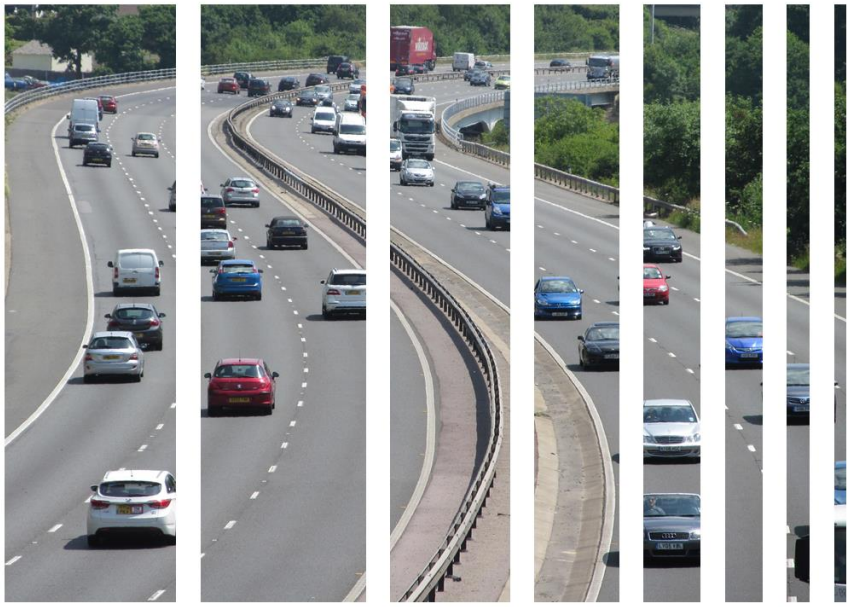

St John's Road, Hedge End

Transport Assessment

November 2013

Highwood Residential Ltd

paulbasham ASSOCIATES

www.paulbashamassociates.com

DELIVERING SUSTAINABLE, TRANSPORT PLANNING AND ENGINEERING SOLUTIONS

RESIDENTIAL DEVELOPMENT
ST JOHN'S ROAD, HEDGE END

TRANSPORT ASSESMENT

CONTROLLED DOCUMENT

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RESIDENTIAL DEVELOPMENT
ST JOHN'S ROAD, HEDGE END

TRANSPORT ASSESMENT

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1. INTRODUCTION TO THE APPLICATION SITE

1.1 This Transport Assessment (TA) has been prepared by Paul Basham Associates (PBA) on behalf of Highwood Residential Ltd to support an outline planning application for a 94 dwelling development on land to the rear of St John's Road, Hedge End. Whilst this application is for outline consent only, full approval is sought for access.

1.2 The application site is located on land identified for development within Eastleigh Borough Council's (EBC's) revised draft Local Plan (LP), under policy reference HE2 as demonstrated within **Figure 1**. This application is for the northern section of HE2 only.

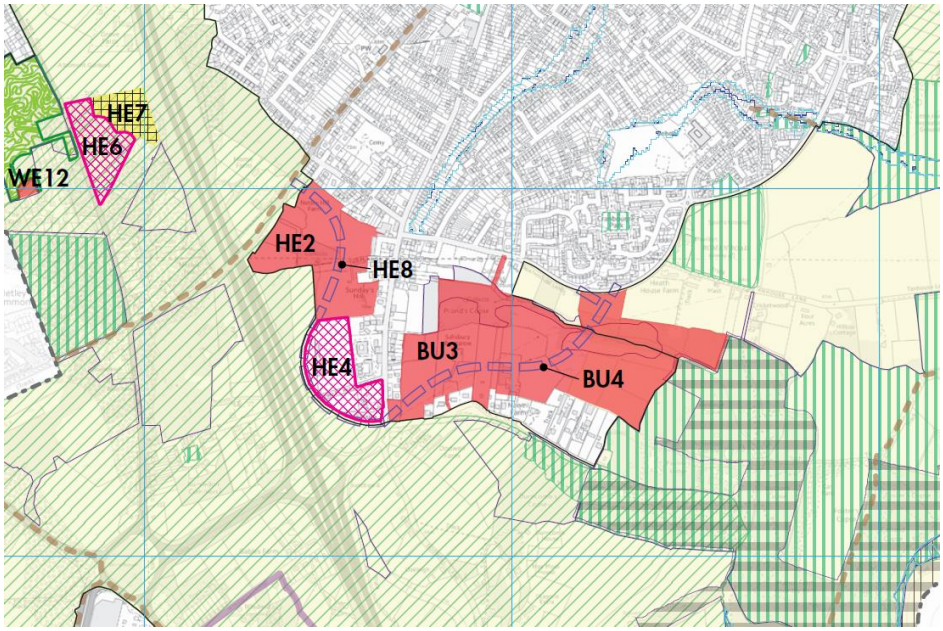


Figure 1: HE2 Land (extract from EBC draft Local Plan – South Map)

1.3 A Transport Rebuttal was prepared by PBA to consider the concerns raised by local residents to the formerly referenced draft Policy HE3 (with no concerns raised by Hampshire County Council (HCC) as the highway authority). This rebuttal provided additional detail and assessment of transport matters, demonstrating that the allocation would not result in any unacceptable impact from a transport perspective. This TA remains consistent with the approach taken within the Transport Rebuttal, using the same trip rates, traffic distributions, queue length and speed survey data. A copy of the Transport Rebuttal is available as a consultation response to the draft LP, and is not therefore appended to this TA.

1.4 The application site is approximately 5ha, with only the northwest corner of the site extending to public highway (St John's Road). The site is currently undeveloped apart from Netley Hill Farmhouse, which would be retained with the application and falls outside the red line boundary of the site. The existing site frontage onto St John's Road is demonstrated within **Photograph 1**.

Photograph 1 Existing Site Frontage

1.5 The scope of this TA has been informed through pre-application discussions with EBC and from experience of working on comparable sites within Eastleigh Borough with HCC. Accordingly this TA reviews site accessibility, proposed accommodation schedule, the internal layout design, car and cycle parking requirements, visibility and access arrangements, proposed trip impact on the local road network (LRN) and servicing arrangements.

2. EXISTING CONDITIONS

Site and Surroundings

2.1 The application site is situated on the southern edge of Hedge End, in a suburban environment. The site is bordered by residential dwellings to the north (Foord Road) and east (Dodwell Lane/Carpenters Close), and fronts St John's Road to the west. There is a green buffer of land to the south before the M27.

Local Road Network

2.2 St John's Road has a carriageway is approximately 6m in width and is subject to a 30mph speed limit across the site frontage. The speed limit increases to 40mph circa 50m southwest of the site as it passes over the M27 towards the A27, identified through a gateway feature of a speed roundel, dragon's teeth and signage (**Photograph 2**).

2.3 In the vicinity of the site, St John's Road has a straight road alignment making visibility conditions favourable from the site frontage. The site is fronted by a grass verge backed by relatively dense vegetation. The canopy of the trees partially extends over the carriageway. St John's Road features are demonstrated in **Photograph 3**.

Photograph 2 St John's Road Gateway Feature

Photograph 3 St John's Road (Northbound view)

2.4 Through baseline traffic surveys, it has been identified that St John's Road experiences traffic flows in the order of 6000 vehicles per day, with an even split of northbound/southbound traffic. During the AM peak circa 450 vehicles were recorded, with close to 600 vehicles in the PM peak. These baseline traffic flows are assessed further within subsequent sections of this TA.

2.5 St John's Road provides a direct link between the centre of Hedge End and the A27, allowing commuter traffic from the site to access strategic roads without having to travel through the central Hedge End roads. St John's Road is however a lower trafficked route than Busledon Road/Dodwell Lane to the east of the site, which provides a direct link between Hedge End and the M27. The site is identified relative to the strategic road network within **Figure 2**.

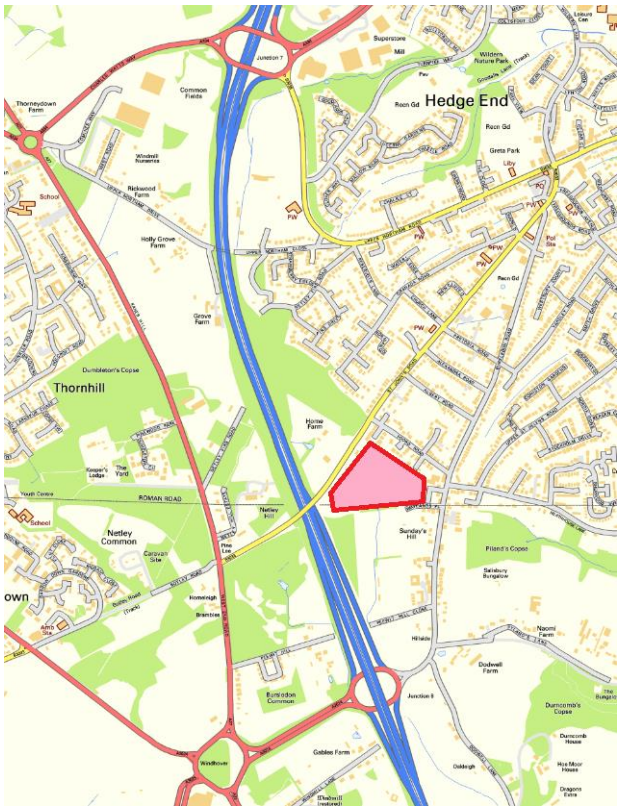
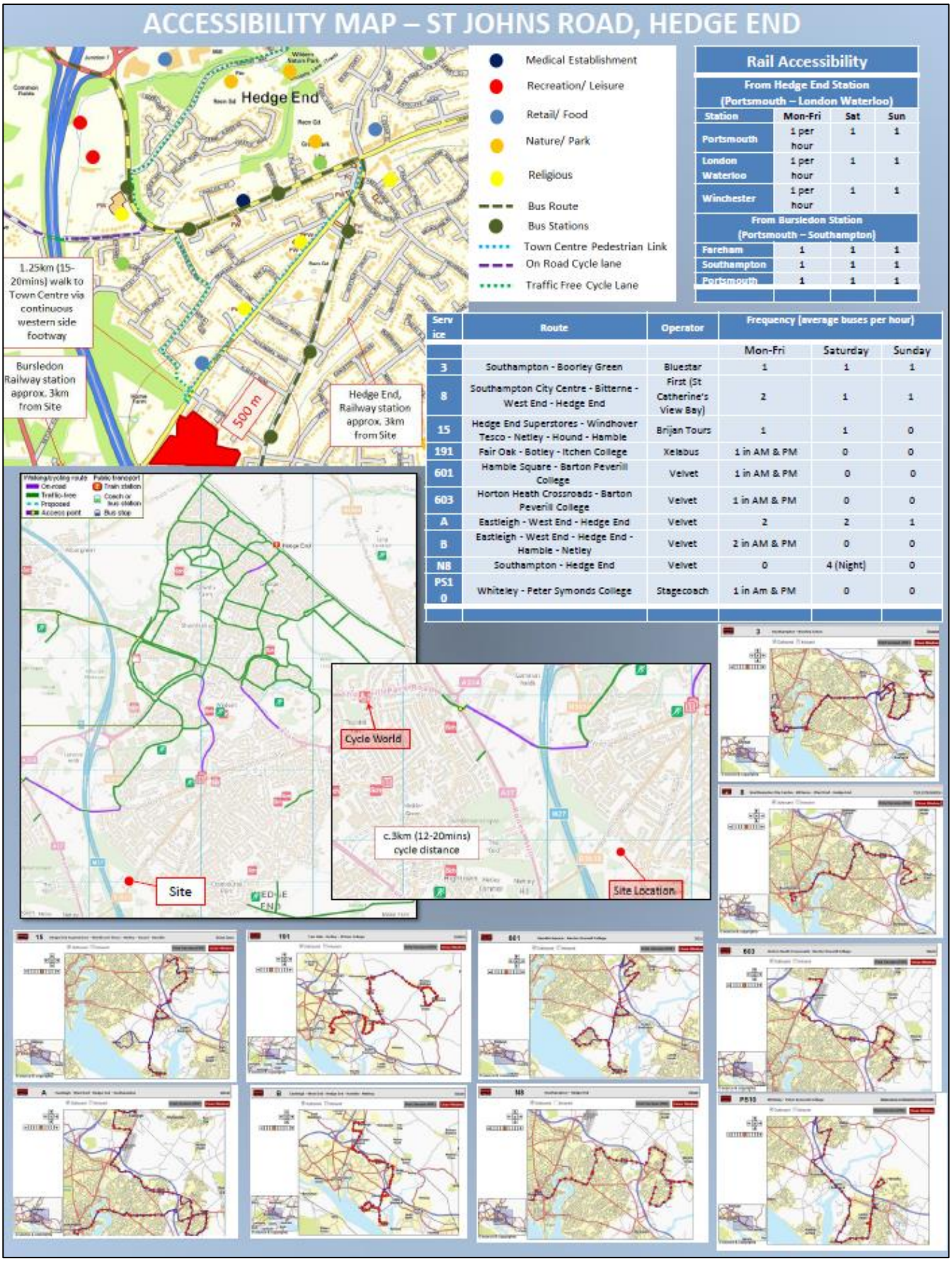


Figure 2: Site Proximity to the Strategic Road Network

(Contains Ordnance Survey data © Crown copyright and database right (2013)

2.6 An Accessibility Map is provided in **Figure 3** (large format in **Appendix A**) and identifies the following local access and travel conditions available to the application site:

- Within 1.25km walk from the town centre's various facilities supported by continuous footway network (and the proposed pedestrian refuge island)
- Permeable footway network with access to a range of local facilities, including public footpath through to residential area to the west and Upper Northam Road bus stop
- Well-connected formal local cycle network, within 3mins cycle ride to the formal local 'Southampton Cyclist Guide' route and approximately 15mins to the local cycle store
- High range and frequency of bus services accessed at the local bus stop on Bursledon Road (approx. 250m from the site), with further services on Upper Northam Road and 1 service on St John's Road
- Within 3kms of 2 stations and separate lines both with hourly services



Rail Accessibility

From Hedge End Station (Portsmouth – London Waterloo)			
Station	Mon-Fri	Sat	Sun
Portsmouth	1 per hour	1	1
London Waterloo	1 per hour	1	1
Winchester	1 per hour	1	1
From Bursledon Station (Portsmouth – Southampton)			
Fareham	1	1	1
Southampton	1	1	1
Portsmouth	1	1	1

Service	Route	Operator	Frequency (average buses per hour)		
			Mon-Fri	Saturday	Sunday
3	Southampton - Boorley Green	Bluestar	1	1	1
8	Southampton City Centre - Bitterne - West End - Hedge End	First (St Catherine's View Bay)	2	1	1
15	Hedge End Superstores - Windhover Tesco - Netley - Hound - Hamble	Brijan Tours	1	1	0
191	Fair Oak - Botley - Itchen College	Xelabus	1 in AM & PM	0	0
601	Hamble Square - Barton Peveril College	Velvet	1 in AM & PM	0	0
603	Horton Heath Crossroads - Barton Peveril College	Velvet	1 in AM & PM	0	0
A	Eastleigh - West End - Hedge End	Velvet	2	2	1
B	Eastleigh - West End - Hedge End - Hamble - Netley	Velvet	2 in AM & PM	0	0
N8	Southampton - Hedge End	Velvet	0	4 (Night)	0
PS10	Whiteley - Peter Symonds College	Stagecoach	1 in Am & PM	0	0

Figure 3: Accessibility Map

PIA Data

2.7 Analysis of Personal Injury Accident (PIA) data between 2000 and 2010 reveals a low recurrence of comparable types of incident, with no suggestion of PIAs being attributed to traffic levels or poor highways design. The PIA data therefore does not indicate any highways concern that would be exacerbated by intensification of use of the LRN, as a result of the development, or pose a highways safety concern for future site users. The PIA data is demonstrated below in **Figure 4**.

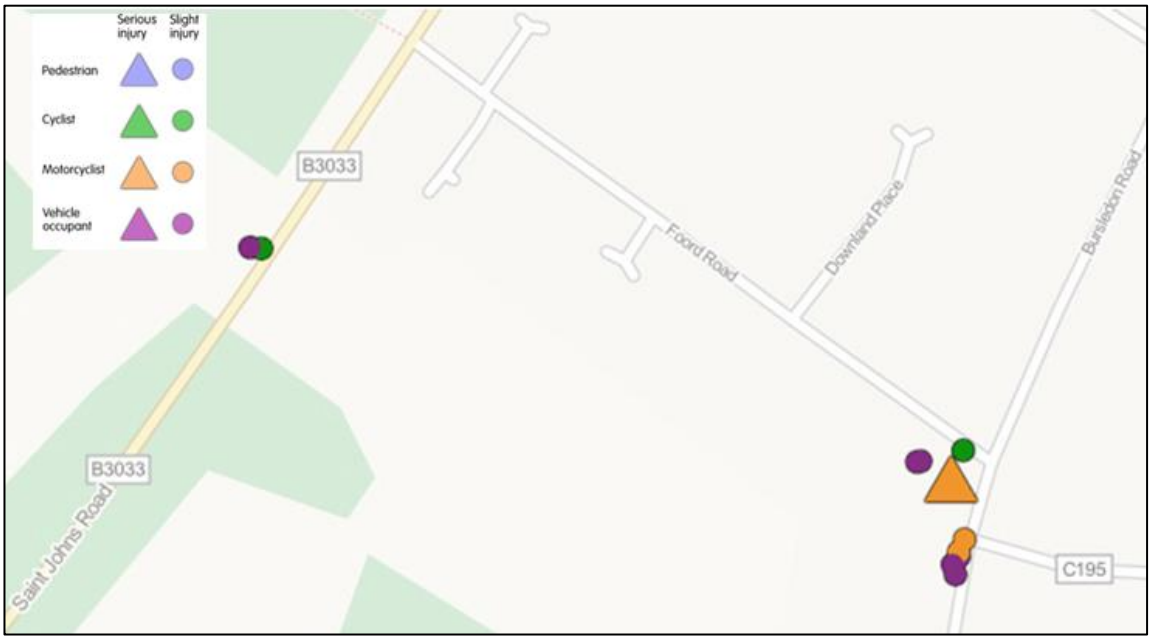


Figure 4: PIA data within vicinity of site

3. PROPOSED DEVELOPMENT

Accommodation Schedule

3.1 Whilst this application is outline only, the broad schedule of development comprises of 94 dwellings between 1 to 4 bedrooms in size with a 30% mix of affordable housing. A summary of the accommodation schedule is provided within **Table 1**, whilst the proposed development site layout is included as **Appendix B**.

Unit Type	Number of Dwellings
1 Bed Flat	*2*
2 Bed Flat	*24*
2 Bed House	*6*
3 Bed House	*52*
4 Bed House	*10*
Total	***94***

Table 1: Accommodation Schedule

Internal Layout

3.2 Design details of the internal layout of the development may be subject to change (with specifics to be submitted as part of a reserved matters/detailed application), however the broad principles would be in line with that outlined in this section of the TA.

3.3 The 'home zone' sections of the proposed development connect with the proposed central spine road. The spine road is designed to adoptable standards, providing a carriageway width of 6m with a 2m footway on the southern (inside bend) side and a 3m shared footway/cycleway on the northern (outside bend) side, ensuring safe provision for pedestrians and cyclists within the site.

3.4 Whilst this development is only for 94 units, the site layout has been designed mindful of the wider EBC draft LP policy HE2 and HE8, whereby the access road through the site could be extended beyond the site boundary to provide a link route towards the M27 Junction 8.

3.5 All shared-surface carriageways within the 'home zone' areas of the proposed development site are 6m in width, and would therefore accommodate the passing of 2 vehicles, cyclists and pedestrians.

3.6 In accordance with MfS design guidelines, all carriageway bends within the 'home zone' areas of the proposed internal site design achieve the required inter-visibility for vehicles travelling up to 15mph within the site, supported by planting maintained below 600mm in height.

3.7 Traffic calming features are built into the home-zone design to support the movement of all road users, including pinch-points and changes in surface materials, and providing a clear indication of the change in environment from the spine road.

3.8 Provision for servicing of the site is provided with adequate on-site turning facilities for refuse and emergency vehicles, and therefore ensuring such vehicles can enter and exit the proposed development site in a forward gear. Access to all dwellings can be achieved within 45m of the proposed units and would not require emergency vehicles to reverse more than 20m, in line with Building Regulation requirements. Refuse tracking for the internal highway arrangement is demonstrated within **Appendix C**.

3.9 A 3m pedestrian/cycle link is proposed between the northern edge of the site and Foord Road via Greenfield Close. This would reduce pedestrian travel times towards Bursledon Road and associated bus links.

Parking

3.10 Parking would be provided in line with EBC residential parking requirements. A summary of the EBC parking standards and the proposed parking provision is provided within **Table 2**.

Unit size	Standard	Provision
1 Bed	*1 unallocated per flat*	*2 x 1 = 2*
2 Bed	*1.5 unallocated per flat* *2 allocated per household*	*24 x 1.5 = 36* *6 x 2 = 12*
3 Bed	*2 allocated per household*	*52 x 2 = 104*
4 Bed	*3 allocated per household*	*10 x 3 = 30*
Visitor Parking	*0.2 per dwelling if greater than 50% of parking is allocated*	*94 x 0.2 = 19*
	Total	**203**

Table 2: EBC Parking Standards and Proposed Parking Provision

3.11 The allocated spaces provided would be off-street, with a mixture of driveway spaces, small parking courts and garages. Parking would be designed to MfS specification, using standard dimensions of 2.4 x 4.8m car parking space size and 6m reversing space to allow vehicles to comfortably manoeuvre in and out of spaces and turn within the aisles. Visitor parking is typically provided kerbside or within parking courts.

3.12 Cycle parking would be provided as per EBC cycle standards, with details to be confirmed at the reserved matters stage. A summary of the cycle standards is provided in **Table 3**.

Unit size	EBC standards		Proposed Provision
	Number Long Stay	Type	
1 Bedroom Flat	*1*	*Communal*	*2 x 1 = 2*
2 Bedroom Flat	*1*	*Communal*	*24 x 1 = 24*
2 Bedroom House	*2*	*Individual*	*6 x 2 = 12*
3 Bedroom House	*2*	*Individual*	*52 x 2 = 104*
4 Bedroom House	*2*	*Individual*	*10 x 2 = 20*
			162

Table 3: EBC Cycle Parking Standards and Proposed Parking Provision

4. DEVELOPMENT TRAFFIC IMPACT

4.1 This section of the TA assesses the likely vehicle trip generation associated with the proposed development. The national system of trip generation analysis 'TRICS' has been considered to gain an indication of the trip rates for housing developments of comparable size, demographic, and location. The housing trip rates used in this assessment are the same as those previously agreed by EBC as part of the transport rebuttal prepared by PBA for the draft Local Plan Consultation. The flat trip rates have used the same search criteria as housing, and so should also be considered appropriate.

4.2 To establish proposed development vehicle trip rates, search criteria included private house and flat developments in England and Wales, located within suburban and edge of town locations, and ranging in size between 20 and 200 dwellings. Surveys were only included where taken on weekdays (no weekend data), and all sites within Greater London and Ireland were removed from the search findings. The affordable provision on site would very likely exhibit a lower trip rate than that of the private element of the proposed development, but this assessment considers private housing only to provide a robust assessment.

4.3 The TRICS data outputs are attached as **Appendix D** for reference, whilst the peak period and daily trip rates per household and for a development of 99 dwellings are outlined within **Table 4**.

	AM Peak (0800-0900)		**PM Peak (1700-1800)**		**Total**
	Arrivals	Departures	Arrivals	Departures	Daily
Private House Trip Rate	*0.150*	*0.412*	*0.392*	*0.236*	*5.385*
Private Flat Trip Rate	0.077	0.280	0.294	0.134	3.781
68 Houses	10	28	27	16	366
26 Flats	2	7	8	3	98
Totals	**12**	**35**	**35**	**19**	**464**

Table 4: TRICS Trip Rates and Development Traffic

4.4 The initial TRICS trip rate analysis indicated a likely proposed trip generation of 464 daily vehicle trips, with 47 vehicle trips in the AM peak (0800-0900hrs) and 54 vehicle trips in the PM peak (1700-1800hrs). As the existing site is greenfield with no trip generation, the proposals generated trips would all be new to the LRN. The additional traffic during AM and PM peaks would generate an additional vehicle movement approximately every 1 minute.

Trip Distribution

4.5 In order to gain a greater understanding of how this additional traffic may relate to the existing traffic trends in the area, baseline traffic surveys were conducted on the three roads local to the allocation land, including St Johns Road, Foord Road and Dodwell Lane/Bursledon Road. A summary of these traffic flows is provided within **Table 5**, whilst raw survey data is included as **Appendix E** for reference.

	St Johns Road		Foord Road		Dodwell Lane	
	NB	SB	WB	EB	NB	SB
AM Peak	*239*	*219*	*84*	*60*	*392*	*313*
PM Peak	*281*	*304*	*101*	*96*	*300*	*506*
Daily Flows	*3086*	*2826*	*921*	*866*	*4575*	*5110*

Table 5: Baseline Traffic Flows on Local Roads

4.6 Turning count surveys were also conducted during the peak hour periods in order to identify where existing traffic is flowing, and thereby inform where proposed development traffic is also likely to turn. Being mindful of these baseline trends, providing a single vehicle access to the development via St Johns Road, as well as routes to anticipated trip destinations including Southampton, Hedge End, Eastleigh (and the M3), Fareham (and the M27), anticipated peak period traffic distributions are identified within **Figure 5**. This was discussed and agreed in principle with EBC highways through consultation works on the draft Local Plan.

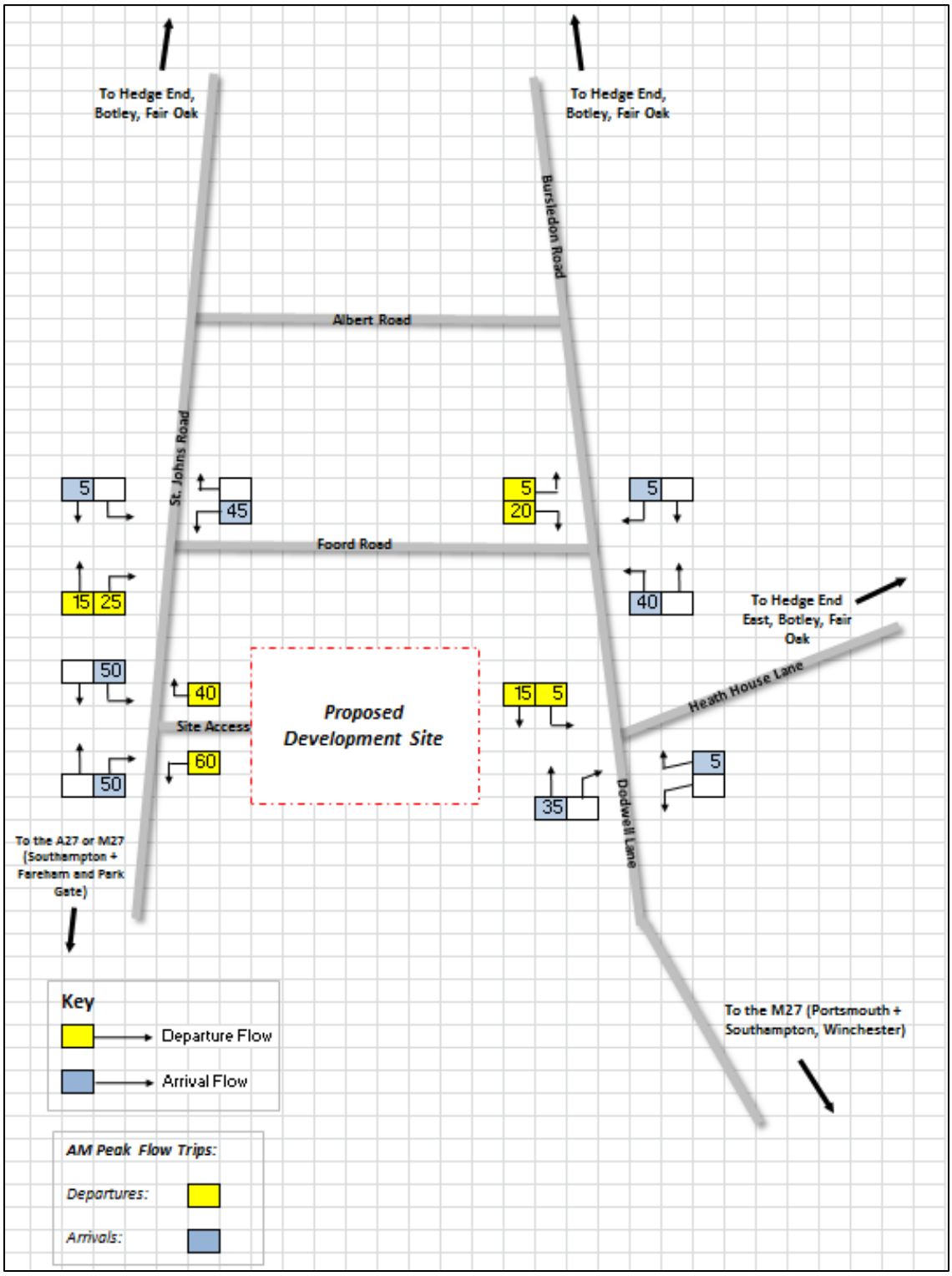


Figure 5: Development Traffic Distribution % on Local Roads

4.7 A summary of development impact, in terms of increase of vehicle movements on the local roads is presented within **Table 6**, which also considers the peak period impacts of the development at local junctions.

	St Johns Road		Foord Road		Dodwell Lane	
	North Arm	South Arm	Westbound	Eastbound	North Arm	South Arm
AM Peak	**20**	**27**	**5**	**9**	**2**	**12**
PM Peak	**25**	**29**	**16**	**5**	**3**	**18**

Table 6: HE2 Development Impact on Local Roads and Junctions

4.8 The impact upon St John's Road is greatest in the southern arm with an additional 29 vehicles over a one hour period in the PM peak, at a rate of approximately 1 vehicle every two minutes. St John's Road has no observed existing highways issues and the impact of the HE2 development is therefore anticipated to be immaterial.

4.9 Foord Road sees a minor intensification, with a 9 vehicle increase in the eastbound direction for the AM peak period (1 vehicle every 6 minutes) and a 16 vehicle increase in westbound direction for the PM peak period (1 vehicle every 4 minutes). This frequency of movements from this phase of the HE2 draft allocation is not anticipated to adversely affect the operation of Foord Road. Foord Road has been observed to sufficiently function during peak hours with no instances of queuing occurring at either the junctions with St Johns Road or Dodwell Lane. Furthermore, the introduction of the second phase of HE2 development in association with the link road under HE8 would act to remove this Foord Road traffic, as well as reduce existing rat running levels.

4.10 The traffic impact of the potential HE2 development upon Dodwell Lane would be slight, with a maximum 6% increase on the southern arm during the PM peak period. The high base flows in combination with the relatively low numbers of vehicles from the potential site means the proportional effects would be minimal. Again, the introduction of the link road (draft policy HE8) in conjunction with the second phase of HE2 development would reduce traffic volumes using this section of Dodwell Lane.

Rat Running on Foord Road

4.11 Given the local concerns raised regarding rat-running through Foord Road, peak period traffic surveys were commissioned with the particular focus of noting rat-running through vehicle recognition – identifying those using Foord Road as a through route separate from those who live on Foord Road. Whilst the full survey results from the 19th September 2012 are incorporated within **Appendix E**, a summary of the peak hour rat-running is provided within **Table 7** and the proportional effects demonstrated in **Figures 6** and **7**.

	AM Peak Hour (8:00-9:00)	PM Peak Hour (17:00-18:00)
St Johns Rd to Dodwell Lane	54	90
Dodwell Lane to St Johns Road	74	71

Table 7: Existing Rat-Running through Foord Road

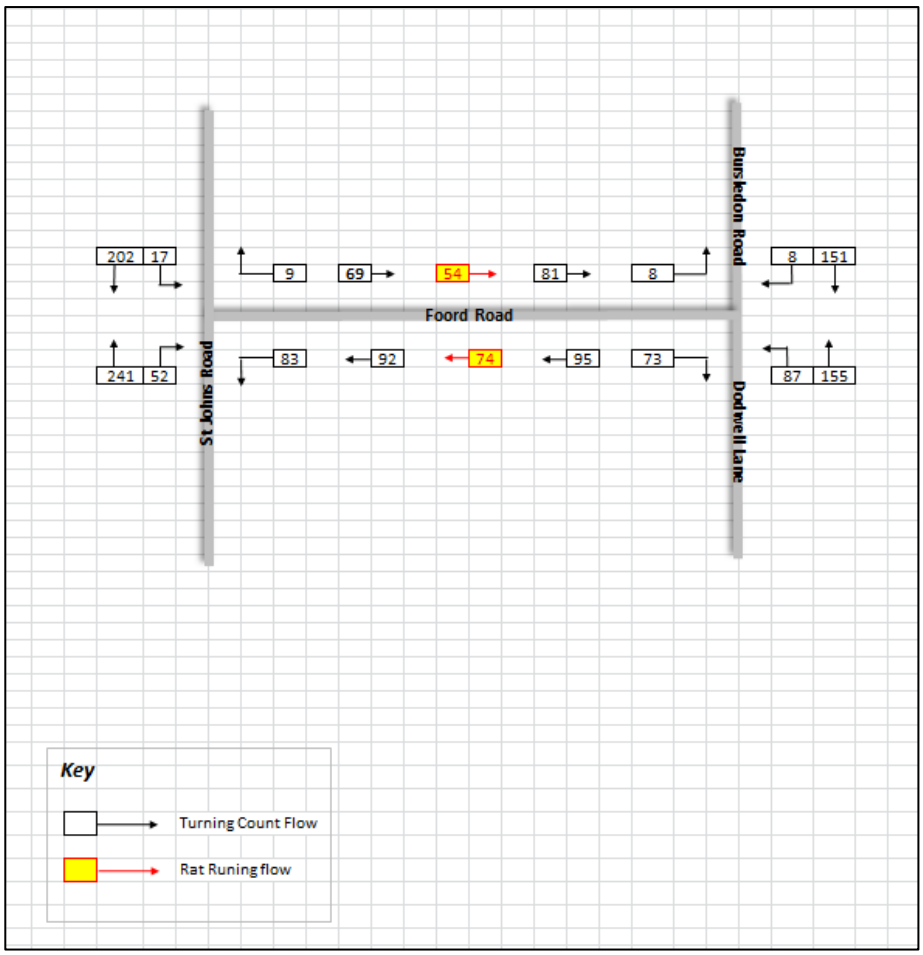


Figure 6: Existing Rat Running Flows on Foord Road AM

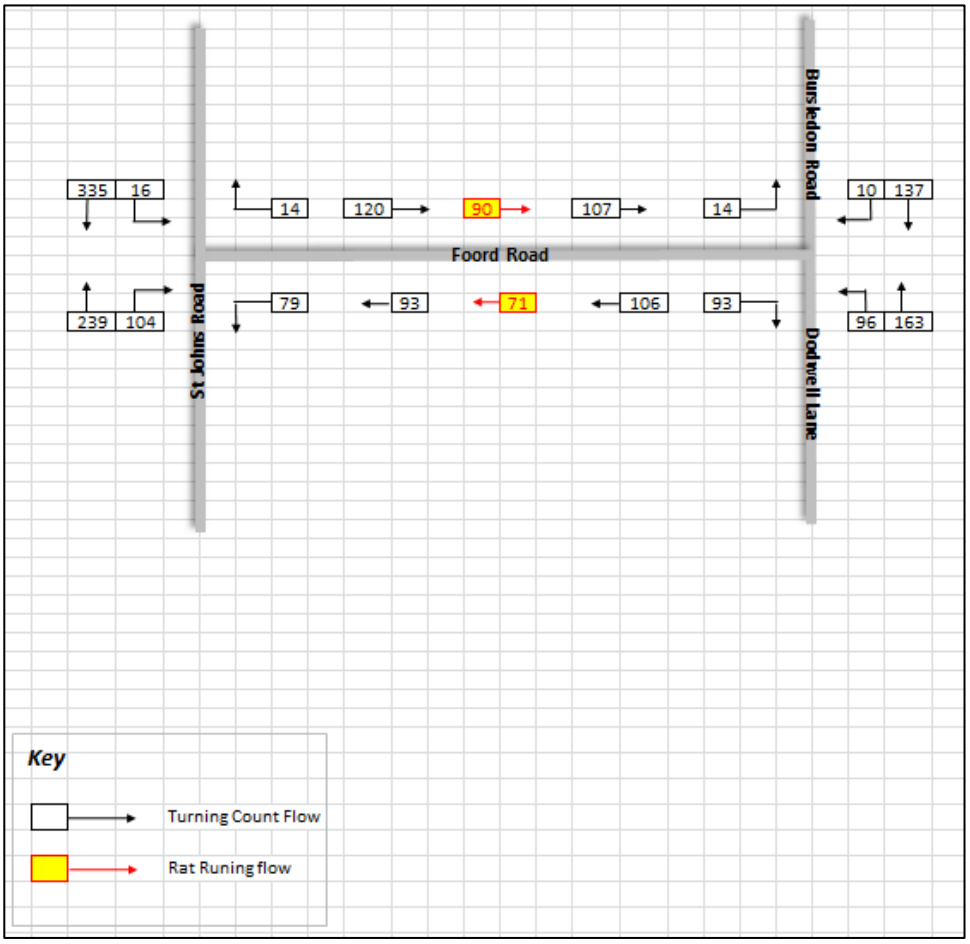


Figure 7: Existing Rat Running Flows on Foord Road PM

4.12 The existing pattern of rat running on Foord Road shows that the majority of traffic would be heading from Dodwell Lane to St Johns Road during the AM peak period and vice versa during the PM peak period. This predominate rat running direction along Foord Road is the opposite to the direction of rat running that would occur from the first phase of the HE2 development site. The HE2 development holds the potential to cause rat running from St Johns Road to Dodwell Lane in the AM and vice versa in the PM peak period.

4.13 No HGVs were identified as rat-running through Foord Road through the survey, and the proposed residential development would not affect this statistic.

4.14 Whilst the HE2 site may result in modest increases in traffic flows on Foord Road, it would not exacerbate the most substantial rat running flows in either the AM or PM peak periods. The introduction of the second phase of HE2 development in association with the link road under HE8 would act to remove this Foord Road traffic, as well as reduce existing rat running levels.

Queue length

4.15 Queues on the Dodwell Lane approach to the M27 Junction 8 were also surveyed during the AM and PM peak periods of the 19th September 2012. The existing queuing scenarios between 8:00-9:00 and 17:00-18:00 are summarised within **Figure 8**.

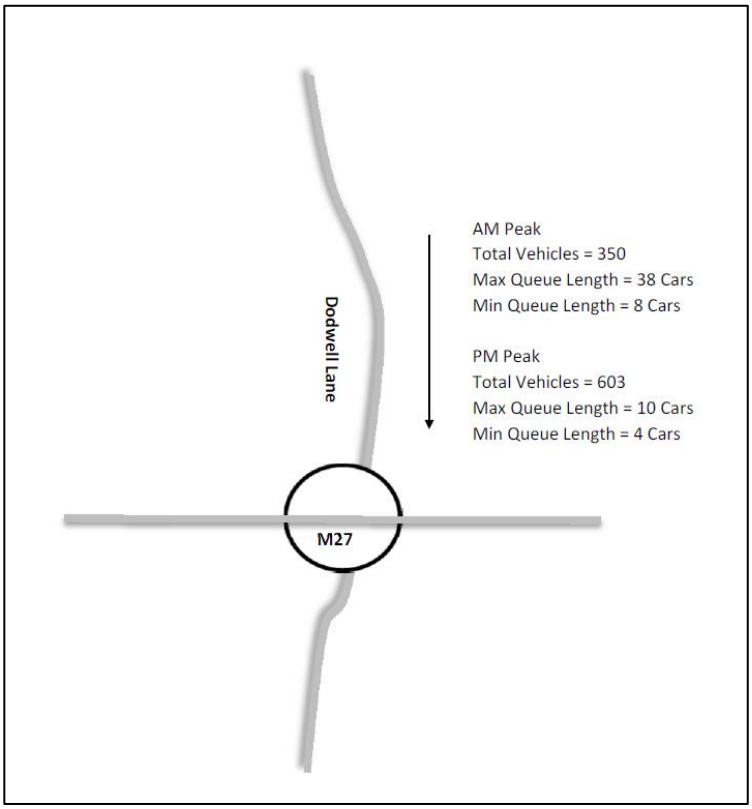


Figure 8: Existing Queue Lengths on Dodwell Lane approach to M27 Jn 8

4.16 The proposed development would likely add circa 5 vehicles to the AM peak movements and 1 vehicle to the PM peak movements onto this approach to the M27 Jn8. Given that this is a small percentage (1% and <1% respectively) of the existing vehicles approaching the junction from the north, it is not anticipated that the proposals would have any material impact on queuing lengths on this junction arm.

Summary of Development Traffic Impact

4.17 The proposed development would result in modest additional trips on the local road network during the AM and PM peak periods, result in modest increases in traffic flows through local road junctions and negligible impact on the M27 Junction 8.

4.18 Furthermore, the impact of the proposed development would be reduced even further by the implementation of a travel plan, which would be secured with any reserved matters application. A Framework Travel Plan is submitted in conjunction with this Transport Assessment at this outline application stage.

5. PROPOSED ACCESS ARRANGEMENT

5.1 The site will be served by a single vehicle access point onto St Johns Road toward the northwest corner of the site. The junction formation is proposed as a bellmouth supported by a ghost-island right turn lane. The bellmouth access would measure 6m in width and would allow two vehicles to comfortably pass when concurrently turning in and out of the access and allow large service vehicles to enter the site. The access would be constructed to HCC adoptable standards. The proposed access is demonstrated in **Appendix F**.

5.2 Given the quantum of existing traffic volumes on St John's Road (established through traffic turning count surveys) and anticipated trip generation from the proposed development being greater than 300 movements per day, a ghost-island right turn lane is proposed as per Design Manual for Roads and Bridges (DMRB) TD42/95 guidance. A right hand turn lane ensures no obstruction to the free flow of traffic on St John's Road.

5.3 To gain the required space for the right hand, the proposed highway improvement utilises the western carriageway margin of St Johns Road and would realign but maintain the existing 1.8m footway. The proposed ghost island incorporates the following design elements based on DMRB42/95 guidance and a design speed of 70kmph (43.75mph):

- Through Lane Width = 3m (TD42/95 para. 7.20)
- Taper Ratio = 1:20 (TD42/95 Table 7/3)
- Turning Length = 10m (TD42/95 para. 7.32)
- Direct Taper Length = 15m (TD42/95 Table 7/4)
- Turning Lane Width = 3m (TD42/95 para. 7.35)
- Deceleration Length = 40m (TD42/95 Table 7/5a)

5.4 Given the site access location being in close proximity to the change in 30mph/40mph speed limit, visibility splays from the proposed site access have been prepared based on recorded 85th percentile speeds (44.2mph southbound, 43.7mph northbound). Visibility splays of 2.4m x 120m have been demonstrated within **Appendix F**, reflecting the 70kmph design speed of the proposed right turn lane. Visibility splays from the proposed site access are visually demonstrated within **Photographs 4** and **5**.

Photograph 4 Proposed Access Visibility (Secondary)

Photograph 5 Proposed Access Visibility (Primary)

5.5 Pedestrian and cycle access to the site would be improved with a shared footway/cycleway link into the site supported by a pedestrian refuge crossing across St John's Road, linking to the existing footway on the western side of St John's Road. The pedestrian crossing is supported by dropped kerbing and tactile paving. The footway and pedestrian crossing are also demonstrated in **Appendix F**.

5.6 An independent Stage 1 Road Safety Audit (RSA) was commissioned to assess the highway safety implications of the proposed junction arrangement, which is attached as **Appendix G** for reference. The RSA raised one concern with the proposed access arrangement and its relationship with the existing access to Netley Hill Farmhouse. A designer's response has been prepared against this concern, which is also included within **Appendix G**.

6. SUMMARY AND RECOMMENDATIONS

6.1 This Transport Assessment (TA) has been prepared by Paul Basham Associates on behalf of Highwood Residential Ltd to support an outline planning application for a 94 dwelling development on land to the rear of St John's Road, Hedge End.

6.2 The application site is situated within a sustainable location with the following being provided:

- Within 1.25km walk from the town centre supported by continuous footway network, providing a range of facilities
- A well-connected formal local cycle network and within approximately 15 minute cycle-ride to the local cycle store
- High range and frequency of bus services accessed at the local bus stop within approximately 250m walk
- Within 3kms of 2 stations and separate lines both with hourly services

6.3 The site will be served by a single vehicle access point on to St John's Road toward the northwest corner of the site. The proposed access will be in the form of a bellmouth junction with ghost-island right turn lane. The accesses geometries would allow two vehicles to comfortably pass when concurrently turning in and out of the access and allow larger service to enter the site. The access road would be constructed to HCC adoptable standards.

6.4 Visibility splays of 2.4m x 120m, as promoted in DMRB guidance for 70kmph roads, are achievable in both the primary and secondary direction. This gives a robust measure of visibility, based on recorded 85th percentile speeds. The proposed access has been subject to a Stage 1 Road Safety Audit (RSA) which found there to be no safety concerns with the proposed access arrangement.

6.5 Pedestrian access to the site would be improved with the implementation of a footway link into the site and a new pedestrian crossing on St John's Road. The pedestrian crossing provides a link to the existing wider footway network, in addition to a pedestrian/cycle link from the site to Foord Road via Greenfield Close.

6.6 The proposed development incorporates 203 parking spaces in line with EBC parking standards. The proposed development site will provide an appropriate quantum of cycle parking in line with EBC requirements. A vehicle tracking exercise has been carried out demonstrating that refuse vehicles can comfortably manoeuvre through the site and turn within the turning areas provided.

6.7 A trip rate assessment indicated a likely proposed trip generation of 464 daily vehicle trips, with 47 vehicle trips in the AM peak and 54 vehicle trips in the PM peak. This would reflect one additional vehicle movement circa. every minute. This traffic has been distributed on the local road network based on turning count movements through local junctions, and dilutes quickly across the network. This quantum of additional traffic is not considered to have a material impact of highway safety or capacity within the site locale.

6.8 This TA has comprehensively analysed the highways aspects of the proposed outlined development. The application site is well located to support this form of development with access to existing infrastructure. The proposed development presents a suitable highways design being neither detrimental in terms of highways safety or traffic impact.

6.9 With this site supported by EBC for this quantum of development within their draft Local Plan, and the proposed layout not impeding the further implementation of HE2 development and draft HE8 policy (link road) at a later date, we encourage EBC and HCC highways to look favourably upon this application.

Appendix A

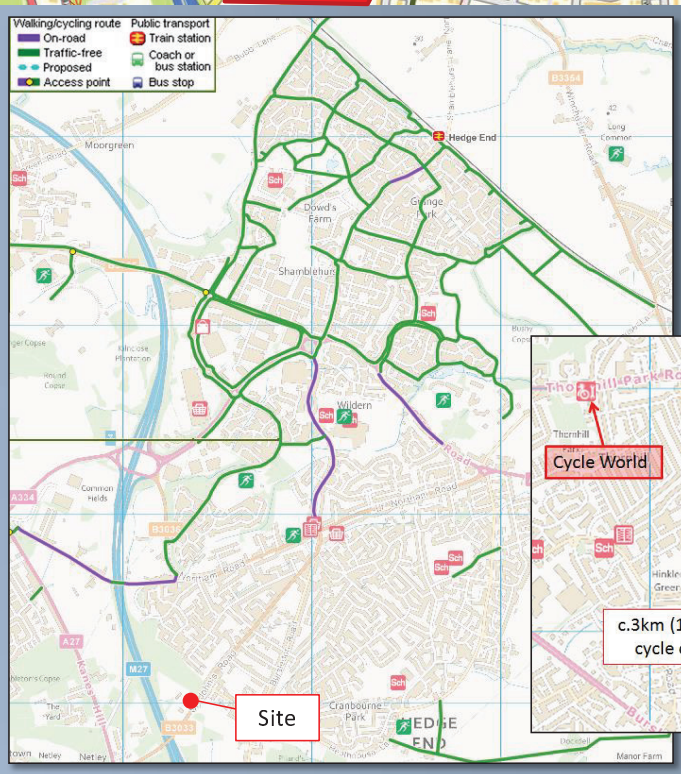
ACCESSIBILITY MAP – ST JOHNS ROAD, HEDGE END

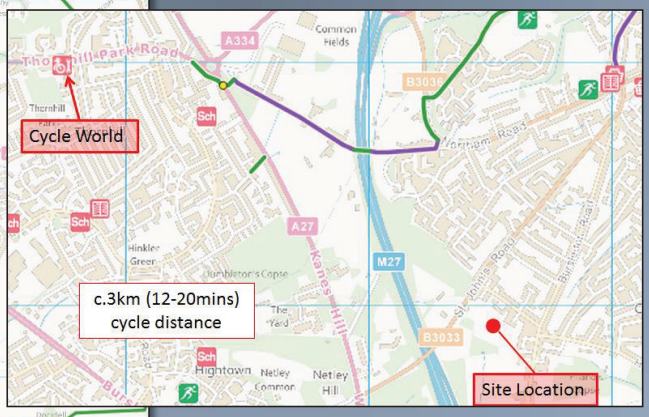
- Medical Establishment
- Recreation/ Leisure
- Retail/ Food
- Nature/ Park
- Religious
- Bus Route
- Bus Stations
- Town Centre Pedestrian Link
- On Road Cycle lane
- Traffic Free Cycle Lane

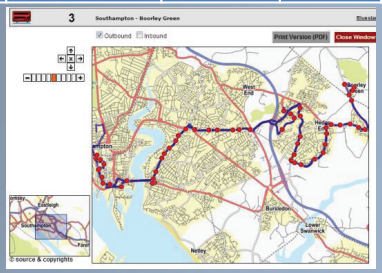
Rail Accessibility

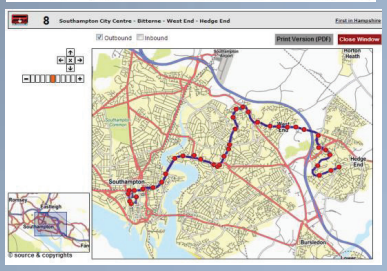
From Hedge End Station (Portsmouth – London Waterloo)			
Station	Mon-Fri	Sat	Sun
Portsmouth	1 per hour	1	1
London Waterloo	1 per hour	1	1
Winchester	1 per hour	1	1
From Bursledon Station (Portsmouth – Southampton)			
Fareham	1	1	1
Southampton	1	1	1
Portsmouth	1	1	1

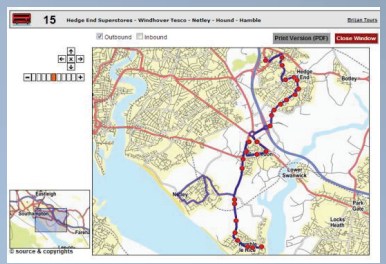
Service	Route	Operator	Frequency (average buses per hour)		
			Mon-Fri	Saturday	Sunday
3	Southampton - Boorley Green	Bluestar	1	1	1
8	Southampton City Centre - Bitterne - West End - Hedge End	First (St Catherine's View Bay)	2	1	1
15	Hedge End Superstores - Windhover Tesco - Netley - Hound - Hamble	Brijan Tours	1	1	0
191	Fair Oak - Botley - Itchen College	Xelabus	1 in AM & PM	0	0
601	Hamble Square - Barton Peverill College	Velvet	1 in AM & PM	0	0
603	Horton Heath Crossroads - Barton Peverill College	Velvet	1 in AM & PM	0	0
A	Eastleigh - West End - Hedge End	Velvet	2	2	1
B	Eastleigh - West End - Hedge End - Hamble - Netley	Velvet	2 in AM & PM	0	0
N8	Southampton - Hedge End	Velvet	0	4 (Night)	0
PS10	Whiteley - Peter Symonds College	Stagecoach	1 in Am & PM	0	0

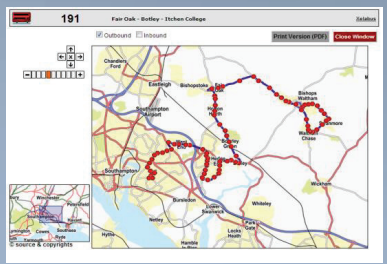


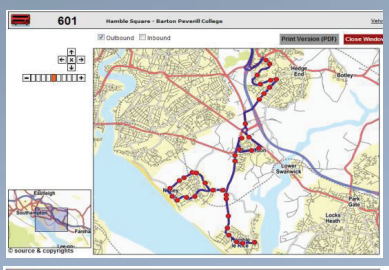


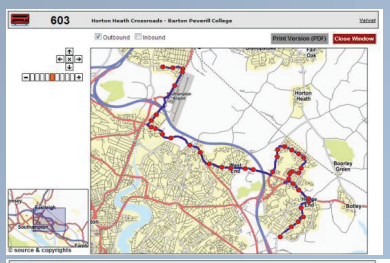


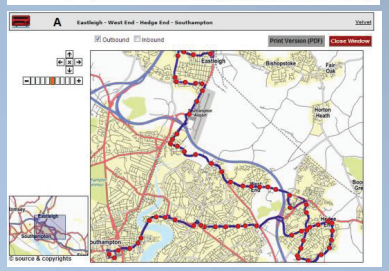


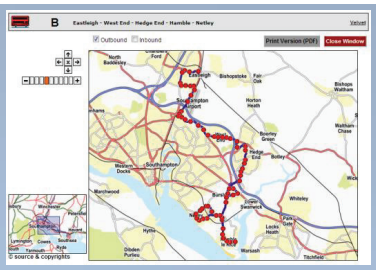


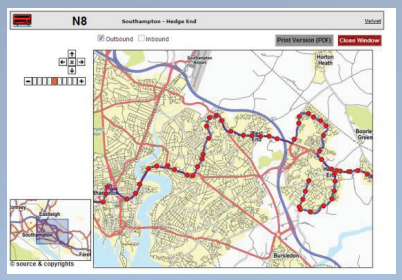


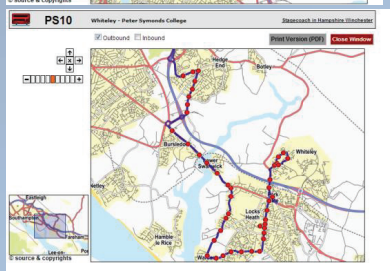












Appendix B

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Drawing No: 12.052-SK13

Scale 1:500 @ A1 REV.F

Date: 02.07.13

Proposed Site Plan - OPTION 4

St John's Road, Hedge End

Scale

0m 10m 20m 30m 40m 50m

HIGHWOOD THE HIGHWOOD GROUP

HGP ARCHITECTS