for 50 cycles will also be provided within the site.

On-street Parking Survey

7.23 At the request of SCC following the scoping meeting, parking surveys were undertaken on Tuesday 12th and Wednesday 13th November 2019 on the roads listed in **Table 7.3**. The existing restrictions in place at these locations are also noted.

Location	Restriction
Woodcote Green Rd (between Sunnybank & Pine Hill)	No Waiting, 8am-8pm
Sunnybank (up to 200m from Woodcote Green Road junction)	Private Property, no parking
Hylands Rd	No Waiting, Mon-Fri 9:30am-12:30pm
Digdens Rise	No Waiting, Mon-Sat 8:30am-6:30pm
Woodcote Hurst (between Woodcote Green Rd & Cedar Hill)	Private Property, no parking
Axwood	Private Property, no parking
Cedar Hill	Private Property, no parking

Table 7.3: Parking Survey Locations and Restrictions

7.24 Parking beats were undertaken at 10am, after the start of the working day and 7pm, after the end of the working day. The results are summarised in **Tables 7.4** to **7.7**, with the complete survey data attached at **Appendix M**.

Location	Spaces			Cars Parked	Occupancy
	Unrestricted	Single-Yellow	Total		
Woodcote Green Rd	0	137	137	0	0.00%
Sunnybank	55	2	57	10	17.54%
Hylands Rd	27	55	82	24	29.27%
Digdens Rise	14	38	52	17	32.69%
Woodcote Hurst	64	0	64	3	4.69%
Axwood	76	0	76	20	26.32%
Cedar Hill	40	0	40	1	2.50%
Total	**276**	**232**	**508**	**75**	**14.76%**

Table 7.4: Parking Survey Results - Tuesday 12th November 2019 at 10am

Location	Spaces			Cars Parked	Occupancy
	Unrestricted	Single-Yellow	Total		
Woodcote Green Rd	0	137	137	0	0.00%
Sunnybank	55	2	57	9	15.79%
Hylands Rd	27	55	82	8	9.76%
Digdens Rise	14	38	52	10	19.23%
Woodcote Hurst	64	0	64	6	9.38%
Axwood	76	0	76	16	21.05%
Cedar Hill	40	0	40	5	12.50%
Total	**276**	**232**	**508**	**54**	**10.63%**

Table 7.5: Parking Survey Results - Tuesday 12th November 2019 at 7pm

Location	Spaces			Cars Parked	Occupancy
	Unrestricted	Single-Yellow	Total		
Woodcote Green Rd	0	137	137	1	0.73%
Sunnybank	55	2	57	5	8.77%
Hylands Rd	27	55	82	0	0.00%
Digdens Rise	14	38	52	10	19.23%
Woodcote Hurst	64	0	64	5	7.81%
Axwood	76	0	76	6	7.89%
Cedar Hill	40	0	40	13	32.50%
Total	**276**	**232**	**508**	**40**	**7.87%**

Table 7.6: Parking Survey Results - Wednesday 13th November 2019 at 10am

Location	Spaces			Cars Parked	Occupancy
	Unrestricted	Single-Yellow	Total		
Woodcote Green Rd	0	137	137	1	0.73%
Sunnybank	55	2	57	9	15.79%
Hylands Rd	27	55	82	6	7.32%
Digdens Rise	14	38	52	13	25.00%
Woodcote Hurst	64	0	64	8	12.50%
Axwood	76	0	76	17	22.37%
Cedar Hill	40	0	40	9	22.50%
Total	**276**	**232**	**508**	**63**	**12.40%**

Table 7.7: Parking Survey Results - Wednesday 13th November 2019 at 7pm

7.25 The results in **Tables 7.4** to **7.7** illustrate that on ball roads there is minimal parking stress/occupancy. On the roads with restrictions (Woodcote Green Road, Hylands Road and Digdens Road) the results suggest that very few cars park illegally on the single-yellow lines. There are a number of vehicles parked in the private roads (Sunnybank,

Woodcote Hurst, Axwood and Cedar Hill) but it is unclear if these are illegally parked vehicles, or vehicles belonging to residents.

7.26 Based on the predicted parking accumulation for the proposed site, it is considered to be unlikely that the development would result in any impact on the existing parking stress levels on the surrounding roads.

Summary

7.27 SCC'c parking guidance allows for the proposed C2 development to be assessed on its individual merits. Based on the results of the predicted parking accumulation for the site, and that a development Travel Plan will be produced with the key target of further reducing car use and parking demand, it is considered that it has been demonstrated that the proposed level of parking is appropriate for the development and will not result in overspill parking on surrounding roads.

8 Accident Analysis

Accident Report

8.1 An Accident Report has been obtained from the Road Safety & Active Travel department at SCC for the area in the vicinity of the hospital for the 65-month period between 1st January 2014 and 31st May 2019. **Figure 8.1** shows the locations of the accidents recorded with the full Accident Report attached to this report at **Appendix N**.

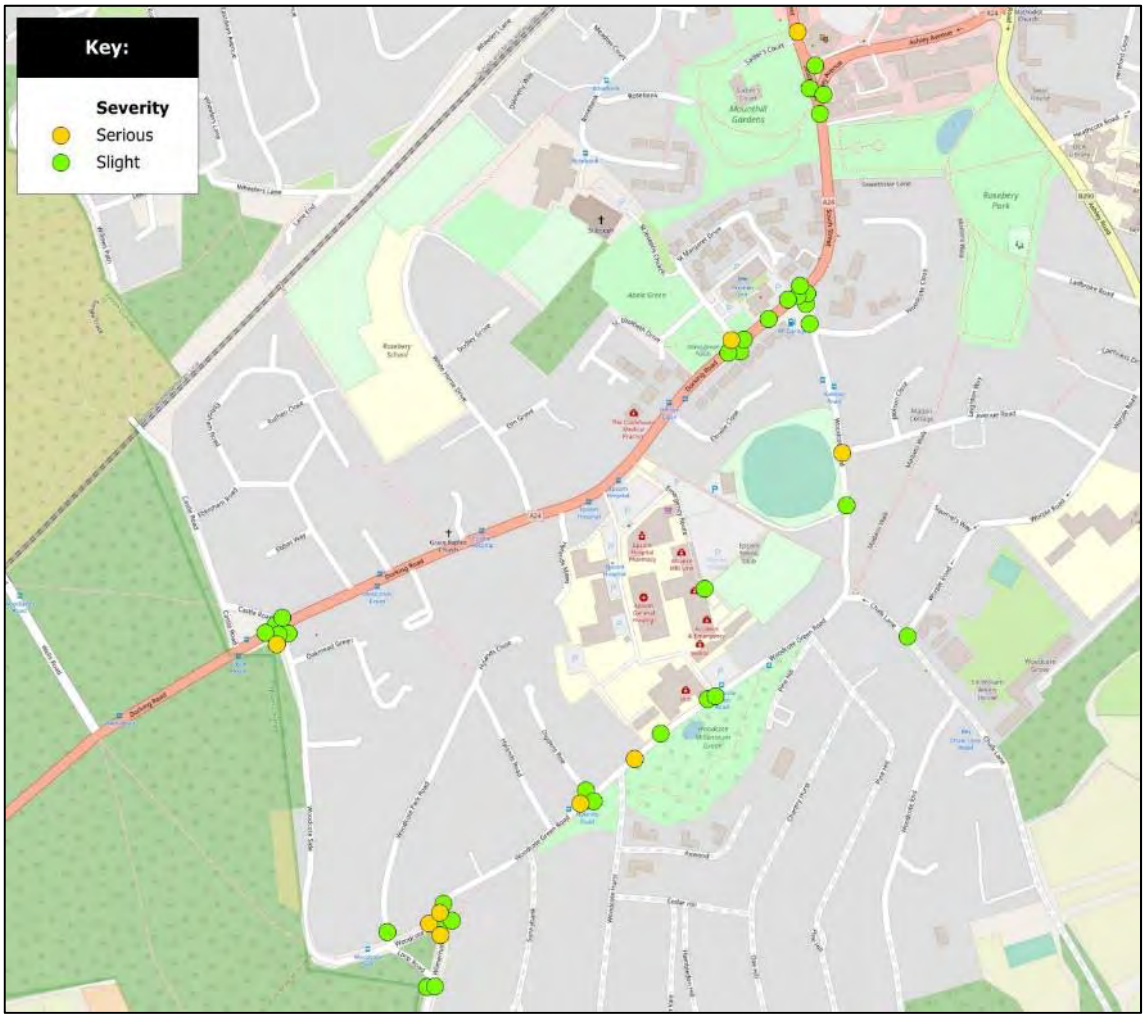


Figure 8.1: Accident Location Plan

Accident Summary

8.2 A total of 42 accidents were recorded during the study period of which 9 were classed as serious and the remining 33 as slight. There were no reported fatalities. **Table 8.1** illustrates the slight and serious accidents by year (*please note that the records for 2019 are up to the end of May).

Year	Slight	Serious	Total
2014	10	0	10
2015	8	0	8
2016	5	4	9
2017	5	2	7
2018	2	3	5
*2019	*3*	*0*	*3*
Total	**33**	**9**	**42**

Table 8.1: Recorded Accidents by Year / Severity

8.3 It can be seen from **Table 8.1** that the recorded accidents have been reasonably consistent over the study period suggesting that there have been no significant changes in the area affecting highway safety. The number of accidents recorded each year is considered to be low for a study area of this size which includes a busy main road, the A24, into and out of the town centre.

Junction Summary

8.4 Accidents recorded at the main junctions within the study area are summarised in **Table 8.2** below.

Location	Slight	Serious	Total
Woodcote Green Road / Hospital Access	2	0	2
Woodcote Green Road / Digdens Rise	2	1	3
Woodcote Green Road / Woodcote Rise	3	3	6
A24 Dorking Road / Woodcote Rise	5	1	6
A24 Dorking Road / St Margaret Drive	3	1	4
A24 Dorking Road / Woodcote Road	5	0	5
A24 South Street / Ashley Avenue	4	0	4
Total	**24**	**6**	**30**

Table 8.2: Recorded Accidents at Junctions

8.5 **Table 8.2** shows that there are no particular accident cluster sites with the recorded accidents spread over the network and with no junction averaging more than one accident per year. The remaining accidents not included in the table occurred on the links between the junctions.

Causation Factors

8.6 The first / primary causation factor listed for all 42 recorded accidents is summarised in **Table 8.3** below.

1st Causation Factor	Slight	Serious	Total
Careless / Reckless	2	0	2
Dangerous action	1	0	1
Dazzling Sun	1	0	1
Emergency Vehicle on call	2	0	2
Failed to judge speed	2	0	2
Failed to look	12	6	18
Following too close	1	1	2
Junction overshoot	0	1	1
Loss of control	0	1	1
Poor turn or manoeuvre	2	0	2
Using mobile phone	1	0	1
Other	1	0	1
No reason given	8	0	8
Total	**33**	**9**	**42**

Table 8.3: Causation Factors

8.7 **Table 8.3** clearly identifies 'failed to look' as the most common causation factor for the recorded accidents. All of the causation factors imply that driver error was to blame and therefore it can be assumed that there are no current issues with the design and layout of the local highway network that are resulting in accidents.

Vulnerable Road Users

8.8 The accidents involving vulnerable road users; pedestrians, cyclists and motorcyclists, are summarised in **Table 8.4**.

Vulnerable Road User	Slight	Serious	Total
Pedestrians	5	2	7
Cyclists	5	5	10
Motorcyclists	7	1	8
Total	**17**	**8**	**25**

Table 8.4: Vulnerable Road Users

8.9 **Table 8.4** shows that approximately 60% of the recorded accidents involved vulnerable road users. Based on the numbers, there is not considered to be any one user at particular risk and all users are averaging less than two recorded accidents a year.

Summary

8.10 The results of the Accident report received from SCC do not demonstrate any areas of concern regarding safety for the existing highway network. Given that the number of predicted car and multi-modal trips detailed earlier in this report is low, and that the results of the highway impact assessment show that there will be little additional impact at the junctions within the study area, it is considered that the development proposals will not be detrimental to highway safety.

9 Mitigation

9.1 A draft Travel Plan has been produced for both residents and staff of the proposed development and is submitted as part of this planning application.

9.2 The Travel Plan will be key to reducing the reliance on car use and parking whilst encouraging more sustainable means of transport and has been developed in line with Surrey County Councils guidance document *'Travel Plans – A good practice guide for developers'* (July 2018).

9.3 The Travel Plan will aim to increase the awareness of the availability of more environmentally friendly alternatives to private car use, and to introduce a package of physical and management measures that will facilitate travel by these sustainable modes of transport. The following are examples of proposed measures:

- Two car club cars for use by staff/residents. Some residents may only need to use a car occasionally, and shared vehicles would provide a more cost- and space-effective way to provide this;
- Safe and secure cycle storage will be provided within the site. The care needs of residents are likely to vary and while the majority may be unable to cycle, some may be able to do so. Employees and visitors may be able to cycle to the site and suitable bike parking will encourage this;
- Provision of a minibus for organised shopping trips / days out;
- Secure areas will be provided for storage and charging of electric buggies, scooters and wheelchairs. These will enable residents to travel greater distances than they may be able to by foot;
- Shared computer access area and training/workshops to access travel information such as timetables and journey planners online;
- RTI bus information in Lobby area; and
- A "cycle to work" scheme, secure bike parking, lockers and showers to encourage staff members to cycle to work.

9.4 A Travel Plan Coordinator (TPC) will be appointed by the operator to operate, maintain and manage the Travel Plan. For a development of this type, it is important that the TPC is based on-site with knowledge of the residents and their individual needs.

10 Summary & Conclusions

10.1 Mayer Brown Ltd have been instructed by Senior Living Urban (Epsom) Ltd to provide highways and transport related assistance in support of a planning application for a new Later Living Community on land at Epsom General Hospital.

10.2 The proposed development comprises the demolition of existing hospital buildings (C2 land use) to provide a Later Living Community (C2 land use) including a coffee shop, restaurant, retail units and a nursey (D1 land use) that are open to use by visitors, staff, patients and visitors at the adjacent hospital and the general public (likely to only be residents of the adjacent residential properties).

10.3 The site is located approximately 1km south of Epsom Town Centre in the borough of Epsom & Ewell. The site is bordered by Woodcote Green Road to the south, Epsom General Hospital to the north and east and residential properties to the west. The surrounding area is mostly residential.

10.4 An accessibility analysis indicates that the proposed site is in an accessible location and can be accessed by modes of transport other than the private car, including regular bus services from Woodcote Green Road, and that there are a wide range of local facilities within close proximity of the site.

10.5 The proposed development is consistent with national and local planning policy in respect of transport.

10.6 An assessment of predicted development trips in accordance with a methodology agreed with SCC shows that the proposed development is predicted to result in a decrease in trips during the AM and PM peaks, whilst overall daily trips will increase.

10.7 Junction capacity assessments have demonstrated that all of the junctions assessed would operate within capacity following implementation of the development.

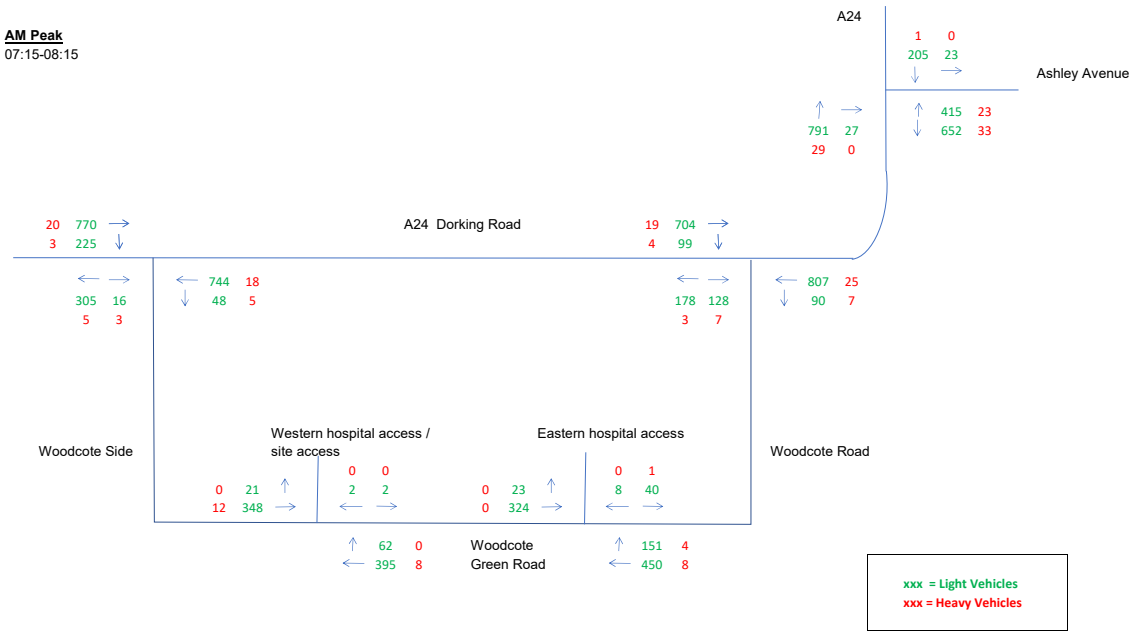
10.8 A parking assessment indicates that the proposed parking provision would be sufficient for the development, and that in accordance with the guidance set by SCC, the parking provision can be assessed on its ‘individual merits’.

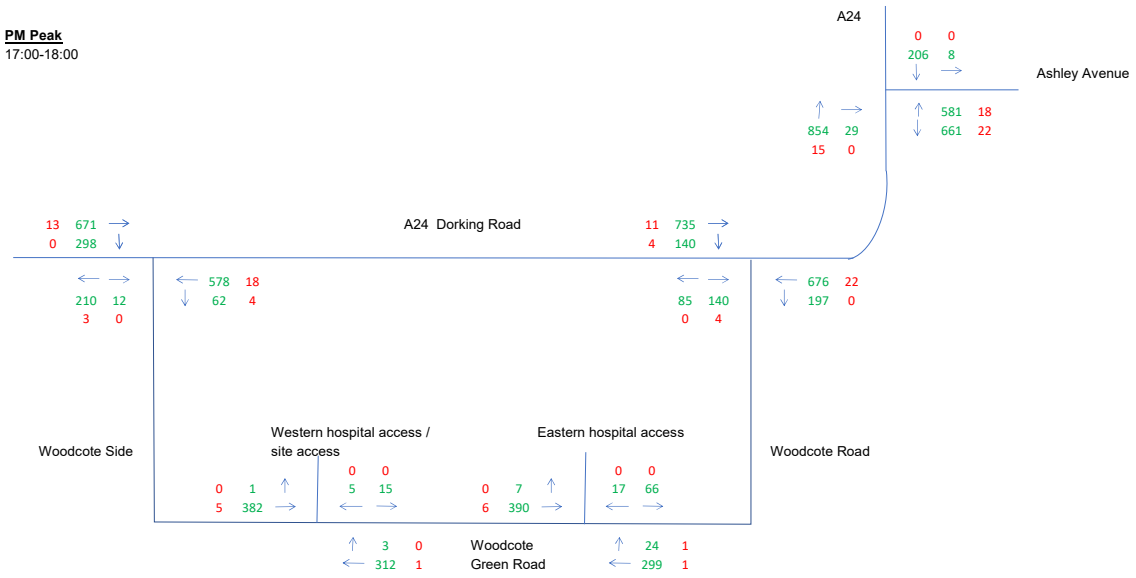
10.9 Analysis of accident statistics for the area within the vicinity of the site indicates that there are no inherent highway design problems and that the proposed development would not have an adverse impact on highway safety.

10.10 Based on the evidence produced in this report, it is concluded that the proposed development will not have a material traffic impact or have a detrimental impact on local

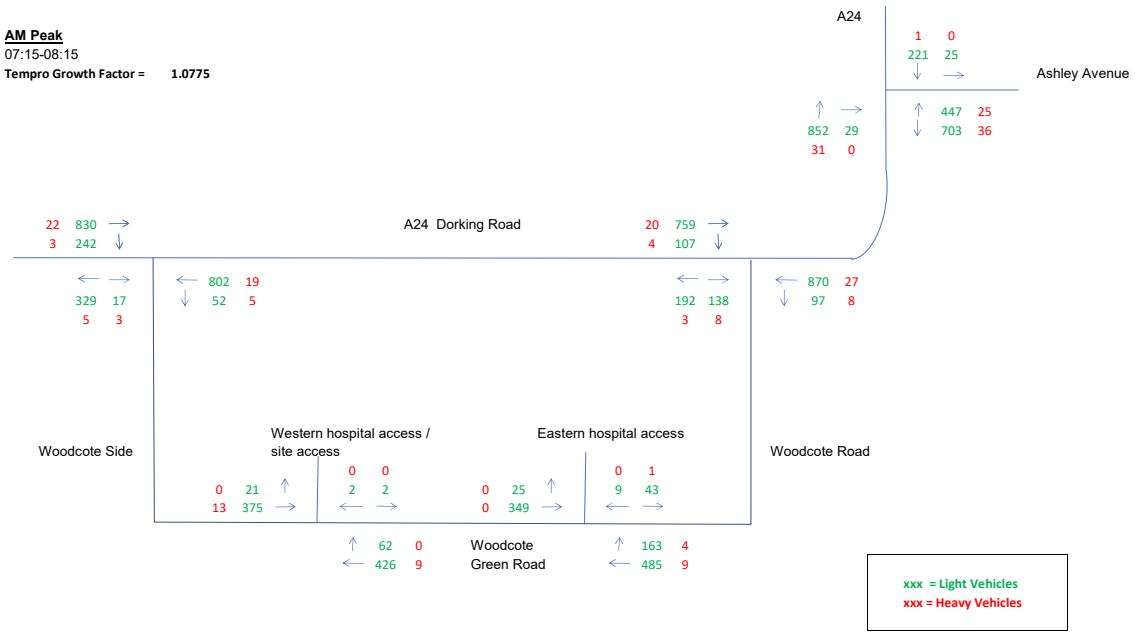
highway safety. Therefore, it is considered that there are no highway or transport reasons that would support refusal of the planning application.

Traffic Flow Diagrams



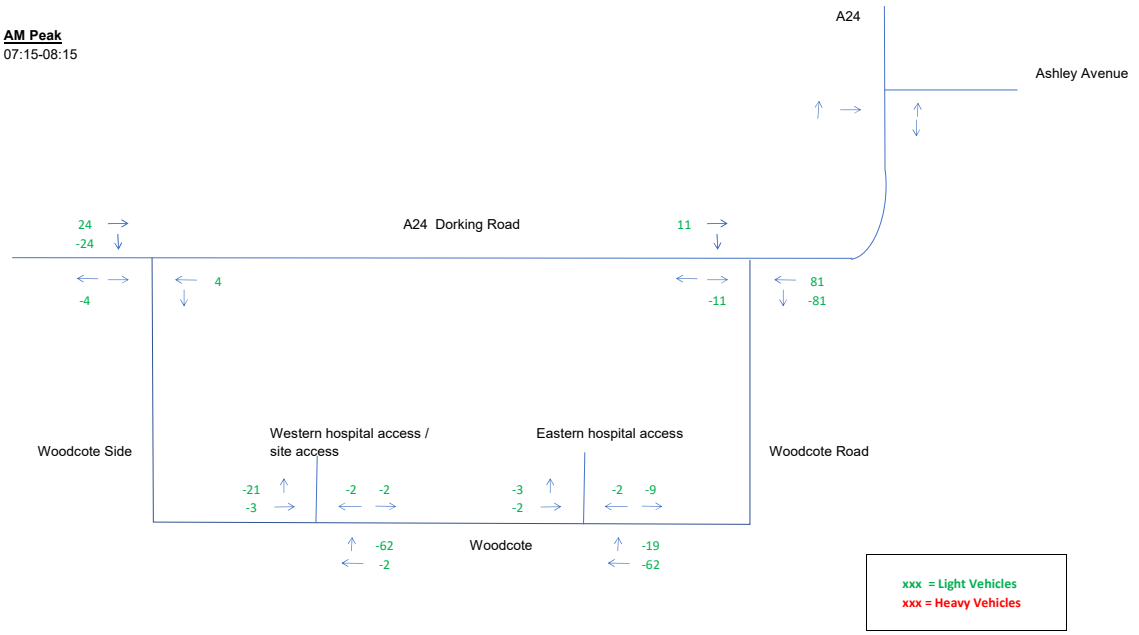


Title: **Observed 2019 Traffic Flows**	Flow Diagram Number: **TFD01**	Date: **December 2019**	
Project: **Guild Living Epsom** **Proposed later living development**	Version: **v1**		



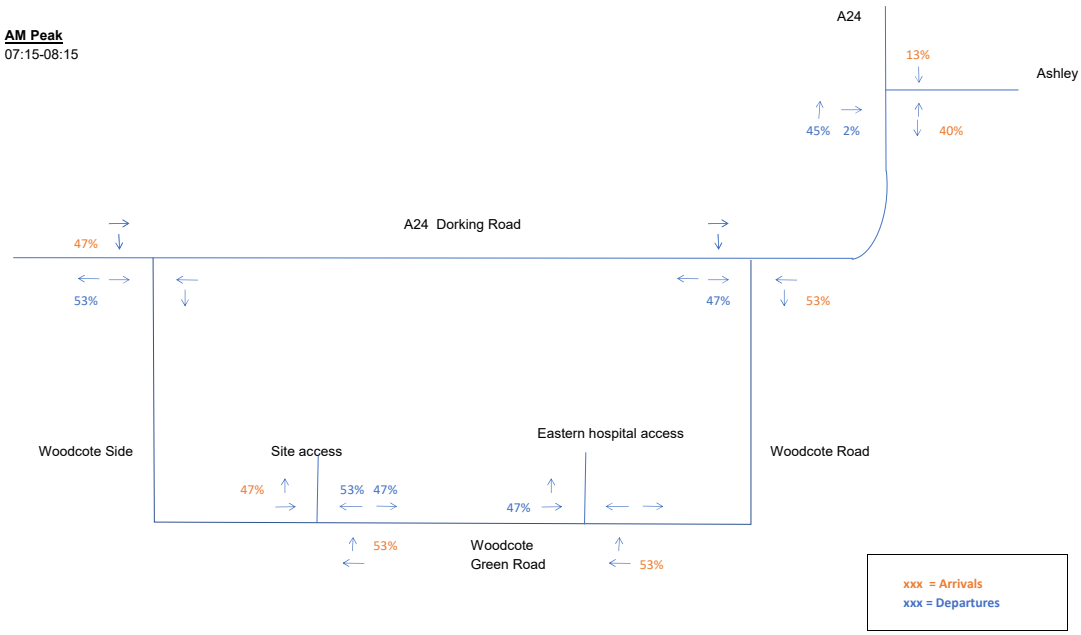
Title: **Base 2025 traffic flows** (2019 with TEMPRO growth)	Flow Diagram Number: **TFD02**	Date: **December 2019**	
Project: **Guild Living Epsom** **Proposed later living development**	Version: **v1**		

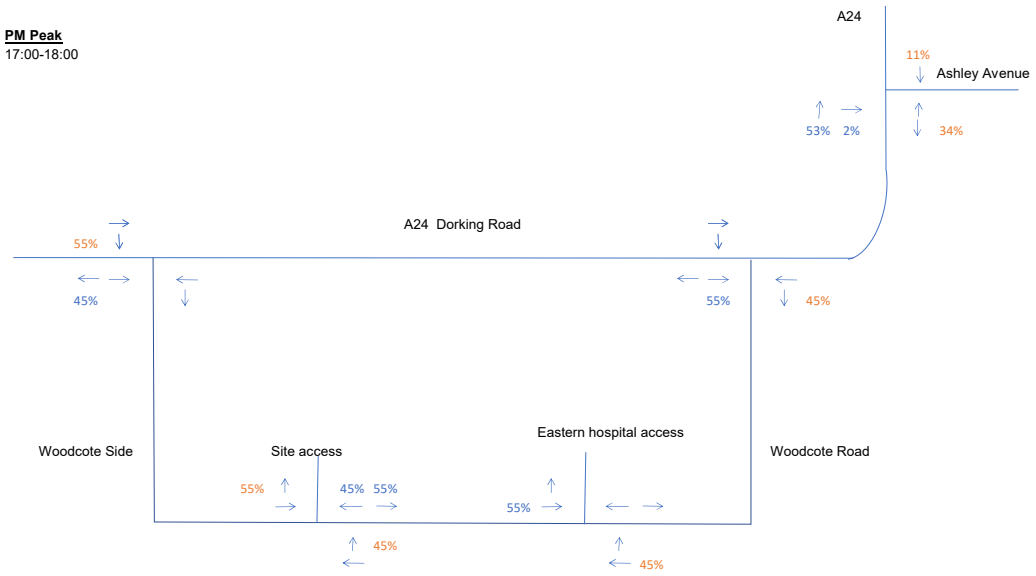
AM Peak
07:15-08:15



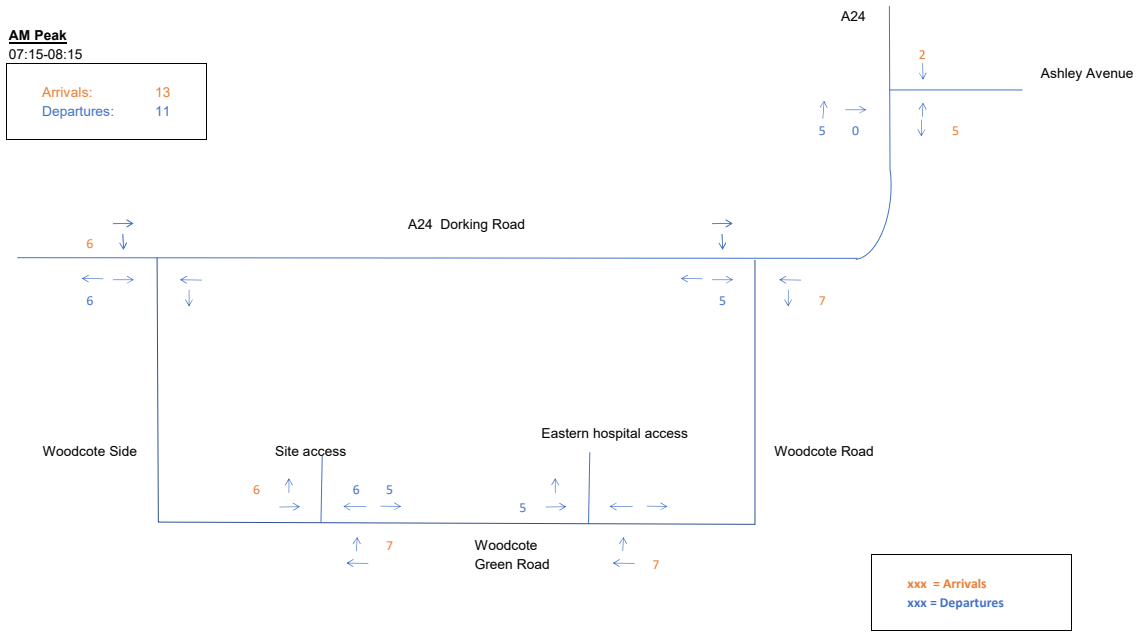
PM Peak
17:00-18:00

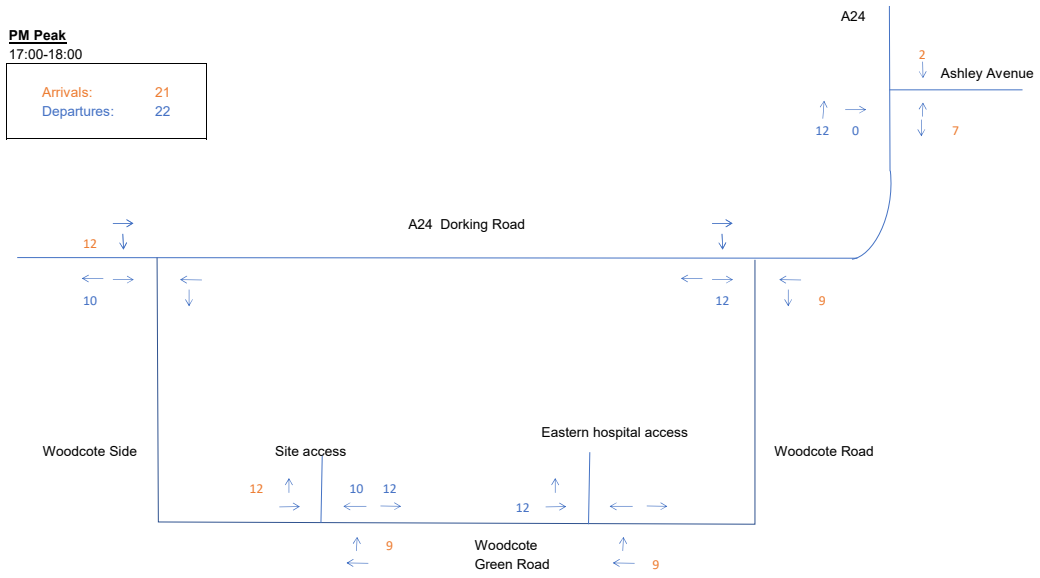
Title: **Adjustment at site entrances for hospital traffic**	Flow Diagram Number: **TFD03**	Date: **December 2019**	
Project: **Guild Living Epsom** **Proposed later living development**	Version: **v1**		



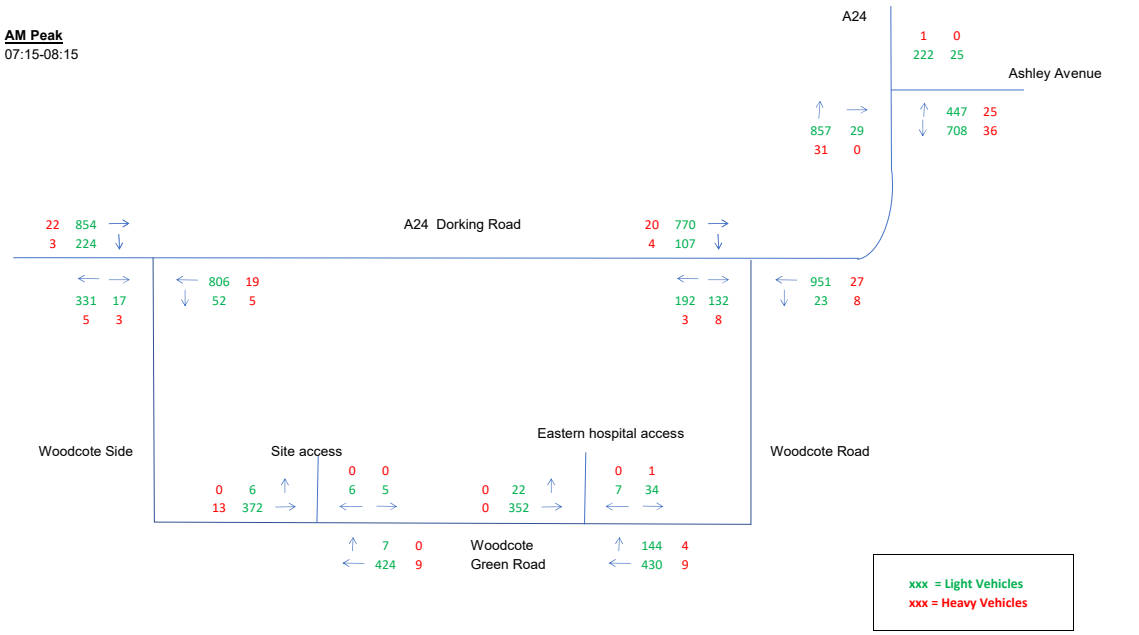


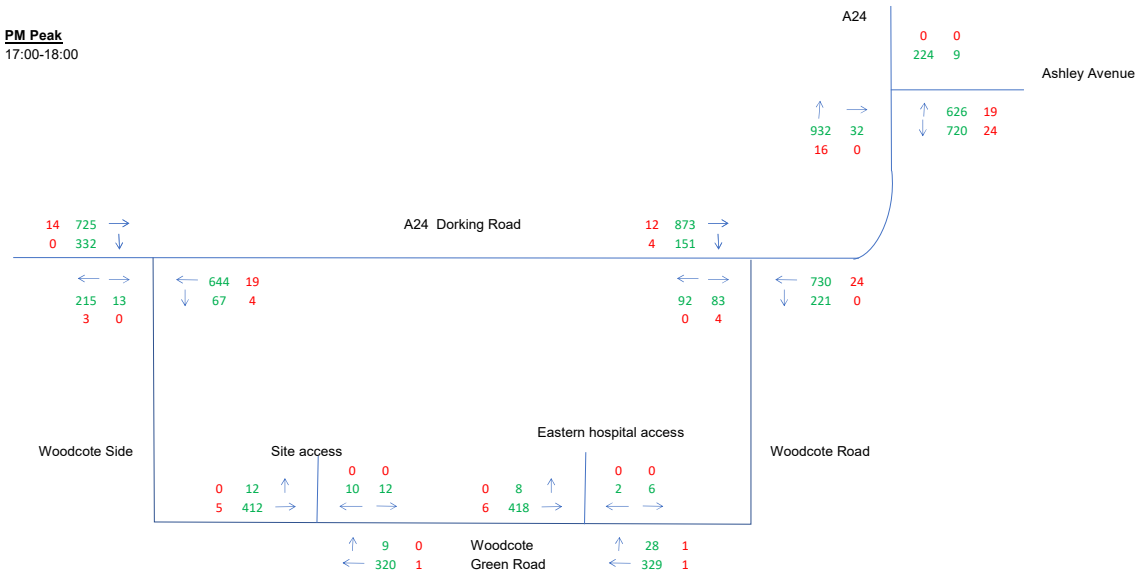
Title: **Traffic distribution**	Flow Diagram Number: **TFD04**	Date: **December 2019**	
Project: **Guild Living Epsom** **Proposed later living development**	Version: **v1**		





Title: **Generated traffic**	Flow Diagram Number: **TFD05**	Date: **December 2019**	
Project: **Guild Living Epsom** **Proposed later living development**	Version: **v1**		





Title: **Forecast 2025 Traffic Flows** (Base 2025 + hospital adjustment + generated)	Flow Diagram Number: **TFD06**	Date: **December 2019**	
Project: **Guild Living Epsom** **Proposed later living development**	Version: **v1**		