

Transport Assessment

**LAND OFF ST MARY'S ROAD,
HAYLING ISLAND, HAMPSHIRE
CLIENT: GLADMAN DEVELOPMENTS**



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1 INTRODUCTION

1.1 Purpose of Report

- 1.1.1 This report considers the highways and transportation implications associated with Gladman Developments Ltd's (Gladman) proposal for a residential development comprising up to 210 dwellings and 0.6ha for apartments with care (C2) located on land off St Mary's Road, Hayling Island, Hampshire.
- 1.1.2 This document has been prepared in accordance with the Government's Planning Practice Guidance: Transport evidence bases in plan making (October 2014) and Travel Plans, transport assessments and statements in decision-taking (March 2014) and the Department for Transport's (DfT) Guidance on Transport Assessment (GTA) (March 2007). It considers the accessibility of the site and safety for all modes of travel but specifically alternatives to the private car such as walking, cycling and public transport.
- 1.1.3 The conclusions and recommendations contained herein have been drawn based on information available and obtained in advance of the planning submission to which this report relates.
- 1.1.4 Reasonable checks have been carried out on any third-party information used in the preparation of this report but, nonetheless, PRIME Transport Planning accepts no liability for the accuracy or otherwise of this data.
- 1.1.5 Third party rights are excluded for the use of information contained within this report.

1.2 Scope of Report

- 1.2.1 This report has been prepared in accordance with 'Transport evidence bases in plan making' which replaced the DfT's GTA on the 22nd October 2014. However, the new document is not a like-for-like replacement for GTA, providing no guidance on the production of Transport Assessments to accompany developments. The latest guidance instead helps local planning authorities assess strategic transport needs to reflect and, where appropriate, mitigate these in their Local Plan.
- 1.2.2 More relevant information is provided within the PPG under Travel Plans, Transport Assessments and Statements in Decision-Taking however this also does not provide the level of detailed guidance that was contained within DfT's GTA.
- 1.2.3 The lack of current detailed guidance places greater emphasis on agreeing the scope of a TA with the highway authority responsible for the location in which the development is proposed and in employing industry best-practice. Given that GTA was in place for 7-years, PRIME believes that assessment in-line with the document still represents industry best-practice, particularly for aspects where the current guidance lacks the necessary detail to form a robust assessment.

1.2.4 Hampshire County Council (HCC) is the planning and highway authority for Hayling Island. The scope of this TA has been largely agreed with HCC Highways, per the scoping correspondence included in **Appendix A**.

1.2.5 Following this introduction, the remainder of this report is structured as follows:

- **Section 2** describes the relevant local and national transport policy and guidance;
- **Section 3** describes the existing situation in terms of the site, local highway network and traffic conditions;
- **Section 4** details the development proposal including the access strategy;
- **Section 5** details access to the site by sustainable modes of travel which includes walking, cycling and public transport;
- **Section 6** discusses the forecasting methodology and trip generation of the site;
- **Section 7** describes the results of the traffic impact assessment and the ability of the proposed site access to accommodate the generated traffic;
- **Section 8** describes the existing safety of the local highway network; and
- **Section 9** summarises and concludes the findings of the Transport Assessment.

2 TRANSPORT POLICY AND GUIDANCE

2.1 Introduction

- 2.1.1 It is important that any new developments conform to and compliment national and local planning policy. This section details the policies that are relevant to this development.

2.2 National Planning Policy Framework

- 2.2.1 The *National Planning Policy Framework* (NPPF) was published in March 2012 and sets out the Government's current planning policies for England.
- 2.2.2 Paragraph 14 states that there is a '*presumption in favour of sustainable development*' and that '*local planning authorities should positively seek opportunity to meet the development needs of their area*' unless '*any adverse impacts of doing so would significantly and demonstrably outweigh the benefits...*'
- 2.2.3 Section 4 of the NPPF, *Promoting Sustainable Transport*, outlines the important role that transport policies have to play in facilitating sustainable development. It states that:

'The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.'

- 2.2.4 The document emphasises the need for developments to offer a choice of sustainable modes of transport which '*support reductions in greenhouse gas emissions and reduce congestion*' and provide '*safe and suitable*' access for all.

- 2.2.5 Paragraph 35 of the NPPF states that plans for new development should:

'...protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, 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; and*
- consider the needs of people with disabilities by all modes of transport.'*

- 2.2.6 Paragraph 36 continues stating that a '*key tool*' to facilitate the above will be a Travel Plan, one of which has been submitted in support of this planning application as a separate document, but is summarised in **Section 5** of this TA given its pertinence to reducing the highway potential impact of the site and enhancing accessibility by sustainable modes of travel.

2.2.7 The NPPF calls for a '*balance of land uses*' which will encourage people to minimise their journey lengths for employment, shopping, leisure, education and other activities.

2.2.8 With regards to making decisions related to new development, Paragraph 32 of the NPPF states that such decisions should consider whether:

- *'the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the site can be achieved for all people; and*
- *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.'*

2.3 Planning Practice Guidance

2.3.1 The theme of sustainable development runs throughout Planning Practice Guidance, with the detailed elements regarding transport being focussed in the following sections:

- Transport evidence bases in plan making and decision taking; and
- Travel plans, transport assessments and statements in decision-taking.

2.3.2 Both sections of the Guidance provide significant amounts of detail on the information types and sources that are appropriate for helping Local Planning Authorities to take forward their Local Plan with an appropriate evidence base. The Guidance is also a useful reference for assessing schemes such as the development which this report accompanies.

2.3.3 The core components of the requirements for assessment, as set out in the Guidance, can be summarised as:

'The key issues, which should be considered in developing a transport evidence base, include the need to:

- *assess the existing situation and likely generation of trips over time by all modes and the impact on the locality in economic, social and environmental terms*
- *assess the opportunities to support a pattern of development that, where reasonable to do so, facilitates the use of sustainable modes of transport*
- *highlight and promote opportunities to reduce the need for travel where appropriate*
- *identify opportunities to prioritise the use of alternative modes in both existing and new development locations if appropriate*
- *consider the cumulative impacts of existing and proposed development on transport networks*

- *assess the quality and capacity of transport infrastructure and its ability to meet forecast demands*
- *identify the short, medium and long-term transport proposals across all modes'*

2.3.4 The principles set out in Planning Practice Guidance are consistent with the approach undertaken in the production of this Transport Assessment (TA).

2.4 Hampshire Local Transport Plan

2.4.1 HCC's Local Transport Plan (LTP) was formally approved on 24 February 2011 and covers the period to 2031.

2.4.2 The LTP is written in two parts: an LTP Strategy and an LTP Implementation Plan. The LTP Strategy is a comprehensive document which covers a 20-year period, from 2011 to 2031, and as such is intended to set out a long-term vision for how the transport network of Hampshire will be developed. The LTP Implementation Plan is a shorter document which comprises a three-year prioritised programme of integrated transport schemes to be delivered between 2014/15 to 2016/17, and it is the intention that HCC will produce subsequent three-year implementation plans throughout the life of the LTP.

2.4.3 The LTP sets out three main transport priorities for Hampshire for the next 20 years, these being:

- *'Main Priority 1: To support economic growth by ensuring the safety, soundness and efficiency of the transport network in Hampshire;*
- *Main Priority 2: Provide a safe, well-maintained, and more resilient road network in Hampshire as the basic transport infrastructure of the county on which all forms of transport directly or indirectly depend, and the key to continued casualty reduction; and*
- *Main Priority 3: Manage traffic to maximise the efficiency of existing network capacity, improving journey time reliability and reducing emissions, thereby supporting the efficient and sustainable movement of people and goods.'*

2.4.4 The LTP sets fourteen further policy objectives organised under the following five 'themes':

- Supporting the economy through resilient highways;
- Management of traffic;
- The role of public transport;
- Quality of life and place; and
- Transport and growth areas.

2.4.5 Theme E in particular relates to the link between transport and land-use policy, and in discussing Theme E, the LTP notes that,

'Whilst acknowledging that most people will wish to own and use cars, it is important that new development is planned to avoid increasing traffic pressure by ensuring that attractive sustainable transport alternatives are available. These alternatives then need to be promoted to ensure that those working and living within new developments are aware of the travel choices open to them.'

2.4.6 Chapter 7 of the LTP specifically addresses the South Hampshire Joint Strategy area, which includes Hayling Island and Havant, and has been developed jointly by HCC, Portsmouth City Council and Southampton City Council, working collectively as Transport for South Hampshire (TfSH). The vision for TfSH is to create:

'A resilient, cost effective, fully-integrated sub-regional transport network, enabling economic growth whilst protecting and enhancing health, quality of life and environment'.

2.4.7 There are 10 transport policies relevant to Hayling Island which are as follows:

- Policy A: To develop transport improvements that support sustainable economic growth and development within South Hampshire;
- Policy C: To optimise the capacity of the highway network and improve journey time reliability for all modes;
- Policy D: To achieve and sustain a high-quality, resilient and well-maintained highway network for all;
- Policy E: To deliver improvements in air quality;
- Policy G: To improve road safety across the sub-region;
- Policy H: To promote active travel modes and develop supporting infrastructure;
- Policy I: To encourage private investment in bus, taxi and community transport solutions, and where practical, better infrastructure and services;
- Policy L: To work with Local Planning Authorities to integrate planning and transport;
- Policy M: To develop and deliver high-quality public realm improvements; and
- Policy N: To safeguard and enable the future delivery of transport improvements within the TfSH area.

2.5 Havant Borough Council Core Strategy

2.5.1 The Havant Borough Council Core Strategy (2011-2026) was adopted in March 2011, and is the principal document in the Council's Local Plan.

2.5.2 The document sets out a vision for the future development of the Borough between 2011-2026, which is to transform Havant Borough into a *'cleaner, safer and more prosperous place. It will be a place where people of all ages and circumstances will want to live, visit or work.'*

2.5.3 The Core Strategy comprises seven key themes, which are as follows:

- Health and Wellbeing;
- Promoting Havant Borough's Economy;
- Regeneration and Community Support;
- Community Safety;
- Housing;
- Caring for our Borough; and
- Infrastructure, Implementation and Monitoring

2.5.4 The Core Strategy also sets out Development Management Policies, which are as follows:

- Health and Wellbeing – Community Facilities, Recreation and Open Space;
- Promoting Havant Borough's Economy;
- Housing;
- Caring for Our Borough; and
- Infrastructure – **Transport**

2.5.5 The following Development Management (DM) Policies are set out under 'Infrastructure-Transport'.

DM Policy 11 – Planning for More Sustainable Travel

2.5.6 Within the document it states that *'the Council will seek to ensure that every opportunity is taken to increase integration of sustainable travel modes and availability of non-motorised modes by appropriate measures'*.

2.5.7 The document sets out a list of measures including:

1. *'Securing on-site and/or off-site interventions that promote integrated travel and access by non-motorised modes;*
2. *Requiring safe and secure vehicular and cycle parking and turning facilities to adopted standards;*
3. *Securing appropriate improvements to public and community transport in accordance with the Hampshire Local Transport Plan and the relevant sub-regional transport strategy;*
4. *Proposals for reducing opportunities for informal parking in the area surrounding the development where this would impact on the capacity, operation and safety of the local highway network; and*
5. *Ensuring that new developments are located and designed at the outset to encourage lower vehicle speeds and safe, permeable, inclusive layouts that integrate with existing pedestrian, cycle and public transport routes.'*

DM Policy 12 – Mitigating the Impacts of Travel

2.5.8 It is stated in the document that *'new developments will be required to mitigate their travel impact, including the environmental impacts of travel (such as noise, air and visual pollution) and impacts on amenity, health and climate change'.*

2.5.9 By ensuring that the above is met, Havant Borough Council have set out the following criteria:

- *'Adequate provision is made for integrated and improved transport infrastructure or appropriate mitigation measures, through direct improvements and S106 contributions;*
- *The submission of a Transport Assessment and Travel Plan alongside any planning application on proposals for major development or where a proposal is likely to have significant transport implications;*
- *The submission of a Transport Statement must accompany planning applications to explain changes to travel demand;*
- *A bond is provided which will be used to mitigate negative travel impacts of the development, should the Travel Plan fail to achieve its targets.; and*
- *In relation to outline planning applications, a framework for the preparation of Travel Assessments and Travel Plans will be submitted with the planning application proposals.'*

DM Policy 13 – Car and Cycle Parking on Residential Development

2.5.10 It is set out in the document that *'Residential Development will only be permitted where it provides car parking and cycle storage in accordance with the standards set out in the Residential Car Parking and Cycle Provision Supplementary Planning Document.'*

2.6 Havant Borough Residential Parking and Cycle Provision

2.6.1 The Supplementary Planning Document (SPD) was adopted in March 2010 and provides comprehensive information and local standards with regards to parking provision and design in residential developments. **Image 2.1** below is Table 4 from the document and shows the allocated parking standards, **Image 2.2** is Table 5 from the document and show the shared/communal parking standards and **Image 2.3** is Table 7 from the document and shows the cycle parking standard.

Image 2.1 – Allocated Parking Standards

Table 4 Vehicle Parking			
Zone Size of dwelling	Standard	Havant town centre	Waterlooville town centre
1 Bed Unit	1 space	Max 1 space	1 space
2 Bed Unit	2 spaces	Max 1 space	1 space
3 Bed Unit	2 spaces	Max 1 space	1-2 spaces
4+ Bed Unit	3 spaces	Max 2 spaces	1-2 spaces

Image 2.2 – Shared/Communal Parking

Table 5 Shared/Communal Parking (unallocated)			
Zone Size of dwelling	Standard	Havant town centre	Waterlooville town centre
1 Bed Unit	0.9 spaces	Max 0.5 spaces	0.6 spaces
2 Bed Unit	1.3 spaces	Max 0.8 spaces	1 space
3 Bed Unit	1.9 spaces	Max 1 spaces	1.4 spaces
4+ Bed Unit	2.4 spaces	Max 1.2 spaces	1.8 spaces

Image 2.3 – Cycle Parking/Storage Provision

Size of dwelling	Long stay	Short Stay
1 Bed Unit	1 space per unit	1 loop/hoop per unit
2 Bed Unit	2 spaces per unit	1 loop/hoop per unit
3 Bed Unit	2 spaces per unit	1 loop/hoop per unit
4+ Bed Unit	2 spaces per unit	1 loop/hoop per unit

2.6.2 The standards for allocated and shared/communal cars parking vary based on the house type and the local area's level of accessibility as do the standards for cycle parking.

2.6.3 The standards for sheltered housing and nursing and rest homes which may be applicable to the apartments with care land use are shown in **Image 2.4** this being Table 6 from the document.

Image 2.4 – Sheltered Housing and Nursing and Rest Home Parking

Zone Type of Provision	Standard	Havant town centre	Waterlooville town centre
Sheltered Housing	1 space per unit	Max 0.5 Spaces per unit	0.5 – 1 spaces per unit
	Age restriction conditions or legal undertakings may be appropriate to define the age of occupants. Mobility vehicle storage provision may also be required in addition to cycle long and short stay provision (see Table 7).		
Nursing and Rest Homes	1 space per 4 residents and 1 space per staff and 1 long stay cycle space per 6 staff and 1 loop/hoop per 4 units	1 space per 8 residents and 0.5-1 space per staff and 1 long stay cycle space per 3 staff and 1 loop/hoop per 2 units	1 space per 6 residents and 1space per staff and 1 long stay cycle space per 4 staff and 1 loop/hoop per 3 units
	The resulting level of parking would allow flexibility for visitors, visiting health care professionals, ambulances, etc. As staff are likely to operate over a 24 hour period the calculation based on the number of staff should be based on the number typically present on the site at any one time. Information to support this should be submitted with any planning application.		

- 2.6.4 These standards vary by type of provision and the local area's level of accessibility. It is however important to note that developers of such establishments often provide justification for bespoke parking standards given the varying nature of such facilities, as evident in the Transport Statement for the consented development opposite the site on the former Hayling Billy public house by McCarthy and Stone (APP/16/00568). Further details will be provided as part of any subsequent Reserved Matters application.

2.7 Manual for Streets and HCC Companion Document

- 2.7.1 *Manual for Streets* (MfS) was published on behalf of the DfT and Communities and Local Government in March 2007 and provides advice for the design of residential streets in England and Wales.

- 2.7.2 The focus of MfS is to demonstrate the:

'benefits that flow from good design and assigns a higher priority to pedestrians and cyclists, setting out an approach to residential streets that recognises their role in creating places that work for all members of the community. MfS refocuses on the place function of residential streets, giving clear guidance on how to achieve well-designed streets and spaces that serve the community in a range of ways' (MfS page 7).

- 2.7.3 The guidance addresses many common design principles and discusses detailed design issues, often presenting recommended design criteria. Some of the key principles of MfS include:

- The need to shift from focusing on designing for motor vehicles to designing streets around the needs of pedestrians, cyclists and public transport users which in turn enhances safety;
- Good design can help to create and strengthen a sense of place and community;
- Creating streets that are permeable and offer good quality connections to main destinations for all road users;
- Inclusive design that recognises the needs of people of all ages and abilities; and
- Cost-effective construction often by avoiding over-designing.

- 2.7.4 In September 2010 a companion document *Manual for Streets 2 – wider application of the principles* (MfS2) was published. This document expands on some of the design principles of MfS and provides examples of places where designs based on these principles have been implemented.

- 2.8 HCC has produced a *Companion Document to Manual for Streets*, which is HCC's response to MfS: not replacing it, but sitting alongside it. The Companion Document sets out responses to specific parts of MfS. What MfS does not cover are the detailed technical standards for materials and construction that are needed for highways to be adopted. The HCC Companion Document is intended to provide a series of technical papers aimed at ensuring that, by applying the principles

of the MfS, new streets meet the exacting standards HCC require without compromising quality of design.

2.9 Summary

- 2.9.1 This section has outlined national and local transport policies and guidance which are applicable to the development site. How the site conforms to and complements these policies and guidance will be discussed in the following sections of this report, where relevant.

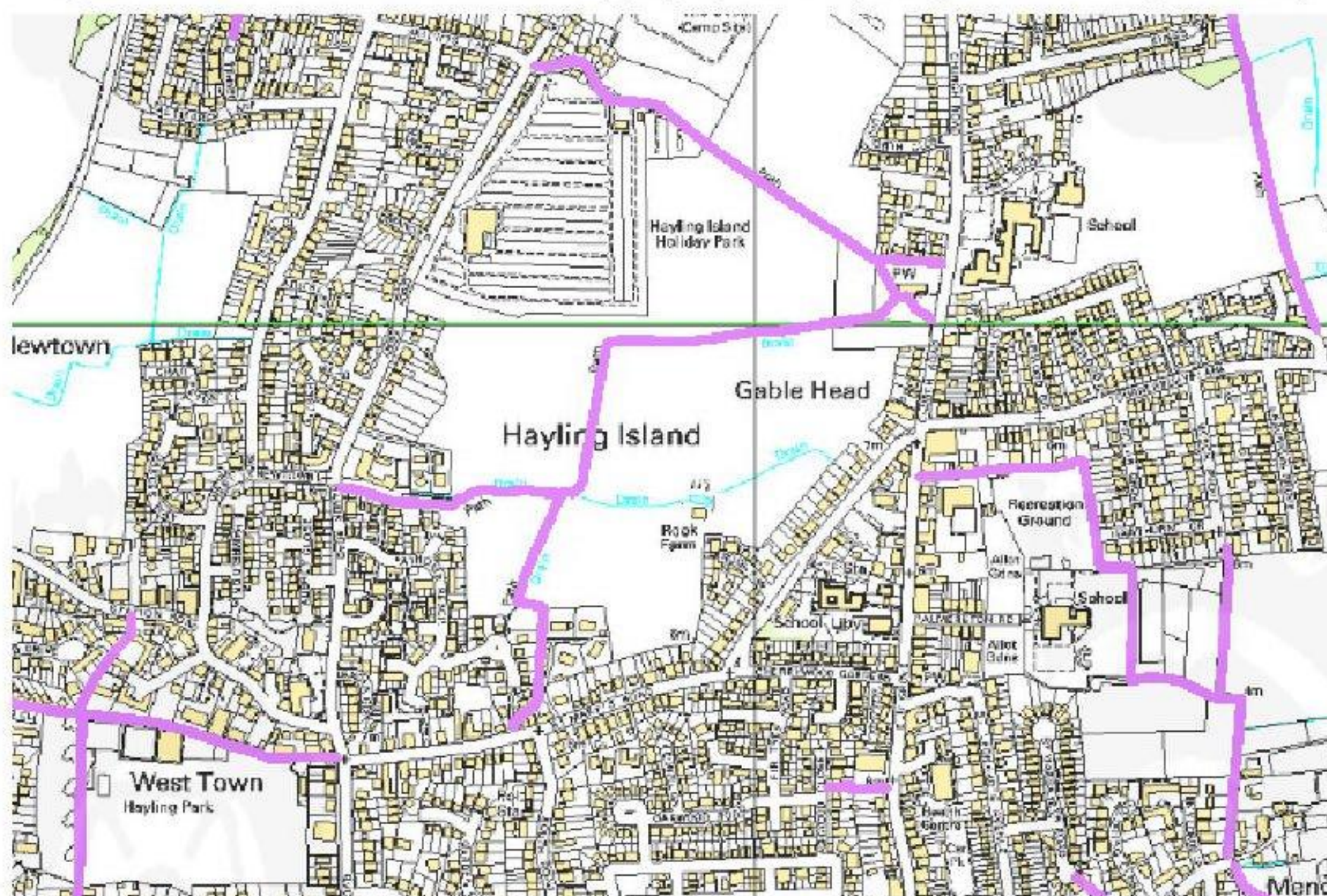
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3 EXISTING SITUATION

3.1 Site Description

- 3.1.1 The application site is currently largely undeveloped and in agricultural use. It is located in the Gable Head area of Hayling Island to the north of the South Hayling area. The site is bound to the south and east by existing residential properties off St Mary's Road and Church Road and bound to the north and west by open space. The site's only frontage with the adopted highway network is an approximately 30m wide section with St Mary's Road, in between numbers 115 and 123.
- 3.1.2 Hayling Island itself is a true island with a single bridge connection from the mainland. It sits within the borough of Havant, Hampshire. The Gable Head area is approximately 4.5 miles south of the centre of Havant and 10 miles east of Portsmouth. The location of the site in the context of Hayling Island and the local highway network is illustrated in **Figure 1** in **Appendix B**.
- 3.1.3 **Image 3.1** below shows the various public rights of way (PRoW) in the vicinity of the site, this being an extract of HCC's online mapping system. Footpaths are highlighted pink with Footpath 93 running along but outside of the northern boundary of the site from St Mary's Church to Footpath 92 which continues south along but outside of the western boundary then west to Manor Road. Footpath 94 runs from Footpath 92 to St Mary's Road at Southleigh Grove. The map below highlights the PRoW network local to the site.

Image 3.1: Extract from HCC's Online Mapping System Depicting the Public Rights of Way



Source: <http://localviewmaps.hants.gov.uk/LocalViewmaps/Sites/ROWOnline/#>

3.2 Local Highway Network

St Mary's Road

- 3.2.1 As mentioned above, St Mary's Road is the site's only frontage with the local highway network. It is a residential local access collector road effectively connecting Church Road to Manor Road as well as providing access to a number of side roads and many properties having driveway frontage with it. The road is best described in two sections, with the north-eastern section running diagonally from a priority controlled junction with ghost island right turn with Church Road in the north-east to Cherrywood Gardens where it forms a split priority junction. The western section then continues west from this junction to a priority controlled junction with minor arm flare with Manor Road.
- 3.2.2 St Mary's Road is two-way with a single lane in each direction. It is subject to a 30mph speed limit. The road also provides access to Mengham Infant School and a public car park. A central reserve is present in the vicinity of the school access which includes an uncontrolled crossing. A school bus stop is also present at this location. Double yellow lines restrict parking between the Church Road junction and the school while some on-street parking is permitted between the school and Cherrywood Gardens. Parking restrictions are largely not present along the western section. Continuous footway is present along the southern side of the western section while the footways along the eastern section are somewhat intermittent but safe contiguous walking routes are available by crossing over the road. Traffic calming features are not present on St Mary's Road.

Church Road/Elm Grove/Sea Grove Avenue

- 3.2.3 Church Road runs south from the A3023 roundabout becoming Elm Grove south of St Mary's Road then Sea Grove as it approaches Sea Front, the coast road. The road is one of the two distributor roads in the southern half of the island. It collects traffic from numerous side roads with many residential and commercial properties also taking access from it. Between Gable Head and South Hayling it acts as the local high street with shops and other businesses forming the majority of the frontage and wide footways being present. It is subject to a 30mph speed limit.

A3023

- 3.2.4 The A3023 is the primary distributor road that connects the island with the mainland. It runs south from a grade separated traffic signal controlled roundabout with the A27 and Park Road South to the south of Havant where it is named Langstone Road. It then bridges over Chichester and Langstone Harbours with the structure commonly known as Langstone Bridge. The bridge itself has a single lane in each direction and shared cycleways on each side of the carriageway. Continuing onto the island, the A3023 is named Havant Road and passes through the Stoke area where the speed limit reduces from 40mph to 30mph and provides access to side roads and driveway access to residential and commercial properties. This characteristic continues further south although driveway frontage becomes more prevalent as the surrounding areas become more urban. To the

west of the roundabout with Church Road, the A3023 continues west then south running parallel to Church Road/Elm Grove/Sea Grove Avenue to Sea Front passing through a district centre in the vicinity of St Mary's Road.

3.3 Existing Traffic Conditions

3.3.1 Two site visits were undertaken, one during the PM peak on Thursday 7th July 2016, the other during the AM peak on Friday 8th July 2016 which have aided in the compilation of this TA. During the site visits, it was observed that traffic flowed freely on Hayling Island itself and over the bridge with traffic travelling at typical free flow speeds. Some queues were observed on the A3023 approach to the junction with the A27 and at the merge point travelling southbound from the junction, but these queues tended to clear fairly quickly, particularly at the merge point with drivers showing courtesy to others to allow the merge to happen smoothly. Some slight delays were observed on the minor arms of junctions with the A3023 whilst traffic was gap-seeking but again, many drivers drove with courtesy and often allowed traffic out of the side roads. Traffic was also able to turn in between platoons. No notable queues were observed on the island itself.

3.3.2 It was noted that bus services appeared to be frequent and popular. Many pedestrians and cyclists were also observed.

3.3.3 In order to gain a better understanding of traffic conditions in the local area and for use in capacity assessment modelling to be detailed in **Section 6**, classified turning count and queue length surveys were undertaken by 360TSL, a specialist traffic survey and data collection company. Four user classes were surveyed, these being cars, light goods vehicles (LGVs), heavy good vehicles (HGVs) and buses. The junctions surveyed were:

1. A27/A3023 Langstone Road/Park Road South – grade separated signal controlled roundabout
2. A3023 Langstone Road/Langstone Technology Park Access/Southbrook Road – staggered crossroads with ghost island right turns;
3. A3023 Havant Road/Church Road – 3 arm roundabout;
4. A3023 Manor Road/St Mary's Road/Station Road – 4 arm staggered crossroads with ghost island right turn to St Mary's Road;
5. Elm Grove/Cherrywood Gardens – 3 arm priority;
6. St Mary's Road/Cherrywood Gardens – 3 arm split priority; and
7. Church Road/Tournerbury Lane/Elm Grove/St Mary's Road – staggered crossroads with ghost island right turns;

3.3.4 Junctions 1, 3 and 7 were originally suggested for assessment by PRIME, the choice of which was informed by a generation-distribution exercise using 2011 census data and detailed further in

Section 6. HCC then requested that surveys were undertaken for the other junctions listed during scoping discussions (**Appendix A**).

3.3.5 From hereon, junctions 1 and 2 are collectively referred to as the mainland junctions while the other five are referred to as the island junctions.

3.3.6 The turning count data was interrogated to derive the network weekday peak hours which were as follows:

Mainland Junctions

- AM peak: 0745-0845; and
- PM peak: 1645-1745.

Island Junctions:

- AM peak: 0800-0900;
- PM peak: 1630-1730; and
- School PM peak: 1530-1630.

3.3.7 It is not surprising that the peak hours of the mainland junctions differ to those of the island junctions given the distance between them. The school PM peak for the island junctions is actually higher than the PM peak so in agreement with HCC, an assessment of all three peaks for the island junctions will be undertaken and described in **Section 6**. There were only slight fluctuations between the network peaks and individual junctions with the greatest difference being 18 trips.

3.3.8 The queue surveys recorded the queue lengths at five minute intervals with queues recorded as stationary or slow moving (<5mph) vehicles.

3.3.9 **Traffic Flow Diagrams 1, 2 and 3** included at **Appendix C**, summarise the observed peak hour traffic flows from the turning count surveys and the average queues for the peak hours. In order to aid the capacity assessment modelling detailed in **Section 6**, the four user classes have been condensed into two, with cars and LGVs now referred to as 'lights'; HGVs and buses now referred to as 'heavies'. The raw traffic flow survey data is available on request.

3.3.10 The observed peak hour traffic flows along St Mary's Road at the site frontage, based on the abovementioned classified turning count at Junction 7, are shown in **Table 3.1** below.

Table 3.1: Link Flows along St Mary's Road in the vicinity of the site frontage

Peak	Direction	Link Flow			Heavy %
		Lights	Heavies	Total	
AM	NE bound	146	2	148	1.35%
	SW bound	88	1	89	1.12%
	2-Way	234	3	237	1.27%
PM	NE bound	69	3	72	4.17%
	SW bound	112	1	113	0.88%
	2-Way	181	4	185	2.16%
School PM	NE bound	86	0	86	0.00%
	SW bound	107	1	108	0.93%
	2-Way	193	1	194	0.52%

- 3.3.11 The flows in **Table 3.1** are low both in terms of volume and HGV content. The highways flows are in the AM peak with 237 trips being equivalent to less than four trips per minute. The flows are somewhat tidal in nature with the highways flow being north-eastbound in the AM peak but south-west bound in the two PM peaks. No more than three HGVs were recorded in one direction.
- 3.3.12 The utilisation of the results of these surveys in ascertaining the capacity of the site access and the abovementioned junctions is described in **Section 6**.
- 3.3.13 In addition to the turning count surveys, a speed survey was undertaken on St Mary's Road at the site frontage further to the request by HCC. The survey was undertaken using a radar speed 'gun' undertaken in accordance with TA 22/81 *Vehicle Speed Measurement on All Purpose Roads* of the *Design Manual for Roads and Bridges* (DMRB) whereby 200 measurements of vehicles travelling at free flow speed in each direction were recorded on two separate days, Tuesday 8th November and Monday 14th November 2016. The surveyors, again from 360TSL, remained in their vehicle parked at an inconspicuous location further away from the survey point so as to not influence the speeds.
- 3.3.14 The results of the speed survey are shown in **Table 3.2** and do not include a wet weather adjustment, despite the weather being dry during one of the days of the radar survey.

Table 3.2: Recorded Speeds along St Mary's Road at site frontage

Direction	Speed (mph)	
	Average	85th %ile
North-east	25.0	29
South-west	16.5	20

- 3.3.15 The results in **Table 3.2** are encouraging as they show that the signed speed limit is being adhered to but this is not surprising given the proximity to the junction with Elm Grove as traffic approaching the junction will be decelerating to give-way while traffic exiting the junction will be accelerating from a much slower speed when negotiating the turn. The raw data from this radar speed survey is provided in **Appendix D**.

Langstone Road Bridge

- 3.3.16 In order to gain a better understanding of traffic conditions over the bridge, an automatic traffic counter (ATC) was installed for a two-week period commencing Thursday 22nd September. **Table 3.3** provides a summary of the average weekday peak hour flows recorded over the bridge with the raw data provided in **Appendix D**.

Table 3.3: Langstone Bridge Two-week Average Flows

Direction	AM Peak (0900-1000)				
	Lights	Heavies	Total	Heavy %	Direction %
Northbound	1106	37	1143	3.2%	68.4%
Southbound	508	20	528	3.8%	31.6%
Two-way	1614	57	1671	3.4%	100.0%
Direction	PM Peak (1700-1800)				
	Lights	Heavies	Total	Heavy %	Direction %
Northbound	601	17	618	2.8%	36.6%
Southbound	1049	22	1071	2.1%	63.4%
Two-way	1650	39	1689	2.3%	100.0%

- 3.3.17 The recorded traffic flows show a clear tidal pattern with the northbound (towards mainland) direction being the busiest in the AM peak accounting for over 68% of the flow and the southbound (towards island) direction being the busiest in the PM peak with over 63% of the flow. The HGV proportions are fairly low with the highest being less than 4% in the AM peak.
- 3.3.18 DMRB TA 79/99 provides traffic capacity values for 'links' based on carriageway type and width. The most applicable carriageway type for the bridge based on Table 1 of the same document would be Urban All-purpose (UAP) 1. Table 2 in the document provides one-way hourly link capacity values in vehicles based on the number of lanes and carriageway width. The width of the carriageway was measured on site to be 6.8m which sits between the default widths of 6.75m and 7.3m. The precise value of link capacity for the measured width has been calculated based on linear growth, with this value being 1345 vehicles/hour. The highest observed value of 1143 vehicles/hour in the AM peak is well-below this figure indicating that there is currently spare capacity on the bridge.
- 3.3.19 It should however be remembered that this document was published over 17-years ago with the link capacity values presumably derived earlier than this and therefore do not take into account developments in car braking and collision systems, meaning that they may be somewhat historic and lower than what the values may be during present day conditions. It should also be remembered that the values are based on a HGV% of $\leq 15\%$ which is significantly higher than what has been recorded, meaning that realistically, the calculated link capacity values may be less than the actual capacity of Langstone Road Bridge.
- 3.3.20 The ATC also recorded traffic speeds over the bridge with the results summarised in **Table 3.4**.

Table 3.4: Recorded Speeds on Langstone Bridge

Direction	Speed (mph)			
	Week 1		Week 2	
	Average	85th %ile	Average	85th %ile
North	31.8	38.4	31.8	38.4
South	32.9	38.3	33.1	38.3

3.3.21 Both the average and 85th percentile speeds are less than the signed speed limit but are within a reasonable free flow cruise speed for of road of its nature. The results show very little variation in average and 85th percentile speeds over the bridge between the two weeks suggesting that speeds and therefore journey times over the bridge are fairly regular and reliable.

3.3.22 Prior to the ATC surveys, journey time surveys were undertaken by 360TSL on Thursday 19th May 2016 as part of the feasibility study undertaken for the site. This was the Thursday before a particularly warm and sunny bank holiday weekend, so the traffic flows may have been higher than usual. The surveys were undertaken in the AM and PM peak periods from 0700-1000 and 1530-1630 for the section of the A3023 between Mill Lane and Hayling Island Service Station with 40 journeys made in each direction. A summary of the journey times including the average, minimum, maximum and deviation between the minimum and maximums are shown in **Table 3.5**, with the raw data included in **Appendix D**.

Table 3.5: Summary of Langstone Bridge Journey Time Results (hh:mm:ss)

Period	Direction	Average	Minimum	Maximum	Deviation: Max-Min	Deviation: Max-Ave
AM	Southbound	00:01:15	00:01:08	00:01:23	00:00:15	00:00:08
	Northbound	00:01:15	00:01:10	00:01:20	00:00:10	00:00:05
PM	Southbound	00:01:17	00:01:08	00:01:33	00:00:25	00:00:16
	Northbound	00:01:16	00:01:10	00:01:28	00:00:18	00:00:12

3.3.23 **Table 3.5** shows that the average speeds in the peak hours are closely comparable with the average journey times in the AM peak being identical in both directions in the AM peak period and 1-2 seconds higher in the PM peak period. The level of deviation is fairly minimal fluctuating between 10-25 seconds between the maximum and minimum and 5-16 seconds between the maximum and average. The results show fairly constant journey times during the peak periods indicating good journey time reliability over the bridge. The traffic survey specialist noted that queues did not form over the bridge during the survey.

3.3.24 The traffic survey locations are shown graphically in **Figure 1** of **Appendix B**.

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4 DEVELOPMENT PROPOSAL

4.1 Development Description

- 4.1.1 As mentioned above, Gladman is seeking outline planning permission for up to 210 dwellings and 0.6ha for apartments with care (C2) on land off St Mary's Road, Hayling Island, Hampshire. The nature of the application will mean that all matters will be reserved except for access.
- 4.1.2 Further details on the mix of dwelling types and areas of public open space will be provided in other documents submitted as part of the planning application. These documents should be available via the online Havant Borough Council (HBC) planning portal.
- 4.1.3 A Development Framework Plan has been produced by FPCR and forms part of the supporting documentation for the planning application. It is not included within this document as it has the potential to be revised up to the point of submission and therefore, to avoid conflicting and superseded layouts being submitted within the various planning documents, it is omitted from this report.
- 4.1.4 The Development Framework Plan shows that the site is to be served via a new access from St Mary's Road with the primary access route running through the portions of the site to be developed. This developed area will be surrounded by green infrastructure and a play area. Pedestrian accesses will connect to the local PRow's that border the site.

4.2 Access Strategy

Vehicular Access

- 4.2.1 It is suggested that a single main access will be appropriate to serve this particular development. This will take the form of a priority controlled junction located at the St Mary's Road frontage. The junction has been located as far west along the frontage as possible in order to maximise the junction spacing with Elm Grove. The proposed access strategy is shown in **Drawing P16031-001D** in **Appendix E**.
- 4.2.2 In order to ensure that the proposed vehicular access is a safe design, the visibility splays have been calculated based on the stopping sight distance (SSD) for vehicles. MfS2 contains the following calculation for SSD:

$$SSD = vt + v^2/2(d+0.1a)$$

where:

v = speed (m/s)

t = driver perception-reaction time (seconds)

d = deceleration (m/s²)

a = longitudinal gradient (%)

- 4.2.3 Table 10.1 in MfS2 provides a recommendation of variable SSD criteria. For speeds of 60kph (37mph) and below, a reaction time of 1.5s and deceleration rate of 0.45g (equivalent to 4.41m/s²) should be used; for speeds above 60kph, a reaction time of 2s and deceleration rate of 0.375g (3.68m/s²) (absolute), or 0.25g (2.45m/s²) (desirable), should be used.
- 4.2.4 Paragraph 3.4 of DMRB TA 22/81 '*Vehicle Speed Measurement on All Purpose Roads*' states that stopping sight distance (SSD) in access design should be based on wet weather speeds and as such the correction factor of 4kph (2.5mph) should be used (deducted from the observed speeds) for All Purpose Single Carriageways where conditions are observed to be dry during the survey period(s). Conditions were dry on one of the days of the speed surveys but damp on the other, so not wet weather adjustment has been applied resulting in a more robust SSD.
- 4.2.5 **Table 3.2** shows that the recorded 85%ile speeds were 29mph in the north-eastbound direction and 20mph in the south-westbound direction, these being the speeds for use in the derivation of the SSD. Applying this figure in the SSD calculation provided above, alongside the 'below 60kph' reaction time (1.5s) and deceleration rate (4.41m/s²) gives the appropriate stopping sight distance, otherwise known as the 'y' distance, of **39m** to the right on exit and **23m** to the left on exit.
- 4.2.6 In-line with MfS guidance, an 'x' distance of 2.4m has been used, which '*represents a reasonable maximum distance between the front of the car and the driver's eye*' (MfS2 paragraph 10.5.6). Collectively the 'x' and 'y' distances are referred to as the visibility splay
- 4.2.7 Visibility splays of **2.4m x 39m** to the right on exit and **2.4m x 23m** to the left on exit have therefore been shown on the Proposed Access Arrangement **Drawing P16031-001D** contained with **Appendix E**. Greater visibility is available in both directions.
- 4.2.8 It is useful to note that the abovementioned visibility splays lie within the red line boundary of the site and the extent of the adopted highway.
- 4.2.9 The proposed access consists of a 5.5m wide carriageway, 2 x 2m wide footways and 8m junction radii. These dimensions accord with MfS guidelines. The two footways will tie in to the existing provision on St Mary's Road which itself will be extended further south-west as shown on the abovementioned drawing. The width of new footway provision along St Mary's Road will be limited by the available highway verge. A topographic survey used in the design shows that a footway of a varying width of between 1.8m and 2.0m can be achieved until outside property number 109. At this point, an uncontrolled crossing will be provided which will consist of dropped-kerbs and tactile paving, allowing pedestrians to cross to the existing footway on the south-eastern side of the road. Dropped-kerbs and tactile paving will then aid the crossing of the public car park access. Should pedestrians prefer not to cross at this point, the footway, whilst narrower, will continue to another proposed uncontrolled crossing. The width will reduce to 1.36m but this is greater than the 1.2m minimum suggested in the DfT document *Inclusive Mobility (2005)* and will be more than wide enough to accommodate wheelchair and buggy users. To maximise accessibility, Gladman will be

- willing to fund the provision of a white-lined safety zone through the public car park to the footpath that leads to Elm Grove.
- 4.2.10 **Drawing P16031-001D** in **Appendix E** demonstrates that adequate forward visibility to the proposed uncontrolled crossings can be achieved with the MfS2 formula used for the signed 30mph speed limit, with the equivalent SSD being 43m which is inclusive of a bonnet length adjustment. Greater SSDs in both directions are clearly achievable.
- 4.2.11 To further maximise accessibility, Gladman is willing to fund the provision of two uncontrolled crossings with pedestrian refuge islands in the ghost island tapers on Church Road/Elm Grove as shown on **Drawing P16031-002** in **Appendix E**. These features demarcate safe places to cross and allow Church Road/Elm Grove to be crossed in two movements. The provision of the northern crossing will require the removal of a short section of the bus layby by building out the footway, but this will not affect the operation of the layby as the parallel section will still be greater than the 17m minimum length required. The provision of the refuge islands should also encourage slower speeds through the junction by creating a narrowing effect.
- 4.2.12 The radii has been based on a swept path analysis using the industry standard software *AutoTrack* as shown in **Drawing P16031-003** for a large refuse collection vehicle (3 axle Dennis Eagle Elite). The refuse collection vehicle will be the largest vehicle expected to regularly access with smaller vehicles, such as cars, ambulances and fire appliances having less onerous swept paths. The drawing shows that the vehicle will have to cross both sides of the access road which should be acceptable given that such vehicles will only need to access the site once a week. Furthermore, egressing traffic flows on the minor arm will be minimal in the peak hours (see **Section 6**) so it is unlikely that there will be egressing traffic when the refuse collection vehicle is accessing the site and any delay incurred will be minimal. Providing greater dimensions would be contrary to MfS advice as it would be over-designing and would make it more difficult for pedestrians to cross.
- 4.2.13 HCC Highways also requested that adequate access for construction vehicles should be incorporated into the site access arrangements. This issue is normally dealt with at the Reserved Matters stage during which further details and a Construction Traffic Management Plan will be provided, however, a swept path analysis has been undertaken for a 16.48m long articulated lorry in **Drawing P16031-004** and for a large tipper truck in **Drawing P16031-005** to provide an early indication to the highway authority regarding construction vehicle access. It is expected that such vehicles will travel from/to the mainland so the right turn in and left turn out of the site are the only movements considered along with the equivalent turns at the Elm Grove junction. Whilst the paths of both vehicles are fairly onerous, they can both safely access and egress the site.
- 4.2.14 It should be remembered that *AutoTrack* provides for a worst-case assessment with qualified heavy vehicle drivers being able to undertake tighter turns than shown in the software. It should also be remembered that banksmen and on site staff will be present to guide larger vehicles in and out of the site when required. Temporary surfaces could also be used during the construction phase to

further facilitate construction traffic access/egress. In order to accommodate the articulated lorry and the pedestrian island across St Mary's Road, the north-western kerb line needs to be cut-back as shown in **Drawing P16031-001D**. The original kerb line could be reinstated following construction.

Additional Accesses for Pedestrians

- 4.2.15 Whilst the vehicular access will cater for all road users, the accessibility of the site by sustainable modes of transport will be enhanced by the provision of three pedestrian accesses onto Footpath 94 which provides connection to other footpaths and to Southleigh Grove and the south-western section of St Mary's Road.

Internal Layout

- 4.2.16 It is expected that the masterplan associated with any Reserved Matters application will include turning areas within the site for vehicles, either in the form of internal loops or turning heads.
- 4.2.17 The design speed of the access road will be 20mph. While the internal layout will be subject to a separate Reserved Matters application by the potential house builder, it is expected that it will be based on MfS design guidance meaning that the layout will focus on the needs of pedestrians, cyclists and public transport users, create a sense of place and community, create permeable streets offering good quality connections and will recognise the needs of people of all ages and abilities. All of these should be achieved without over-designing.
- 4.2.18 The proposed access strategy and pedestrian improvements will enhance the site's permeability and connectivity by sustainable modes of travel. It will also help the site to integrate with the existing and proposed surrounding residential areas and is therefore compliant with the various Themes and Objectives outlined within the LTP document.

4.3 Parking

- 4.3.1 The Havant Borough car and cycle parking standards are presented in **Section 2** and vary depending on the dwelling size and establishment type. The housing mix has not been finalised as part of this Outline application and will be addressed as part of the Reserved Matters application but it is expected that the subsequent Reserved Matters application will provide sufficient parking to comply with the relevant standards at the time of submission. Further details on the parking provision for the apartments with care will also be provided at that stage.

4.4 Summary

- 4.4.1 As described in this section, the development will conform to a number of national and local policy guidance. The design of the site accesses will conform to the standards in MfS and DMRB. As such the design will also conform to and complement several national and local policies. The relevant

local transport policies pertinent to the development proposals include LTP Main Priorities 1 and 2, TfSH LTP policies A, H and M and HBC Core Strategy policies DM11 and DM13.

- 4.4.2 The proposals reflect the principles of inclusive design outlined in MfS, shifting from focusing on designing for motor vehicles to designing streets around the needs of pedestrians, cyclists and public transport users, controlling speeds, not overdesigning and creating permeable streets. These principles in turn help the site to conform to NPPF guidance including paragraph 35 in terms of giving priority to pedestrian and cycle movements, creating 'safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians' and considers the 'needs of people with disabilities by all modes of transport'.

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5 ACCESS BY SUSTAINABLE MODES

5.1 Introduction to Sustainable Modes of Transport

5.1.1 National and local transport planning policy centres on the importance of sustainable development meaning that new developments should be located in areas where realistic alternatives to car travel exist or can be implemented. These alternatives are walking, cycling and public transport. This section of the report will describe how accessible the site is by these sustainable modes of transport.

5.2 Access on Foot

5.2.1 The site is located adjacent to existing residential areas and close to the amenities of Hayling Island. As stated in **Section 4**, together with the vehicular access, the development proposals include three pedestrian only accesses will be provided on the western side of the site, which will enable access on to the existing PRow network.

5.2.2 The development proposals include uncontrolled crossings on St Mary’s Road, Elm Grove and Church Road. These will encourage walking to and from the site and will not only benefit future residents of the site but existing local residents. They will be particularly beneficial for walking trips to/from the local schools, creating safer routes.

5.2.3 Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution of Highways and Transportation (CIHT) document entitled *Providing for Journeys on Foot* (2000) suggests walking distances which are relevant to this application. These distances are shown in **Table 5.1**.

Table 5.1: Suggested Acceptable Walking Distances

Criteria	Town Centres (m)	Commuting/School/Sightseeing (m)	Elsewhere/Local Services (m)
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200

Source: CIHT Document ‘Providing for Journeys on Foot’ (2000)

5.2.4 In order to illustrate the site’s accessibility on foot, an indicative walking isochrone has been produced using the Geographic Information System (GIS) software Visography TRACC. **Figure 2** in **Appendix B**, represents the site’s walking catchment for local service and commuting/school trips. The walking catchment is based on the distances of 400m, 800m and 1200m which are termed ‘Desirable’, ‘Acceptable’ and the ‘Preferred Maximum’ by the CIHT for local service trips.

5.2.5 Shown within the figure is a selection of local schools, local amenities and places of employment. In order to provide an accurate representation of the future highway and footway network in the area, the site’s proposed vehicular access, as well as the pedestrian and pedestrian/cycle only

accesses have been manually added to the network used for the isochrone, as have local PRowS. The local bus stops are also shown in **Figure 2**.

5.2.6 **Table 5.2** below summarises the distance and the typical time it would take to walk from the centre of the site to the local amenities and centres of employment and education, identified in **Figure 2** of **Appendix B** via the road and/or PRow network. It provides a comparison against those distances recommended in the CIHT's *Providing for Journeys on Foot*. The time it takes is based on a walking speed of 4.8kph which corresponds with the TRACC default, which itself is based on advice in the DfT document *Transport Connectivity Travel Time Indicators: Guidance Notes*.

Table 5.2: Distance and Walking Time Taken from Site to Local Amenities

Employment/ Education/ Amenity	Distance from Site (m)	Preferred Max Walk Distance (m)	Walk Time (mm:ss)
Co-Operative Foodstore	313	1200	03:57
Indian Restaurant/Takeaway	364	1200	04:35
Recreation Ground	476	1200	06:01
Mengham Infant School	480	2000	06:03
Childsplay Nursery School	508	2000	06:23
Fire Station	522	2000	06:37
St Mary C of E Church	525	1200	06:36
Library	605	1200	07:36
Elm Grove Free Church	681	1200	08:33
The Hayling College	708	2000	08:56
Mengham Junior School	711	2000	08:58
Police Station	741	1200/2000	09:20
Health Centre	794	1200	09:58
South Hayling District Centre	928	1200/2000	11:37
West Town District Centre	991	1200/2000	12:23
Tesco Express	996	1200	12:29
Hayling Island Community Centre	1023	1200	12:50
Sainsbury's	1052	1200	13:12
Tournerbury Golf Course	1053	1200	13:13
Pharmacy	1059	1200	13:16
Tennis Club	1233	1200	15:31
Amusement Park	1336	1200	16:48
Mill Rythe Junior School	1350	2000	16:58
Mill Rythe Infant School	1422	2000	17:58
Bus Stops			
Tournerbury Lane, S-bound	330	-	04:08
Tournerbury Lane, N-bound	357	-	04:29
Hayling School, N-bound	526	-	06:35
Hayling School, S-bound	573	-	07:11
West Lane, N-bound	608	-	07:37
Elm Grove, N-bound	648	-	08:07
West Lane, S-bound	650	-	08:08
Elm Grove, S-bound	667	-	08:21

- 5.2.7 The results in **Table 5.2** show that some amenities are within a 'desirable' walking distance (400m) from the site, these include a Co-Operative foodstore and Indian restaurant/takeaway. Most amenities fall within an 'acceptable' walking distance (800m) from the site, including a nursery, health centre, library, police station, fire station, recreation ground and two churches. Outside of this distance but within the preferred maximum (1200m) are the South Hayling and West Town district centres which includes numerous amenities including shops, restaurants, banks and a post office, Tesco Express, Sainsbury's Local, pharmacy, community centre and Tournurbury Golf Course. Of the five schools/colleges listed, Mengham Infant School falls within a desirable walking distance (500m), while Mengham Junior School and The Hayling College fall within an acceptable walking distance (1000m). The two Mill Rythe schools fall within the 'preferred maximum' of 2000m. It is useful to note the majority of amenities can be reached on foot within 15-minutes, while the remaining amenities listed can be reached within 18-minutes.
- 5.2.8 The local highway network provides good standard road-side and off-road footways that are naturally conducive to safe walking environments. This is particularly important to walking routes to and from schools. As shown in **Table 5.2** all of the local schools are within an 18-minute walk and less than one mile away from the centre of the site, with all but the Mill Rythe schools being less than a 9-minute and ½ mile walk away.
- 5.2.9 School travel plan information provided by HCC shows that in 2015, close to 60% of trips to/from The Hayling College were made on foot with over 50% of all trips to/from the Mengham Infant and Junior Schools being made via the same mode of travel. The equivalent percentages to/from the two Mill Rythe Schools were lower reflecting their larger catchment and less densely populated location. Clearly many existing trips to these schools will be made from much further away than the site, but there should be no reason why the vast majority of trips from the site to the local school cannot be made on foot.
- 5.2.10 Table NTS0614 of the DfT's *National Travel Survey 2015* available from <https://www.gov.uk/government/statistical-data-sets/nts06-age-gender-and-modal-breakdown>, reports that 78% of children aged 5-10 years walk to/from school for journeys under one mile with the equivalent figure for 11-16 year olds being 87%. Given the close proximity of the site to the local schools and the good quality local pedestrian network, which will be enhanced, particularly on routes to the local schools, as part of the development proposals detailed in **Section 4**, there should be no reason why walking will not be the most popular mode of travel for trips to/from school. Encouragement of walking to school will also complement the travel plans of the respective schools.
- 5.2.11 **Table 5.2** also shows that the closest pair of bus stops that facilitate access to local bus services, which are on Church Road opposite and adjacent to Tournurbury Lane, are less than a 5-minute walk away. Other pairs of stops on Church Road outside of Hayling School (College), Elm Grove and

Manor Road (West Lane) may be more convenient for some future residents of the site depending on where their properties are located.

- 5.2.12 Given the evidence presented in **Figure 2** of **Appendix B** and **Table 5.2**, walking can be considered to be a realistic and viable method of travel indicating that the site's location is accessible via this sustainable mode.

5.3 Access by Cycle

- 5.3.1 It is widely recognised that cycling can offer an attractive alternative to short car trips, particularly those under 5km, but also as part of longer journeys by public transport.

- 5.3.2 The DfT's *Local Transport Note 2/08 Cycle Infrastructure Design* states that:

'The road is the most basic (and important) cycling facility available, and the preferred way of providing for cyclists is to create conditions on the carriageway where cyclists are content to use it, particularly in urban areas.'

- 5.3.3 The generally flat topography of Hayling Island is naturally conducive to cycling. Shared cycleways are also present on the bridge which allows cyclists to avoid the carriageway which is not only safer for cyclists but it means that they do not impact upon the capacity of the carriageway.

- 5.3.4 A cycling isochrone showing the site's catchment has also been produced using TRACC and is shown as **Figure 3** in **Appendix B**. The figure illustrates 2000m and 5000m catchment ranges which equate to 10-minute and 25-minute journey times respectively which are based on the somewhat conservative or leisurely cycle speed of 12kph. Anecdotally, commuting cyclists are generally thought to travel at speeds between 15-20kph so a greater catchment may be more realistic. The cycling distances and times to a selection of key local centres of education, employment and amenities, as well as neighbouring areas, are shown in **Table 5.3**, although the cycle times detailed in the table are based on a cycling speed of 16kph which corresponds with the TRACC default, which the software developer has based on DfT advice. It should be noted that some of the cycle distances differ from the walking distances as cycling along PRow's is typically not allowed unless designated as cycleways, bridleways or byways.

Table 5.3: Distance and Cycling Time Taken from Site to Local Centres of Employment, Education, Amenities and Neighbouring Settlements

Employment/ Education/ Amenity/ Settlement	Distance from Site (m)	Cycle Time (mm:ss)
Co-Operative Foodstore	375	01:43
Indian Restaurant/Takeaway	426	01:53
Recreation Ground	538	02:41
Mengham Infant School	541	02:24
Childsplay Nursery School	569	02:28
Fire Station	583	02:42
St Mary C of E Church	587	02:45
Library	666	02:49
Elm Grove Free Church	742	03:05
The Hayling College	770	03:23
Mengham Junior School	772	03:25
Health Centre	855	03:35
District Centre	990	03:52
Police Station	1056	04:23
Sainsbury's	1113	04:33
Tournerbury Golf Course	1115	04:31
Pharmacy	1120	04:31
Mill Rythe Junior School	1411	05:49
Tesco Express	1427	05:43
Mill Rythe Infant School	1487	06:35
Hayling Island Community Centre	1496	05:56
Tennis Club	1547	06:25
West Town District Centre	1555	05:59
Amusement Park	1746	07:09
Hayling Golf Course	2962	11:19
Stoke	3258	12:22
Hayling Ferry Terminal	4406	16:50
North Hayling	4532	17:10
Langstone	6182	23:22
Solent Retail Park	7457	28:07
Langstone Technology Park	7468	28:10
Havant Town Centre	7494	29:03
Tesco Extra	7681	29:17
Solent Trade Park	7782	29:20

5.3.5 **Figure 3** in **Appendix B** and **Table 5.3** above illustrate that there is a considerable range of local amenities, places of employment, places of education and settlements within the cycle catchment. All of the amenities and centres of employment and education mentioned in the Access on Foot section are within the 2000m catchment. Most of Hayling Island is within the 5000m catchment including the residential areas of Stoke and North Hayling as well as the Hayling Ferry Terminal.

5.3.6 Outside of the 5000m catchment but within a 30-minute cycle time, which may be feasible for some residents of the site, particularly given the cycle-friendly topography of the island, are Solent Retail

Park, Langstone Technology Park, Havant Town Centre, Tesco Extra and Solent Trade Park, all major places of employment.

- 5.3.7 Connection can be made to National Rail services at Havant station which is in the town centre and around a 30-minute cycle ride from the site. The station has 160 CCTV protected cycle storage spaces (source: <http://www.nationalrail.co.uk/stations/HAV/details.html>).
- 5.3.8 The catchment plan and **Table 5.3** suggest that cycling will be a viable mode of travel for access to a range of local amenities and places of employment and education.
- 5.3.9 Clearly the site location and the surrounding infrastructure will mean that travel on foot and by cycle will be realistic and convenient modes of travel for some future residents of the site. The potential numbers of walking and cycling trips that the site will generate will be discussed in **Section 6** of this report, but clearly the scale of the site is not such that it will disadvantage existing pedestrians and cyclists.
- 5.3.10 The proposed site access point and pedestrian/cycle connections will complement the existing pedestrian and cycle infrastructure and provide convenient routes that will follow natural desire lines for future residents of the site.

5.4 Access by Public Transport

- 5.4.1 The Chartered Institute of Highways and Transportation (CIHT) document, *'Planning for Public Transport in Development'* recommends that developments should ideally be located within 400m of a bus stop. As **Table 5.2** shows, the stops on Church Road opposite and adjacent to Tournurbury Lane are within this distance. Both stops have flag poles with timetables, while the northbound bus stop comprises seating and shelter to protect waiting passengers from inclement weather. Other stops are located close to the site and provide access to the same services.
- 5.4.2 **Table 5.4** below summarises the services that can be accessed via these stops. Timetable information for all the services mentioned above can be downloaded from <http://www.travelinesoutheast.org.uk/> with the timetables referenced at the time of writing available on request.

Table 5.4: Summary of Bus Services in the Vicinity of the Site

Bus Service	Route	Weekday (Mon-Fri)	Weekend	
30	Havant – Hayling Island Circular	2-3 services per hour	1-2 services per hour	1 service per hour
31	Havant – Hayling Island Circular	1-2 services per hour	1-2 services per hour	1 service per hour

- 5.4.3 Both circular services link the main residential areas of Hayling Island to Havant town centre with a single service of the number 30 continuing to/from Oaklands School in Purbrook during school

opening and closing times. The two services combined provide up to four services per hour in the weekday peak periods. The two services should be convenient modes of travel for future residents of the site who work at Langstone Technology Park, Solent Retail Park or in Havant town centre. Connection can also be made to National Rail services at Havant station which is a short walk from Havant bus station.

- 5.4.4 To demonstrate the accessibility of bus services, an isochrone has been produced using TRACC and is shown as **Figure 4 in Appendix B** which highlights the destinations served by the regular daily bus services in Hayling Island. The calculation involved in producing the catchment plan includes only direct services to destinations within one hour's journey time. A greater range of destinations will be available if passengers make connections to other bus services. The isochrone was produced for the typical commuter hours of 0600-0900 using the National Public Transport Data Repository (NPTDR) dataset for the third quarter of 2016 for a typical Monday and includes services accessible only from the six closest bus stops to the site.
- 5.4.5 **Figure 4 in Appendix B** demonstrates that the bus services adjacent to the site provide convenient connections to a number of destinations. As illustrated, the majority of the main population centres on Hayling Island centre can be reached within a 15-minute journey time, while residents will be able to reach Havant, including the train station, within 30-minutes when travelling by bus. Bus travel may therefore be a viable mode of transport and provides a reasonable choice for a number of residents of the site.
- 5.4.6 As mentioned above, Havant train station may be within a reasonable cycling distance for some residents of the site with secure cycle storage available. The station provides regular services to London Waterloo and Victoria, Portsmouth, Southampton, Littlehampton, Bristol Temple Meads and Brighton.
- 5.4.7 Hayling Ferry Terminal, which resumed operations in August 2016, is within a 16:30-minute cycle time from the site. The current (at the time of writing) winter timetable available on <http://www.haylingferry.net/> provides Monday to Friday services to Eastney every 40-minutes from 0650 to 0840 then one per hour from 0930 until 1830, with the last return service being 1845. Services also run at weekend starting a 0840 from Hayling Island. This service enables Hayling Island residents to commute to/from Portsmouth with the ferry licenced to carry up to 64 passengers. The current fare for two crossings for an adult is £5.50 with discount available for 10 and 20 crossing tickets and for concessions. Bicycles can be carried free of charge.

5.5 Travel Plan

- 5.5.1 A residential Travel Plan (TP) has been produced as part of the package of documents supporting the planning application. The document forms the start of an ongoing process to encourage and monitor the use of sustainable modes of travel. As many aspects of the TP will be applicable to this TA, a summary of the key points is as follows:

- Outlines the key local and national objectives of the TP process;
- Sets targets for the reduction of car or van driver trips by 10%;
- Indicates potential measures that can be implemented to achieve these targets; and
- Provides details of how the TP will be managed, monitored and reviewed.

5.5.2 It should however be noted that in order to provide a robust assessment, the traffic impact assessment detailed in **Section 6** of this TA, does not take into account any trip reduction as part of the TP.

5.6 Summary

5.6.1 This section of the report has demonstrated that the site is in a sustainable location where a range of local amenities and centres of employment and education are within nationally recognised acceptable walking and cycling distances. The local bus services provide connections to some of the main employment areas and schools making bus travel a viable option for some of the residents of the site.

5.6.2 This section has also explained that a TP produced in support of the development will help to encourage the use of these sustainable modes. It is hoped that a combination of the site's sustainable location and design and adoption of the TP will help to maximise the use of sustainable modes of transport.

5.6.3 A key theme of national and local transport planning policy is that development should be located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. As detailed in **Section 2** of this report, the NPPF states that the '*transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel*' and developments should provide '*safe and suitable*' access for all. It can be concluded that the proposed development accords to this NPPF guidance as well as the principles of Paragraph 35 in terms of exploiting opportunities for sustainable travel and it is located and designed to give priority to pedestrian, cycle and public transport movements. Furthermore, the production of a TP is seen by the NPPF as being a '*key tool*' to facilitate the guidance in Paragraph 36. It is felt that, in relation to Paragraph 32 of the NPPF, '*the opportunities for sustainable transport modes have been taken up*'.

5.6.4 It has also been demonstrated that the site location, design and pedestrian improvements conform to Main Priority 3 of the LTP, TfSH LTP policies A, G, H and M, HBC Core Strategy policies DM11 and DM12.

6 TRAFFIC FORECASTING

6.1 Introduction

- 6.1.1 This section of the report details the methodology used to predict the demand associated with the development on two future base years whilst considering traffic growth and traffic associated with committed developments and a potential allocated site.
- 6.1.2 It should be noted that this assessment has been based on up to 230 dwellings only with the proposed development mix changed to up to 210 dwellings and 0.6ha for apartments with care following completion of the assessment. Further details will be provided on why the assessment remains robust in **Section 6.4**.

6.2 Traffic Growth

- 6.2.1 In accordance with GTA, the forecast year of assessment is 2021 which represents the year of application (2016) plus five years. It is expected that the site would be fully built-out and occupied by this forecast year. The impact on junction 1 the A27/A3023 Langstone Road/Park Road South grade separated roundabout will also be assessed at 2026 (year of application plus ten years) in line with DfT Circular 02/13 as the junction is managed by Highways England (HE), forming part of the strategic road network (SRN).
- 6.2.2 The 2016 observed traffic flows were factored to the assessment years using the DfT software TEMPro (Trip End Model Presentation Program) version 7.0. This package allows access to data used in the National Trip End Model (NTEM) and can be used to *'provide summaries of traffic growth using data from the National Transport Model (NTM)'* (<https://www.gov.uk/government/collections/tempro>).
- 6.2.3 The latest version of the TEMPro software provides traffic growth figures at the mid layer super output area (MSOA) level. Averages of the growth factors between the three MSOAs (Havant 015-017) that constitute Hayling Island have been used. Trip end growth factors for car drivers were derived and adjusted by NTM dataset AF15 for 'rural' area types and 'principal' road types, primarily to reflect the nature of the A3023.
- 6.2.4 DfT derived Road Traffic Forecast (RTF) growth factors for the South East England region have been applied to heavy vehicles as TEMPro is not applicable to such vehicle classes as detailed in WebTAG guidance. The RTF calculation for heavy vehicles is provided in **Appendix F**.
- 6.2.5 Before applying the traffic growth factors derived from the above method, the trips from local committed development have been considered.

6.3 Committed Developments

6.3.1 Following a telephone conversation with a local highway officer the following consented developments have been treated as committed:

- APP/12/00966: 131 dwellings on land south of Beech Grove (Bellway Homes); and
- App/13/00639: 59 dwellings and 1,250m² of light-industrial accommodation on land north of Station Road/Furniss Way (Barratt Homes).

6.3.2 At the time of writing, the Bellway Homes site was under construction and a telephone conversation with a member of staff at the sales office confirmed that the site was over 75% occupied at the time of the traffic surveys, therefore the site has been treated as being 75% occupied for assessment purposes. The Barratt Homes site is under construction but it is understood that no dwellings were occupied at the time of the traffic surveys, nor was the light-industrial accommodation in use.

6.3.3 As TEMPro includes government derived planning forecasts, it is necessary to manually adjust the planning assumptions within the database software to remove the numbers of dwellings associated with the committed development which would otherwise result in double-counting. The Bellway Homes site is geographically located in the Havant 017 MSOA which contains 115 additional households between 2016 and 2021 so only 115 dwellings have been removed from it with the full 131 households removed between 2016 and 2026. The Barratt Homes site is located in the Havant 015 MSOA so the associated 60 households have been removed from both forecast years. The application site is located in the Havant 016 MSOA and with it being unlikely that other large scale developments will take place in the MSOA in the next five years, the 108 households in TEMPro between 2016 and 2021 have been removed while the available 202 dwellings have been removed between 2016 and 2026. The planning assumptions related to jobs have not been adjusted and the growth factors will still contain background (demographic) growth. A comparative summary of this reduction in the household planning assumptions is shown in **Tables 6.1 and 6.2**.

Table 6.1: TEMPro Default and Alternative Planning Assumptions between 2016 and 2021

Area	Default Assumptions			Alternative Assumptions		
	Base HH	Future HH	Difference	Base HH	Future HH	Difference
Havant 015	2690	2795	105	2690	2735	45
Havant 016	2764	2872	108	2764	2764	0
Havant 017	2970	3085	115	2970	2970	0

Table 6.2: TEMPro Default and Alternative Planning Assumptions between 2016 and 2026

Area	Default Assumptions			Alternative Assumptions		
	Base HH	Future HH	Difference	Base HH	Future HH	Difference
Havant 015	2690	2886	196	2690	2826	136
Havant 016	2764	2966	202	2764	2764	0
Havant 017	2970	3186	216	2970	3055	85

- 6.3.4 The subsequent growth factors derived from the above and the RTF data to be applied to the 2016 Observed flows are shown in **Table 6.3**.

Table 6.3: Traffic Growth Factors

Source:	TEMPro		RTF
Area	AM	PM	Both
2016 - 2021			
Havant 015	1.081	1.075	1.042
Havant 016	1.068	1.059	
Havant 017	1.064	1.057	
Average	1.071	1.064	1.042
2016 - 2026			
Havant 015	1.154	1.148	1.077
Havant 016	1.131	1.119	
Havant 017	1.140	1.131	
Average	1.142	1.133	1.077

- 6.3.5 The flows factored to 2021, referred to as the 2021 Base flows, are shown in **Traffic Flow Diagrams 4-6**, with those factored to 2026 shown in **Traffic Flow Diagrams 7 and 8**.
- 6.3.6 The land south of Beech Grove flows have been enumerated based on the traffic flow diagrams presented in the supporting TA but with the flows reduced by 75% to avoid double-counting based on the level of occupancy at the time of the traffic surveys. The flows are illustrated in **Traffic Flow Diagrams 10 and 11**.
- 6.3.7 The land north of Station Road/Furniss Way was accompanied by a Transport Statement rather than TA so traffic flow diagrams were not available. The forecast number of trips associated with it have been distributed through the study area based on the distribution detailed below but with some localised adjustments due to the geographic location of the site. The distribution is shown in **Traffic Flow Diagram 12** with the distributed flows in **Traffic Flow Diagrams 13-15**.
- 6.3.8 The base and committed development traffic flow elements have been combined to form the 2021 Without Development Flows and are shown in **Traffic Flow Diagrams 16-18** for 2021 and **19-20** for 2026. All Traffic Flow Diagrams are included in **Appendix C**.

6.4 Vehicular Trip Generation

- 6.4.1 During scoping discussions (**Appendix A**) it was agreed with HCC that the average trip rates used in the land south of Beech Grove (Bellway Homes) TA would be suitable for the assessment of the impact of the application site. The TRICS sample has been reconstructed and the TRICS report output is included as **Appendix G**.
- 6.4.2 The trip rates were then applied to the 230 dwellings assessed as this results in a higher trip generation than that proposed and therefore provides a robust assessment. The likely 12-hour (residential sites in TRICS are only surveyed between 7am and 7pm) trip generation of the site is

shown in **Table 6.4** with the AM and PM peak hours, used in the traffic impact assessment detailed later in this section, highlighted in bold font.

Table 6.4: 12 Hour TRICS Derived Average Trip Rates and Trip Generation – 230 Dwellings

Time	Average Trip Rates			Average Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	0.088	0.267	0.355	20	61	82
08:00-09:00	0.161	0.447	0.608	37	103	140
09:00-10:00	0.195	0.253	0.448	45	58	103
10:00-11:00	0.181	0.184	0.365	42	42	84
11:00-12:00	0.186	0.189	0.375	43	43	86
12:00-13:00	0.24	0.235	0.475	55	54	109
13:00-14:00	0.235	0.207	0.442	54	48	102
14:00-15:00	0.237	0.24	0.477	55	55	110
15:00-16:00	0.296	0.209	0.505	68	48	116
16:00-17:00	0.377	0.218	0.595	87	50	137
17:00-18:00	0.437	0.27	0.707	101	62	163
18:00-19:00	0.307	0.282	0.589	71	65	135
Daily (12hr)	2.94	3.001	5.941	676	690	1366

6.4.3 As the above table shows, the site is likely to generate in the region of 140 and 163 two-way trips in the AM and PM peak hours respectively which equate to less than three vehicles every minute. The 12-hour trip generation is likely to be circa 1366 two-way (total) trips. It should be noted that no allowance has been made for any future reduction in car travel based on any potential increase in the use of sustainable modes of travel which may arise as a result of the implementation of TP initiatives, therefore the trip generation figures can be described as being robust for assessment purposes.

6.4.4 As previously stated, while this assessment has been based on up to 230 dwellings, the application will be for up to 210 dwellings, a difference of 20 dwellings. The applicant has advised that the up to 0.6ha for apartments with care is likely to allow for the construction of up to 60 apartments with care. In order to demonstrate that the assessment of the 230 dwellings is more robust, trip rates for the apartments with care have been derived. As TRICS is somewhat limited with regards to this land use, trip rates for 'retirement flats' have been derived as this land use tends to have higher trip rates than the two C2 uses related to care homes in the database. The rates and the associated trip generation along with that for 210 dwellings shown in **Table 6.5**. The TRICS report outputs are also included in **Appendix G**.

Table 6.5: Peak Hour TRICS Derived Average Trip Rates and Trip Generation – 210 Dwellings and 60 Retirement Apartments

Peak	Land Use	Trip Rates			Trip Generation		
		Arrivals	Departures	Totals	Arrivals	Departures	Totals
AM	210 Dwellings	0.161	0.447	0.608	34	94	128
	60 Retirement Apts	0.100	0.066	0.166	6	4	10
	Total	-	-	-	40	98	138
PM	210 Dwellings	0.437	0.270	0.707	92	57	148
	60 Retirement Apts	0.068	0.094	0.162	4	6	10
	Total	-	-	-	96	63	158

6.4.5 The trip generation in **Table 6.5** shows that the assessment based on 230 dwellings is more robust, resulting in an additional two trips in the AM peak and five in the PM peak. It should be noted that the TRICS derived trip rates for the retirement flats are higher than those used in the consented development at the former Hayling Billy public house opposite the site (APP/16/00568) by McCarthy and Stone, which used bespoke trip rates based on existing sites by the same developer. Use of the McCarthy and Stone trip rates shown in Table 4 of the associated Transport Statement would result in six trips in each peak hour, some four trips less than use of the TRICS trip rates.

6.4.6 As it was agreed during scoping discussions that the school PM peak (1530-1630) should be assessed, averages of the TRICS 1500-1600 and 1600-1700 trip rates have been calculated. The trips rates and associated trip generation for the school PM peak are shown in **Table 6.6**.

Table 6.6: School PM Peak TRICS Derived Average Trip Rates and Trip Generation

Time	Trip Rates			Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
15:30-16:30	0.337	0.214	0.550	77	49	127

6.4.7 **Table 6.6** shows that the site is likely to generate 127 two-way trips in the school PM peak which is equivalent to slightly more than two trips per minute.

6.5 Person Trip Generation

6.5.1 The number of non-car trips likely to be generated by the residential element of the site has been forecast using 2011 Census Method of Travel to Work data. The MSOA Havant 016 (E02004777) has been selected as it includes the site and the surrounding residential area. The trip ends for each method of travel have been downloaded from Nomis (<http://www.nomisweb.co.uk>).

6.5.2 Several of the transport mode categories have been manually removed from the data for reasons including the observed census trips being very low (e.g. taxi), it being unrealistic that they will be used by residents of the site (i.e. underground, metro, light rail) or they will not generate a trip (i.e. not in employment and working from home).

- 6.5.3 As the vehicular trips were calculated using TRICS, factors have been derived between them and the census car driver trips (1,461). The factors equate to 9.6% for the AM peak and 11.2% for the PM peak. They have then been applied to the other census modes to forecast the likely number of multimodal trips generated by the site. A summary of these multimodal trips is shown in **Table 6.7**.

Table 6.7: Forecast Multimodal Person Trips

Method of Travel to Work	Census Trips	Mode %	AM Trips	PM Trips	AM Mode %	PM Mode %
Train	58	3%	6	6	3.3%	2.8%
Bus, minibus or coach	74	4%	7	8	3.8%	3.7%
Motorcycle, scooter or moped	28	1%	3	3	1.6%	1.4%
Driving a car or van	1,461	76%	140	163	76.1%	76.2%
Passenger in a car or van	77	4%	7	9	3.8%	4.2%
Bicycle	63	3%	6	7	3.3%	3.3%
On foot	158	8%	15	18	8.2%	8.4%
All Modes	1,919	100%	184	214	100.0%	100.0%
Factors			9.6%	11.2%	-	-

- 6.5.4 Based on the results in **Table 6.7**, the site is forecast to generate 184 and 214 total people trips in the AM and PM peaks respectively. Following driving a car being the most frequent method of travel likely to be used by residents of the site, equating to 76%, walking trips will account for 15 and 18 trips in the AM and PM peaks respectively equating to 8% of trips. Car or van passengers will account for 7 and 9 trips equating to 4% of trips. Train passengers and cyclists will account for between 6 and 7 trips each (3%) while the remainder will consist of users of motorised two-wheelers. As the nearest train station, Havant, is around 7.5km away, it is likely that the initial part of the journey will be made as a car driver, car passenger, bus passenger or cyclist. It is not expected that the number of non-car trips will be of a level that would cause capacity issues associated with the respective method of transportation.

6.6 Trip Distribution

- 6.6.1 Traffic generated by the development proposal has been distributed on to the highway network based on 2011 Census MTW data for car drivers using the same MSOA used to forecast the person trip generation. Origin-destination pairs containing two trips or less were removed from the data, accounting for less than 11.5% of trips, to make the data more manageable and to eliminate less common and generally longer distance trips from the dataset.
- 6.6.2 The main commuter destinations/origins (urban areas, industrial estates, business parks, hospitals etc.) within each workplace MSOA were identified and the most likely route from/to the site, referred to as the primary route, was derived using web based route planning software (Google Maps). Whilst some destinations may have more than one suitable route available, the most obvious routes (based on travel time and distance) have been chosen in order to concentrate the traffic forming a worst-case assessment. For the local MSOAs where it is clear that multiple routes exist,

secondary and, in some cases, tertiary routes were identified with the trips split based on assumed trip attractor/generator weightings.

- 6.6.3 The distribution exercise identified 8 routes through the study area and are shown in **Table 6.8** with a summary of the percentage of development trips that will be distributed along each also shown.

Table 6.8: Distribution Summary

Route	Example Origin/Destination	Total
A27 W	Portsmouth, Southampton	45.7%
A27 E	Chichester	10.7%
B2149	Havant, Bedhampton	11.8%
Manor Rd	West Town	5.6%
Beach Rd	South Hayling (part of)	3.8%
Elm Grove	Eastoke, Mengham, South Hayling (part of)	13.1%
L'stone Tech Park	Langstone Technology Park	6.8%
A3023 island	Stoke, North Hayling	2.4%
Total		100.0%

- 6.6.4 The distribution is shown diagrammatically in **Traffic Flow Diagram 21** in **Appendix C** with details of the distribution calculation and data provided in **Appendix H**. The distributed residential development traffic is shown in **Traffic Flow Diagrams 22-24**. The development traffic has been added to the Without Development flows to form the 2021 and 2026 With Development Flows which are shown in **Traffic Flow Diagrams 25-29**.

6.7 Sensitivity Test Flows – Potential Allocated Site off North Shore Road

- 6.7.1 As part of the scoping discussions, HCC has requested that consideration is given to a site to be potentially allocated for 161 dwellings on land off North Shore Road as part of the emerging Local Plan. No further details of the site have been provided so the trip rates presented in **Tables 6.4 and 6.5** have been applied to the proposed number of dwellings. The same distribution as the land north of Station Road/Furniss Way committed development has been used with the distributed trips shown in **Traffic Flow Diagrams 30-32**. These have been added to the 2021 and 2026 With Development Flows and are shown in **Traffic Flow Diagrams 33-37**.

6.8 Summary

- 6.8.1 This section has explained the traffic forecasting methodology which will be used to determine the impact of the development traffic as described in the following section. As part of this forecasting it has described the trip generation associated with all modes of transportation including vehicle trips. The methodology has been largely agreed with HCC (**Appendix A**).

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7 IMPACT ASSESSMENT

7.1 Absolute and Percentage Impact

7.1.2 **Table 7.1** below provides a comparison of flows in the forecast year for the AM and PM peaks of the Without and With Development 2021 scenarios summarising the difference. This exercise has been carried out for each of the 7 junctions surveyed in the study area.

Table 7.1: Comparison of Two-way Traffic Flows through Study Area Junctions at 2021 With and Without Development During the AM and PM Peaks

Junction	2021 AM Peak				2021 PM Peak			
	Without Dev	With Dev	Abs Diff	% Diff	Without Dev	With Dev	Abs Diff	% Diff
1. A27/ A3023 Langstone Road/ Park Road South	4506	4601	95	2.1%	4656	4767	111	2.4%
2. A3023 Langstone Road/ Langstone Technology Park Access/ Southbrook Road	2863	2968	105	3.7%	2952	3074	122	4.1%
3. A3023 Havant Road/ Church Road	1918	2027	109	5.7%	1970	2096	126	6.4%
4. A3023 Manor Road/ St Mary's Road/ Station Road	847	861	14	1.7%	906	922	16	1.8%
5. Elm Grove/ Cherrywood Gardens	1239	1256	17	1.4%	1284	1305	21	1.6%
6. St Mary's Road/ Cherrywood Gardens	350	364	14	4.0%	302	318	16	5.3%
7. Church Road/ Tournurbury Lane/ Elm Grove/ St Mary's Road	1582	1708	126	8.0%	1553	1700	147	9.5%

7.1.3 Based on the flow differences in **Table 7.1**, the greatest impact of the development will be on junction 7: Church Road/Tournurbury Lane/Elm Grove/St Mary's Road with the development forecast to add 126 and 147 two way trips through it in the AM and PM peaks respectively equivalent to percentage impacts of 8% and 9.5%. Following this, the next largest impact in both absolute and percentage terms will be at junction 3: A3023 Havant Road/Church Road with increases of 109 and 126 two-way trips forecast, being equivalent to percentage increases of 5.7% and 6.4% in the AM and PM peaks respectively. The percentage impact at all of the other five junctions will be less than 5% in both peaks with the exception of junction 6 in the PM peak, but the 5.3% increase is equivalent to only 16 trips.

7.1.4 The percentage impact on the A27 junction (junction 1) will be less than 2.5%. At 2026 the impact will be less due to the additional five years of traffic growth. The equivalent percentage impact values at 2026 will be 2% and 2.2% in the AM and PM peaks respectively.

7.1.5 The impact of the development during the school PM peak on the five island junctions is shown in **Table 7.2**.

Table 7.2: Comparison of Two-way Traffic Flows through Island Study Area Junctions at 2021 With and Without Development During the School PM Peak

Junction	2021 School PM Peak			
	Without Dev	With Dev	Abs Diff	% Diff
3. A3023 Havant Road/ Church Road	1968	2066	98	5.0%
4. A3023 Manor Road/ St Mary's Road/ Station Road	950	963	13	1.4%
5. Elm Grove/ Cherrywood Gardens	1311	1327	16	1.2%
6. St Mary's Road/Cherrywood Gardens	310	322	12	3.9%
7. Church Road/Tournerbury Lane/Elm Grove/St Mary's Road	1581	1695	114	7.2%

7.1.6 **Table 7.2** shows that the impact of the development during the school PM peak is less than the AM and PM peaks as shown in **Table 7.1**.

7.1.7 Traditionally, GTA suggests that 30 two-way trips can be seen as the threshold for where capacity assessments are required as any level below this is unlikely to cause a material impact. Whilst junctions 4, 5 and 6 are expected to experience an increase in trips notably less than this threshold, HCC did express some concerns regarding the operational performance of these junctions. Capacity assessments have therefore been undertaken for all 7 junctions.

7.2 Capacity Assessments

7.2.1 In order to convert the traffic flows into PCUs, which is the requisite input flow unit required in the modelling software, a factor of 2.0 has been applied to the heavy vehicle user class which includes HGVs and buses/coaches. Cars effectively have a factor of 1.0. These factors are commonly accepted in transport modelling. All model report outputs are included in **Appendix I**.

7.2.2 Junction geometry has been coded into the models based on a mixture of on-site measurements, OS mapping, topographical surveys and aerial photography. Industry standard software has been used to model the junctions with the ARCADY module of Junctions 9 (version 9.0.1.4646) used for the roundabouts and LinSig 3 (version 3.2.33.0) used for the traffic signal controlled junctions.

7.2.3 When interpreting the Junctions (ARCADY) results, the capacity of each arm or movement is calculated as the Ratio of Flow to Capacity (RFC) with 0.85 representing the practical capacity threshold of the arm and 1.00 representing the theoretical capacity threshold. It is above the practical capacity threshold where capacity problems begin to occur while exceeding the theoretical capacity means that arms are over capacity. Traffic flows have been input based on the 'ONE HOUR' (ODTAB) option which synthesises a 'peak within a peak' at the middle of the time period modelled and is generally seen as being the worst-case form of assessment in terms of impact.

- 7.2.4 When interpreting LinSig results, the capacity of each lane is calculated as a degree of saturation (DoS) with 90% representing the practical capacity threshold of the lane and 100% representing the theoretical capacity threshold. The capacity of the junction as a whole is indicated by the practical reserve capacity (PRC) with negative values indicating that the practical capacity threshold has been exceeded and a PRC less than -10% indicating that a junction is operating above the theoretical capacity threshold. Queues are the mean maximum queue (MMQ) over the hour modelled.
- 7.2.5 It is well-known in the industry that the correct input of geometric measurements and traffic flows do not always result in models accurately representing the existing operation of junctions, therefore adjustments have been made where required so that modelled queue lengths reflect observed queue lengths. It should be noted that it is not always possible to fully reflect the observed queue lengths given the differences in how observed queues are measured and how the modelling software calculates the values with local driver behaviour also being a variable factor.
- 7.2.6 It should also be noted that a limitation exists in ARCADY software algorithms which are unable to reflect uneven lane usage where multiple approach lanes are present. Capacity adjustments at junction 3: A3023 Havant Road/Church Road have been investigated with calculated adjustments to the capacity (slope and intercept values) applied where applicable based on the methodology outlines by B. Chard in the technical article '*ARCADY Health Warning*'.
- 7.2.7 This section of the report will describe the results of the capacity assessments addressing each junction in turn.

1. A27/A3023 Langstone Road/Park Road South

- 7.2.8 The existing layout has been assessed for all scenarios including 2026. Traffic signal controller specifications were obtained from Kier, who until recently managed the junction on behalf of HE. This, and a telephone conversation with HCC's ITS department, confirmed that the junction operates on an 80 second cycle time with two controllers in operation linked via SCOOT. The SCOOT control will mean that stage timings and off-sets will vary per cycle depending on traffic demand. This is something that the LinSig software cannot fully replicate but it will still be a suitable tool to assess the impact of the development, committed development and traffic growth.
- 7.2.9 A LinSig model of the existing junction layout has been produced and calibrated to queue lengths recorded at the time of the turning count surveys. Saturation flows of 1900 PCUs/hr have been used for the circulatory lanes, as per the best-practice advice of the software manufacturer, with RR67 used for the entry lanes. Green times were manually adjusted to match the observed queue lengths as closely as possible. The results of the calibrated model for the 2016 Observed flows are shown in **Table 7.3**.

Table 7.3: Junction Capacity Assessment Results – 1. A27/Langstone Road/Park Road South 2016 Observed (calibration)

Lane Ref	Lane Description	AM		PM	
		DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
Network:		89.70%	-	95.90%	-
J1: A27 Langstone RB (Northside)		82.00%	-	78.90%	-
1/1+1/2	A27 EB Off-slip Ahead Left	82.0 : 82.0%	12.1	78.9 : 78.9%	10.4
1/3	A27 EB Off-slip Ahead	55.60%	9.4	51.40%	8.2
2/1	Park Road South Left	41.70%	3.9	43.10%	5.7
2/3+2/2	Park Road South Ahead	79.9 : 79.9%	9.4	73.8 : 73.8%	9.9
3/1	N Circulatory Ahead	23.70%	6.2	24.90%	4.9
3/2	N Circulatory Ahead Right	15.00%	1.8	51.30%	5.7
3/3	N Circulatory Right	46.80%	5.9	57.00%	6.2
4/1	W Circulatory Ahead	31.60%	5.3	18.30%	2.9
4/2	W Circulatory Ahead	44.30%	4.0	42.40%	3.3
4/3	W Circulatory Right	37.10%	6.6	26.40%	4.8
J2: A27 Langstone RB (Southside)		89.70%	-	95.90%	-
1/2+1/1	A3023 Ahead Left	89.6 : 89.7%	16.0	95.8 : 95.9%	18.1
1/3	A3023 Ahead	63.50%	8.7	69.90%	8.2
2/1	A27 WB Off-slip Ahead Left	81.80%	6.3	94.00%	10.3
2/2	A27 WB Off-slip Ahead	76.10%	5.9	70.50%	5.6
3/1	S Circulatory Ahead	3.80%	0.0	15.20%	1.5
3/2	S Circulatory Right Ahead	35.00%	0.5	35.30%	4.0
3/3	S Circulatory Right	19.20%	0.3	17.30%	0.2
4/1	E Circulatory Ahead	27.00%	2.7	47.10%	3.5
4/2	E Circulatory Right Ahead	41.90%	5.9	51.90%	3.8
4/3	E Circulatory Right	25.30%	3.4	30.50%	6.0
PRC (%)		0.4		-6.6	
Delay (pcuHr)		51.43		59.98	

7.2.10 The results show a very close level of calibration indicating that the model is suitable as an assessment tool. However, further examination has revealed that a better level of optimisation can be achieved by adjusting the green times and offsets with no adjustment to lane allocations or saturation flows. The results for the 2016 Observed flows manually optimised are shown in Table 7.4. The manual optimisation involved all entry arms having higher DoS' than the opposing circulatory arms with no queues exceeding the available storage. It should be noted that the automated optimisation features in the software are not suitable for signalised roundabouts.

Table 7.4: Junction Capacity Assessment Results – 1. A27/Langstone Road/Park Road South 2016 Observed (manual optimisation)

Lane Ref	Lane Description	AM		PM	
		DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
Network		68.20%	-	69.00%	-
J1: A27 Langstone RB (Northside)		68.20%	-	69.00%	-
1/1+1/2	A27 EB Off-slip Ahead Left	68.2 : 68.2%	7.6	60.3 : 60.3%	6.3
1/3	A27 EB Off-slip Ahead	39.00%	5.8	37.30%	5.6
2/1	Park Road South Left	28.80%	3.2	37.60%	5.1
2/3+2/2	Park Road South Ahead	55.8 : 55.8%	5.6	69.0 : 69.0%	9.1
3/1	N Circulatory Ahead	29.00%	6.5	28.90%	4.9
3/2	N Circulatory Ahead Right	21.70%	1.6	57.90%	3.9
3/3	N Circulatory Right	53.70%	4.1	67.90%	5.1
4/1	W Circulatory Ahead	62.50%	6.5	50.30%	5.3
4/2	W Circulatory Ahead	65.40%	7.3	58.30%	3.4
4/3	W Circulatory Right	62.50%	6.4	47.20%	5.1
J2: A27 Langstone RB (Southside)		58.40%	-	60.80%	-
1/2+1/1	A3023 Ahead Left	58.4 : 58.4%	8.4	54.8 : 54.8%	8.2
1/3	A3023 Ahead	33.60%	5.0	28.50%	4.0
2/1	A27 WB Off-slip Ahead Left	53.30%	4.9	60.80%	6.0
2/2	A27 WB Off-slip Ahead	40.00%	3.8	40.00%	4.0
3/1	S Circulatory Ahead	16.70%	1.6	29.30%	1.2
3/2	S Circulatory Right Ahead	56.90%	6.0	53.20%	4.1
3/3	S Circulatory Right	30.80%	4.0	25.50%	0.4
4/1	E Circulatory Ahead	33.20%	3.0	55.40%	5.7
4/2	E Circulatory Right Ahead	49.40%	4.6	60.10%	5.4
4/3	E Circulatory Right	24.00%	2.3	31.50%	7.7
PRC (%)		32.0		30.5	
Delay (pcuHr)		36.59		41.47	

7.2.11 The results in **Table 7.4** show markedly better performance than those in **Table 7.3**. This may imply that the existing signal timings could be improved but it does suggest that number of lanes at the junction is sufficient for the current level of demand with a good amount of spare capacity available.

7.2.12 Each subsequent flow scenario has been manually optimised using the same methodology and same 80 second cycle time. A summary of the PRC and highest DoS at the junction for each scenario is provided in **Table 7.5**. Full results are available in **Appendix I**.

Table 7.5: Junction Capacity Assessment Results – 1. A27/Langstone Road/Park Road South Summary (manual optimisation)

Scenario	AM Peak		PM Peak	
	PRC (%)	Highest DoS (%)	PRC (%)	Highest DoS (%)
Without Development 2021	16.6	72.2	20.6	74.6
With Development 2021	16.5	77.3	18.2	76.1
With Development 2021 Sensitivity Test	15.8	77.7	15.5	77.9
Without Development 2026	11.0	81.0	13.0	79.7
With Development 2026	9.9	81.9	9.0	82.6
With Development 2026 Sensitivity Test	9.3	82.4	6.6	84.4

7.2.13 The results show that the junction is forecast to operate with spare practical capacity in all scenarios with signal optimisation. Whilst the results of each scenario are not directly comparable given the manual optimisation and the lane choice available in the model, the results demonstrate that the proposed development, committed development, potential allocated development and up to 10 years of traffic growth can be accommodated by the existing junction layout, although adjustments to the signal timings may be required. The greatest impact on the PRC by the development is 4.0% which occurs in the PM peak at 2026.

7.2.14 The proposed access arrangement therefore provides sufficient capacity to serve the development and the forecast demand for the junction.

2. A3023 Langstone Road/Langstone Technology Park Access/Southbrook Road

7.2.15 **Table 7.6** presents a summary of the model results for the Langstone Technology Park access including Southbrook Road.

Table 7.6: Junction Capacity Assessment Results – 2. A3023 Langstone Road/Langstone Technology Park Access/Southbrook Road

Arm	AM		PM	
	RFC	Q (PCU)	RFC	Q (PCU)
2016 Observed				
Tech Park Access Left	0.09	0.1	0.65	1.8
Tech Park Access Ahead & Right	0.10	0.1	0.33	0.5
A3032 S	0.00	0.0	0.01	0.0
Woodbury Avenue	0.22	0.3	0.22	0.3
A3023 N	0.60	1.5	0.13	0.1
2021 Without Development				
Tech Park Access Left	0.11	0.1	0.74	2.7
Tech Park Access Ahead & Right	0.23	0.3	0.45	0.8
A3032 S	0.00	0.0	0.02	0.0
Woodbury Avenue	0.28	0.4	0.31	0.5
A3023 N	0.70	2.2	0.15	0.2
2021 With Development				
Tech Park Access Left	0.13	0.1	0.79	3.3
Tech Park Access Ahead & Right	0.43	0.6	0.57	1.2
A3032 S	0.00	0.0	0.02	0.0
Woodbury Avenue	0.32	0.5	0.39	0.7
A3023 N	0.73	2.6	0.15	0.2
2021 With Development Sensitivity Test				
Tech Park Access Left	0.25	0.3	0.83	4.3
Tech Park Access Ahead & Right	0.73	1.5	0.68	1.8
A3032 S	0.00	0.0	0.02	0.0
Woodbury Avenue	0.35	0.5	0.48	0.9
A3023 N	0.76	3.0	0.15	0.2

- 7.2.16 It is acknowledged that the model does not fully reflect the observed queue lengths. Adjustments have been considered and tested but these make little difference to the modelled queues, therefore the geometry coded reflects the actual dimensions and level of visibility available at the junction. It should be noted that the queues recorded may have been caused by traffic blocking the 'keep clear' markings. The results indicate that the junction will continue to operate with spare capacity with the development in place, including the Sensitivity Test.

3. A3023 Havant Road/Church Road

- 7.2.17 Capacity adjustments based on uneven lane usage on all approaches to the roundabout have been calculated and applied to all scenarios in the model. These adjustments are shown in **Appendix J**. **Table 7.7** presents a summary of the model results for the roundabout.

Table 7.7: Junction Capacity Assessment Results – 3. A3023 Havant Road/Church Road

Arm	AM		PM		School PM	
	RFC	Q (PCU)	RFC	Q (PCU)	RFC	Q (PCU)
2016 Observed						
1 - A3023 (E)	0.43	0.8	0.73	2.7	0.73	2.8
2 - Church Road	0.74	2.8	0.42	0.7	0.43	0.8
3 - A3023 (W)	0.29	0.4	0.25	0.3	0.29	0.4
2021 Without Development						
1 - A3023 (E)	0.47	0.9	0.79	3.7	0.79	3.7
2 - Church Road	0.81	4.2	0.46	0.8	0.48	0.9
3 - A3023 (W)	0.34	0.5	0.30	0.4	0.33	0.5
2021 With Development						
1 - A3023 (E)	0.50	1.0	0.86	5.9	0.84	5.3
2 - Church Road	0.89	7.4	0.51	1.0	0.51	1.1
3 - A3023 (W)	0.36	0.6	0.30	0.4	0.34	0.5
2021 With Development Sensitivity Test						
1 - A3023 (E)	0.50	1.0	0.86	5.9	0.84	5.3
2 - Church Road	0.90	7.9	0.52	1.1	0.52	1.1
3 - A3023 (W)	0.43	0.8	0.34	0.5	0.37	0.6

7.2.18 The results show that the junction will continue to operate with spare capacity with the development traffic in place including the sensitivity test. The development traffic will cause no greater than a 0.08 increase in RFC which occurs on the Church Road arm in the AM peak. This increase is only marginally greater than the 0.07 increase associated with the traffic growth and committed development.

4. A3023 Manor Road/St Mary's Road/Station Road

7.2.19 **Table 7.8** presents a summary of the model results for the staggered crossroads.

Table 7.8: Junction Capacity Assessment Results – 4. A3023 Manor Road/St Mary's Road/Station Road

Arm	AM		PM		School PM	
	RFC	Q (PCU)	RFC	Q (PCU)	RFC	Q (PCU)
2016 Observed						
Station Road	0.30	0.5	0.30	0.5	0.40	0.7
Beach Road	0.07	0.1	0.04	0.0	0.03	0.0
St Mary's Road Left	0.10	0.1	0.07	0.1	0.07	0.1
St Mary's Road Ahead & Right	0.20	0.3	0.20	0.3	0.19	0.2
Manor Road	0.14	0.3	0.15	0.3	0.15	0.3
2021 Without Development						
Station Road	0.33	0.5	0.33	0.5	0.44	0.8
Beach Road	0.07	0.1	0.04	0.0	0.04	0.0
St Mary's Road Left	0.11	0.1	0.08	0.1	0.07	0.1
St Mary's Road Ahead & Right	0.23	0.3	0.22	0.3	0.22	0.3
Manor Road	0.15	0.3	0.17	0.3	0.17	0.3
2021 With Development						
Station Road	0.34	0.5	0.34	0.5	0.45	0.8
Beach Road	0.07	0.1	0.05	0.1	0.04	0.0
St Mary's Road Left	0.12	0.1	0.08	0.1	0.08	0.1
St Mary's Road Ahead & Right	0.24	0.3	0.24	0.3	0.23	0.3
Manor Road	0.15	0.3	0.17	0.3	0.17	0.3
2021 With Development Sensitivity Test						
Station Road	0.37	0.6	0.36	0.6	0.47	0.9
Beach Road	0.07	0.1	0.05	0.1	0.04	0.0
St Mary's Road Left	0.12	0.1	0.09	0.1	0.08	0.1
St Mary's Road Ahead & Right	0.25	0.3	0.24	0.3	0.23	0.3
Manor Road	0.15	0.3	0.17	0.3	0.17	0.3

- 7.2.20 The results show that the junction will continue to operate with a considerable level of spare capacity with the development traffic in place including the sensitivity test. The development traffic will result in no greater than a 0.02 increase in RFC which is less than the impact of the traffic growth and committed development.

5. Elm Grove/Cherrywood Gardens

- 7.2.21 The results are presented in **Table 7.9**.

Table 7.9: Capacity Assessment Results – 5. Elm Grove/Cherrywood Gardens

Arm	AM		PM		School PM	
	RFC	Q (PCU)	RFC	Q (PCU)	RFC	Q (PCU)
2016 Observed						
Cherrywood Gardens	0.21	0.3	0.21	0.3	0.25	0.3
Elm Grove	0.11	0.2	0.14	0.4	0.12	0.3
2021 Without Development						
Cherrywood Gardens	0.24	0.3	0.24	0.3	0.28	0.4
Elm Grove	0.12	0.3	0.15	0.4	0.13	0.3
2021 With Development						
Cherrywood Gardens	0.24	0.3	0.24	0.3	0.28	0.4
Elm Grove	0.12	0.3	0.16	0.5	0.13	0.3
2021 With Development Sensitivity Test						
Cherrywood Gardens	0.25	0.3	0.25	0.3	0.29	0.4
Elm Grove	0.12	0.3	0.16	0.5	0.13	0.3

- 7.2.22 The results show that the junction will continue to operate with a considerable level of spare capacity with the development traffic in place including the sensitivity test. The development traffic will result in no greater than a 0.01 increase in RFC which is less than the impact of the traffic growth and committed development.

6. St Mary's Road/Cherrywood Gardens

- 7.2.23 The results are presented in **Table 7.10**.

Table 7.10: Capacity Assessment Results – 6. St Mary's Road/Cherrywood Gardens

Arm	AM		PM		School PM	
	RFC	Q (PCU)	RFC	Q (PCU)	RFC	Q (PCU)
2016 Observed						
St Mary's Rd N Left	0.04	0.0	0.07	0.1	0.06	0.1
St Mary's Rd N Right	0.14	0.2	0.15	0.2	0.14	0.2
Cherrywood Gardens	0.12	0.2	0.04	0.1	0.05	0.1
2021 Without Development						
St Mary's Rd N Left	0.05	0.0	0.08	0.1	0.07	0.1
St Mary's Rd N Right	0.15	0.2	0.16	0.2	0.15	0.2
Cherrywood Gardens	0.13	0.2	0.04	0.1	0.05	0.1
2021 With Development						
St Mary's Rd N Left	0.05	0.0	0.08	0.1	0.07	0.1
St Mary's Rd N Right	0.17	0.2	0.17	0.2	0.16	0.2
Cherrywood Gardens	0.13	0.2	0.04	0.1	0.05	0.1
2021 With Development Sensitivity Test						
St Mary's Rd N Left	0.05	0.0	0.08	0.1	0.07	0.1
St Mary's Rd N Right	0.17	0.2	0.18	0.2	0.17	0.2
Cherrywood Gardens	0.13	0.2	0.04	0.1	0.05	0.1

- 7.2.24 The results show that the junction will continue to operate with a considerable level of spare capacity with the development traffic in place including the sensitivity test. The development traffic

will result in no greater than a 0.02 increase in RFC which is comparable with the impact of the traffic growth and committed development.

7. Church Road/Tournerbury Lane/Elm Grove/St Mary's Road

7.2.25 **Table 7.11** presents a summary of the model results for the staggered crossroads. The Tournerbury Lane arm has been treated as one lane plus flare which is based on the available width and on site observations of vehicles being able to queue side-by-side.

Table 7.11: Junction Capacity Assessment Results – 7. Church Road/Tournerbury Lane/Elm Grove/St Mary's Road

Arm	AM		PM		School PM	
	RFC	Q (PCU)	RFC	Q (PCU)	RFC	Q (PCU)
2016 Observed						
St Mary's Road	0.34	0.5	0.16	0.2	0.19	0.2
Elm Grove	0.14	0.2	0.20	0.3	0.19	0.2
Tournerbury Ln Ahead & Left	0.16	0.2	0.27	0.4	0.24	0.3
Tournerbury Ln Right	0.47	0.9	0.37	0.6	0.35	0.5
Church Road	0.17	0.2	0.18	0.2	0.18	0.2
2021 Without Development						
St Mary's Road	0.38	0.6	0.18	0.2	0.21	0.3
Elm Grove	0.16	0.2	0.23	0.3	0.21	0.3
Tournerbury Ln Ahead & Left	0.20	0.3	0.31	0.4	0.27	0.4
Tournerbury Ln Right	0.61	1.5	0.47	0.9	0.44	0.8
Church Road	0.19	0.2	0.20	0.3	0.20	0.3
2021 With Development						
St Mary's Road	0.63	1.6	0.32	0.5	0.32	0.5
Elm Grove	0.16	0.2	0.24	0.3	0.22	0.3
Tournerbury Ln Ahead & Left	0.22	0.3	0.34	0.5	0.29	0.4
Tournerbury Ln Right	0.67	1.9	0.54	1.1	0.49	0.9
Church Road	0.25	0.4	0.35	0.6	0.32	0.5
2021 With Development Sensitivity Test						
St Mary's Road	0.63	1.7	0.33	0.5	0.32	0.5
Elm Grove	0.16	0.2	0.24	0.3	0.22	0.3
Tournerbury Ln Ahead & Left	0.23	0.3	0.34	0.5	0.29	0.4
Tournerbury Ln Right	0.67	1.9	0.54	1.1	0.50	0.9
Church Road	0.26	0.4	0.35	0.6	0.32	0.5

7.2.26 The results show that the junction will continue to operate with a good level of spare capacity with the development traffic in place including the sensitivity test. The queue on St Mary's Road is not forecast to block-back across the site access meaning that it will remain clear allowing for turning movements in and out of the site. It is noted that geometry will change very slightly based on the improvements shown in **Drawings P16031-001D and P16031-002** but these will make very little difference to the capacity available at the junction.

Proposed Site Access

- 7.2.27 The results of the capacity assessment of the proposed site access shown in **Drawing P16031-001D** in **Appendix E** are shown in **Table 7.12**. It has been assessed for the 2021 With Development Scenario Sensitivity Test which has higher flows than the non-Sensitivity Test equivalent and is therefore robust.

Table 7.12: Junction Capacity Assessment Results – Proposed Site Access

Arm	AM		PM		School PM	
	RFC	Q (PCU)	RFC	Q (PCU)	RFC	Q (PCU)
2021 With Development Sensitivity Test						
Proposed Site Access	0.20	0.2	0.12	0.1	0.09	0.1
St Mary's Road	0.06	0.1	0.16	0.2	0.13	0.2

- 7.2.28 The results show that the proposed site access will provide sufficient capacity to serve the development and operate with a considerable level of spare capacity.

7.3 Impact on Langstone Bridge

- 7.3.1 Given that the capacity of Langstone Bridge was been raised as a potential issue during pre-application discussions, the impact of the site on it has been considered by undertaking a link capacity assessment, following on from the observed link capacities based on DMRB TA 79/99 as mentioned in Section 3. Using the same forecasting methodology described in Section 6 but using the ATC flows as a base, TEMPro and RTF growth has been added to the 2016 flows shown in **Table 3.3** to produce 2021 Base flows. The flows from the two committed developments have been added to this to form the 2021 Without Development flows. The forecast development flows have then been added to derive the 2021 With Development flows with the Sensitivity Test flows also added. These flows along with the associated link capacity difference between them and the link flow threshold of 1345 vehicles are shown in **Table 7.10**.

Table 7.10: Langstone Bridge Link Capacity Assessment Results

2021 Without Development						
Direction	AM Peak (0900-1000)					
	Lights	Heavies	Total	Heavy %	Direction %	Link Cap. Diff.
Northbound	1221	39	1260	3.1%	68.3%	85
Southbound	564	21	585	3.6%	31.7%	760
Two-way	1785	60	1845	3.3%	100.0%	-
Direction	PM Peak (1700-1800)					
	Lights	Heavies	Total	Heavy %	Direction %	Link Cap. Diff.
Northbound	667	18	685	2.6%	36.9%	660
Southbound	1149	23	1172	2.0%	63.1%	173
Two-way	1816	41	1857	2.2%	100.0%	-
2021 With Development						
Direction	AM Peak (0900-1000)					
	Lights	Heavies	Total	Heavy %	Direction %	Link Cap. Diff.
Northbound	1298	39	1337	2.9%	68.6%	8
Southbound	592	21	613	3.4%	31.4%	732
Two-way	1890	60	1950	3.1%	100.0%	-
Direction	PM Peak (1700-1800)					
	Lights	Heavies	Total	Heavy %	Direction %	Link Cap. Diff.
Northbound	713	18	731	2.5%	36.9%	614
Southbound	1225	23	1248	1.8%	63.1%	97
Two-way	1938	41	1979	2.1%	100.0%	-
2021 With Development Sensitivity Test						
Direction	AM Peak (0900-1000)					
	Lights	Heavies	Total	Heavy %	Direction %	Link Cap. Diff.
Northbound	1352	39	1391	2.8%	68.7%	-46
Southbound	612	21	633	3.3%	31.3%	712
Two-way	1964	60	2024	3.0%	100.0%	-
Direction	PM Peak (1700-1800)					
	Lights	Heavies	Total	Heavy %	Direction %	Link Cap. Diff.
Northbound	745	18	763	2.4%	37.0%	582
Southbound	1278	23	1301	1.8%	63.0%	44
Two-way	2023	41	2064	2.0%	100.0%	-

- 7.3.2 The link capacity assessment results indicate that a limited amount of spare capacity will be available in the northbound direction in the AM peak with the development in place and with a good amount of spare capacity available in the southbound direction and in both directions in the PM peak. The development traffic accounts for 77 northbound trips and 28 southbound trips in the AM peak with the equivalent figures in the PM peak being 46 and 76. The two heaviest flows in the respective peaks will be equivalent to little more than one trip per minute and are highly unlikely to affect the journey times reported in Table 3.5.
- 7.3.3 The addition of the flows associated with the potential allocated site off North Shore Road may see the threshold exceeded by 46 trips in the northbound direction in the AM peak but with spare capacity in the southbound direction and in both directions in the PM. It should be noted that there are no guarantees that this potential allocation will come forward and for the number of dwellings

assessed. It should also be remembered that the link capacity thresholds reported in TA 79/99 are somewhat historic and along with the low proportion of HGVs, meaning that there is likely to be spare operational capacity along the bridge in five-years' time.

7.3.4 During scoping discussions, HCC did request link capacity assessments at other points along the A3023 but the bridge is clearly the busiest point of the road with traffic collecting or dissipating either side of it. Sufficient link capacity is therefore more than likely to be available at other locations.

7.3.5 As stated earlier in this report, the main capacity issue on the A3023 appears to be at the point where two lanes southbound merge to a single lane to the south of the Langstone Technology Park access. Given that it has been demonstrated that traffic flows into Woodbury Avenue are low, with only one right turn observed in the AM peak and 6 in the PM peak (2016 Observed) the taper and deceleration lane lengths for the associated ghost island right turn could be slightly shortened and narrowed to increase the merge length. The traffic island between this junction and Langbrook Close could be located further south to maximise this distance. The existing ghost island right turns for both junctions do not appear to fully conform with DMRB TD 42/95 for the 40mph speed limit in terms of the tapers and deceleration lane lengths and it is unlikely that a further reduction would result in any capacity or safety issues. Whilst it is difficult to quantify the operational capacity benefits of this improvement, the proposals will allow for greater stacking capacity and more opportunities for traffic to merge. Gladman will be willing to fund these improvements should they be desired by HCC Highways. PRIME will happily design such an arrangement should the principal of the proposals be welcomed by HCC Highways.

7.4 Summary

7.4.1 This section has provided an assessment of the impact of the development traffic in terms of the absolute increase in traffic flow, percentage impact, link capacity on the Langstone Bridge and junction impact using traditional capacity assessment software.

7.4.2 Using the above methods it has been demonstrated that the impact of the development on local junctions, including the A27/A3023/Park Road South junction will be minimal and not require mitigation.

7.4.3 Gladman acknowledges that the main capacity issue in the area is the southbound merge from two lanes to one on the A3023 with queues commonly forming as the merge takes place. As such Gladman is willing to fund the design and construction of the lengthening of the available two-lane merge subject to any hidden costs, such as utilities diversions, being commensurate to the scale of the development. The abovementioned improvements are in addition to the pedestrian improvements at the Church Road/Tournerbury Lane/Elm Grove/St Mary's Road junction.

7.4.4 It has been demonstrated that the residual cumulative impact of the development is certainly not *severe* meaning that according to paragraph 32 of the NPPF, as described in **Section 2** of this report,

the development should not be prevented or refused on transport grounds. Furthermore, in accordance with LTP Main Priorities 1 and 3 including TfSH policies A, and C and HBC Core Strategy policy DM12.

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8 HIGHWAY SAFETY

8.1 Accident Analysis

8.1.1 Personal injury accident data has been obtained from Hampshire Constabulary to cover the five-year period of 1st June 2011 to 31st May 2016 i.e. 60 months. The accident study area is shown in **Figure 1 (Appendix A)** with the collision reports available on request. The study area includes the A3023 from its junction with the A27 and Park Road South in Havant to the north, to its junction with Sea Front (Beachlands roundabout) to the south. Also included is Church Road from its junction with the A3023 and Sea Front to the north and south respectively, as well as St Mary's Road and Cherrywood Gardens.

8.1.2 In total there were 91 accidents within the study area, comprising of 16 serious and 75 slight injury accidents. No fatal accidents occurred. The annual breakdown of numbers and type of classification is shown in **Table 8.1** below. The accident data is available on request.

Table 8.1: Summary of Reported Personal Injury Accidents

Severity	Year						Total	Severity %
	2011 ¹	2012	2013	2014	2015	2016 ²		
Slight	11	20	12	13	13	6	75	82%
Serious	3	4	2	1	4	2	16	18%
Fatal	0	0	0	0	0	0	0	0%
Total	14	24	14	14	17	8	91	100%

¹ Last 7-months only

² First 5 months only

8.1.3 The results show a notable accident peak in 2012 with 24 of the accidents occurring within the study area, this followed 14 accidents which occurred in the study area in 2011. Since then the number of accidents per year within the study area has been lower than in 2012, with 14 accidents occurring in 2013 and 2014 and 17 accidents occurring in 2015. The remaining 8 accidents have occurred in 2016 to date.

8.1.4 The accidents have occurred at various locations across the study area, however the following paragraphs group the accidents into geographic locations to aid in the identification of any common causation factors across the highway network. The causation factors mentioned are those presented in the police reports.

8.1.5 Plans detailing the accident locations were not provided by Hampshire Constabulary, so the accident locations and severity have been manually coded into TRACC using the reported OS coordinates to provide images for illustrative purposes. Slight injury accidents are illustrated by the blue circles and serious injury accidents are illustrated by red diamonds.

South Island Area

Image 8.1 – South Island Accident Locations and Severity



Church Road/Elm Grove/Sea Grove Corridor

- 8.1.6 Over the abovementioned 5-year period there have been 16 injury accidents along the Church Road/Elm Grove/Sea Grove Avenue corridor, of which 4 and 12 accidents resulted in serious and slight injuries respectively. The corridor is circa 2km in length. Of the serious accidents, one involved a motorcycle being hit by a car which had pulled out of Cherrywood Avenue. The driver of the car reportedly had failed to look properly. The second serious accident involved an elderly person falling off a mobility scooter after it had left the pavement onto the carriageway, while the third serious accident involved an elderly person falling over. It was noted that the elderly person had left a taxi and leant up against the side of the vehicle. The taxi driver was unaware of this and drove off causing the elderly person to fall over. The final serious accident involved a car colliding with two pedestrians. The car was noted to have been exceeding the signed speed limit.
- 8.1.7 Four slight accidents occurred at study junction 7: Church Road/Tournerbury Lane/Elm Grove/St Mary's Road. Of the four accidents, two involved mobility scooters while one involved a pedestrian.

The accident with the pedestrian occurred when the pedestrian fell off the pavement thereby hitting the nearside of a southbound car travelling along Elm Grove. The causation factors were noted as the pedestrian possibly being intoxicated and failing to look properly, while also being careless/reckless and in a hurry.

- 8.1.8 One of the accidents which involved a mobility scooter occurred when a westbound car, travelling along Tournurbury Lane, pulled out into A3023 Church Road into the path of the southbound mobility scooter travelling along A3023 Church Road. As such, the mobility scooter swerved and overturned after mounting the southern kerb of Tournurbury Lane. The car driver was noted to have been careless/reckless and in a hurry, this accident also occurred in adverse weather conditions. The second accident involving a mobility scooter occurred when a northbound car, travelling along Elm Grove, collided with the mobility scooter which was crossing the road from the nearside. It was noted in the collision report that both driver and rider failed to look properly, while the rider also failed to judge the other persons path and speed. The rider was also noted to be inexperienced with the vehicle. The final slight accident involved three vehicles and was a rear end shunt collision. It occurred when a southbound car (vehicle 1), travelling along A3023 Church Road, failed to brake in time and as such collided with the rear of the stationary car (vehicle 2) in front, which was then pushed into the rear of the van (vehicle 3) in front. It was noted that the driver of vehicle 1 had failed to look properly.

- 8.1.9 The pedestrian improvements shown in Drawing P16031-002 in Appendix E will improve safety at the junction, particularly for pedestrians and mobility scooter users by providing safe uncontrolled crossings meaning that they will be present on all arms of the junction. The provision of the refuge islands will also encourage slower vehicular speeds given their associated narrowing effect.

- 8.1.10 Two accidents occurred at study junction 5: Elm Grove/Cherrywood Gardens, one of which was the abovementioned serious accident involving a car and a motorcycle, the other resulting in slight injury. There were no other clusters of slight accidents along the corridor.

Manor Road/Beach Road

- 8.1.11 A total of 5 accidents occurred along the Manor Road/Beach Road corridor, between the Manor Road/Fathoms Reach junction and Beachlands Roundabout, of which 2 accidents resulted in serious injuries, with the remaining 3 accidents resulting in slight injuries. The first serious accident involved a northbound vehicle colliding with a parked car, which subsequently collided with the car in front. The second serious accident occurred when a northbound vehicle collided with a cyclist. The driver of the vehicle reportedly thought that the cyclist was going to stop on the pavement and not cross.
- 8.1.12 Of the 3 slight accidents, one was a side-on collision while the others involved motorcycles. The main causation factors included drivers failing to judge other people's path or speed, failing to look properly, impaired by alcohol and dazzled by headlights. Other causation factors were sudden braking and inexperience/learner drivers.

- 8.1.13 No accidents occurred at study junction 5: A3023 Manor Road/St Mary's Road/Station Road.

Cherrywood Gardens/St Mary's Road

- 8.1.14 4 accidents occurred along the Cherrywood Gardens/St Mary's Road corridor which runs between Elm Grove and Manor Road to the east and west respectively. Of the 4 accidents, 1 resulted in serious injury. The serious accident occurred when a pedal cycle swerved into the path of an oncoming vehicle, thereby causing a head-on collision. It was noted that the rider of the pedal cycle was impaired by alcohol.

- 8.1.15 No accidents occurred on the north-east section of St Mary's Road including in the vicinity of the site frontage nor did any occur at study junction 6: St Mary's Road/Cherrywood Gardens.

A3023 East of Church Road

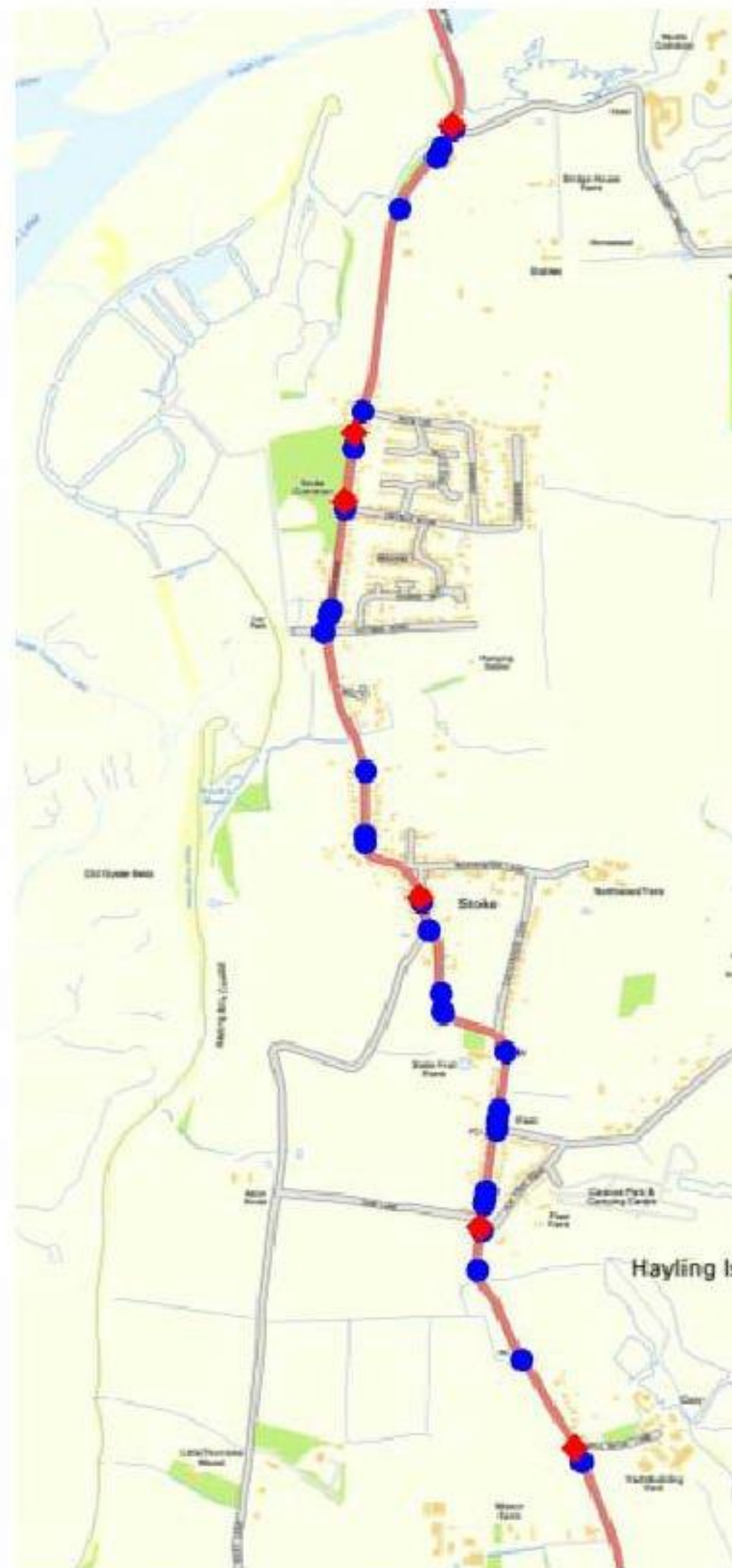
- 8.1.16 A total of 3 slight accidents occurred on the A3023 to the east of the junction with Church Road. at or in proximity to the A3023/Havant Road Spur junction. The first accident was a single vehicle collision which occurred in the night time, while the second accident involved a car and motorcycle. The driver of the vehicle decided to perform a U-turn manoeuvre and subsequently collided with the motorcycle which had been overtaking traffic, causing the rider to fall off. The third accident was a rear end shunt whereby a vehicle turned left out of the side road and collided with the rear of a vehicle which had stopped for the school crossing patrol. No accidents occurred at study junction 3: A3023/Church Road.

Remaining Accidents in the South Island Study Area

- 8.1.17 The remaining 4 accidents in this section of the study area were classed as slight in terms of severity, three of which were single vehicle collisions and involved a motorcycle, a pedal cycle and a motorcycle. The rider of the pedal cycle, who had been travelling along Kings Road, was impaired by alcohol and subsequently fell off the pedal cycle causing slight accident. The second accident occurred when a vehicle performed a left-hand turn manoeuvre while merging over to the opposite side of the carriageway, causing a motorcycle rider travelling in the opposite direction to falling off. The third accident occurred when the rider of a motorcycle lost control when performing a left turn manoeuvre from Sea Front on to Sea Grove Avenue. With the rider subsequently falling off the motorcycle. The final accident was an isolated incident and occurred when the driver of a vehicle left the car in gear when parked. As such, when the driver turned on the engine, the car lurched forward into the window of the building in front.

North Island Area (A3023 Havant Road Corridor)

Image 8.2 – North Island Accident Locations and Severity



- 8.1.18 There have been 35 injury accidents along the A3023 Havant Road corridor, of which 6 and 29 accidents resulted in serious and slight injuries respectively. The corridor is circa 4km in length. The accidents occurred at or in proximity to 10 junctions and various links in along the corridor. Of the serious accidents, 2 were nearside collisions with one involving a motorcycle. Both occurred due to the drivers of vehicles failing to look properly when turning right off the carriageway thereby colliding with oncoming vehicles. There have been 3 rear end shunt collisions resulting in serious injury with one involving a motorcycle. The causation factors include one incidence of a driver using a mobile telephone, one of an inexperienced rider losing control of their motorcycle, with other factors including aggressive driving, distractions inside and outside the vehicle and careless/reckless driving due to the driver being in a hurry. The final serious accident involved a pedestrian failing to look properly when stepping out onto the carriageway. As such, a southbound travelling vehicle collided with the pedestrian causing serious injury.

- 8.1.19 The slight accidents were a variety of side-on collisions, rear end shunts and single vehicle collisions. It should be noted that some of the accidents occurred in foggy weather conditions and in the hours of darkness. The causation factors of the slight injury accidents include a cyclist entering the road from the pavement without looking properly, distractions outside of vehicles, sudden braking, drivers failing to look properly, vehicles travelling too fast and too close to other vehicles, drivers failing to judge the speed and path of other vehicles, poor manoeuvring and inexperienced drivers/riders.

Mainland Study Area

Image 8.3 – Mainland Accident Locations and Severity



A3023 Langstone Road

- 8.1.20 There have been 15 injury accidents along or in proximity to Langstone Road from its junction with Woodbury Avenue to the Langstone Bridge, of which 2 and 12 accidents resulted in serious and slight injuries respectively. The first serious accident was caused when a pedestrian stepped out onto A3023 Langstone Road without looking properly. A southbound vehicle was unable to avoid the pedestrian therefore causing a collision. The second serious accident occurred when the driver

of a north-west bound vehicle failed to see the queue of traffic ahead and therefore collided into the rear of the vehicle in front.

- 8.1.21 A variety of causation factors were listed for the slight accidents, these include drivers failing to look properly, travelling too fast, failing to judge the path and speed of other vehicles and performing poor manoeuvres. Other causation factors were drivers being dazzled by the sun, drivers impaired by drugs, a cyclist entering the road from the adjacent pavement without looking properly and the carriageway being slippery due to wet/damp weather conditions, Only one slight accident occurred on the bridge itself.

A27 Mainline

- 8.1.22 There has been one serious accident on the section of A27 located within the study area. This accident occurred when a westbound vehicle was travelling too fast and collided into the rear of the vehicle in front.

Langstone Road/Park Road South/A27 Slips

- 8.1.23 There have been 7 injury accidents at or in the proximity to the Langstone Road/Park Road South/A27 roundabout, all of which resulted in slight injuries. Two accidents were isolated incidents caused by medical conditions or episodes whereby the driver of an eastbound vehicle on the A27 off-slip passed out causing the vehicle to collide with the rear of the vehicle in front, which had stopped at a red light. The second isolated incident was a single vehicle collision and involved the driver of a southbound vehicle having a coughing fit, thereby causing the vehicle to mount the nearside pavement and collide with the guardrail. Another single vehicle collision was recorded at the junction which involved a vehicle accelerating fiercely onto the circulatory carriageway from A3023 Langstone Road, causing the vehicle to lose control and collide with the nearside guardrail. The remaining 4 accidents at this junction were side-on collisions, with one occurring in foggy weather conditions while another involved a motorcycle.

8.2 Casualties

- 8.2.1 **Table 8.2** summarises the number of casualties and a breakdown of the different classifications of the casualties.

Table 8.2 Summary of Reported Casualties

Casualties	Fatal	Serious	Slight	Total	% of all Casualties
Vehicle Driver & Passenger	0	7	103	110	74%
Motorcycle Rider	0	3	13	16	11%
Cyclist	0	2	11	13	9%
Pedestrian	0	5	5	10	6%
Total	0	17	132	149	100%

- 8.2.2 The table shows that of the 149 reported casualties, 110 (74%) involved either vehicle drivers or passengers, 16 (11%) involved motorcyclists, 13 (9%) involved cyclists, while the remaining 10 (6%) casualties involved a pedestrian.
- 8.2.3 The proportions of motorcyclist and cyclists injured are somewhat high but this perhaps reflects the popularity of these modes of transportation on the island. The causation factors for the majority of these accidents were due to driver or rider error, some of which were at the fault of drivers or riders of such vehicles while others were caused by car drivers.

8.3 Summary

- 8.3.1 The above shows there have been 91 injury accidents over the period between the 1st June 2011 and 31st May 2016 resulting in 149 casualties. The majority of these accidents involved an injury to a driver or passenger of a car. No fatal accidents occurred.
- 8.3.2 It should be noted that the majority of accidents were a result of driver/rider and pedestrian error, with the layout of the local highway network not considered to be a causation factor. In addition, no accidents were recorded along the section of St Mary's Road where the proposed site access will be located.
- 8.3.3 The proposed pedestrian improvements at the Church Road/Tournerbury Lane/Elm Grove/St Mary's Road junction should improve safety at the junction, particularly for pedestrians by allowing all arms of the junction to be crossed in two movements. The narrowing effect of the refuge islands should also encourage slower speeds through the junction.
- 8.3.4 The above would suggest that there are no road safety issues associated with the highway layout that would preclude the delivery of this development nor be exacerbated by it.
- 8.3.5 Furthermore, the proposed safety improvements will conform with LTP Main Priority 2 including TfSH policy G.

9 SUMMARY AND CONCLUSION

9.1 Summary

- 9.1.1 This TA accompanies the proposal to develop land off St Mary's Road, Hayling Island, Hampshire for up to 210 dwellings and 0.6ha for apartments with care (C2).
- 9.1.2 A single vehicular access is to be provided at the St Mary's Road frontage. This access has been designed based on national design guidance and best practice both in terms of geometry and visibility with the latter based on a local speed survey. A swept path analysis has been undertaken to aid the design and demonstrate its suitability. Three pedestrian accesses onto Footpath 94 are also proposed.
- 9.1.3 The proposed access arrangement includes the provision of a new section of footway to the south-west of the site access along with uncontrolled crossings adjacent to the public car park access on St Mary's Road. Gladman is willing to fund a white lined footpath/safety zone through the car park to provide a convenient connection to the public footpath that leads to Elm Grove.
- 9.1.4 Gladman is also willing to fund the provision of uncontrolled crossings over the Elm Grove, Church Road and St Mary's Road arms of the associated junction which will include pedestrian refuge islands which will allow pedestrians to cross in two movements and should encourage slower vehicle speeds through the junction.
- 9.1.5 A Residential Travel Plan has been prepared alongside this TA and forms one of the documents which support this planning application.
- 9.1.6 The location of the site has been shown to be sustainable when considering access to and from the site by modes of travel other than the private car, particularly walking, cycling and public transport. It has been demonstrated that the local schools, places of employment and local amenities are within nationally acceptable walking and cycling distances. The bus stops in the vicinity of the site provide connections to the rest of the island, Langford Technology Park, Solent retail and trade parks and Havant, including Havant train station, making bus travel a viable option for some of the residents of the site. The access strategy maximises access via sustainable modes and the proposal includes measures to encourage travel by non-car modes, which is described in further detail in the Residential Travel Plan.
- 9.1.7 An assessment of the capacity of the proposed site access has been undertaken, this confirming that it will have ample capacity to accommodate the predicted traffic flows in 2021 with development in place.
- 9.1.8 An assessment of the off-site impact of the development has been undertaken which has demonstrated that the development will have a minimal impact on the capacity of key local

junctions on the adjoining local highway network and the A27/A3023/Park Road South junction, all of which will continue to operate with spare capacity.

- 9.1.9 A link capacity assessment of the Langstone Bridge has also been undertaken. It is acknowledged that the capacity of the bridge is seen to be a local constraint however the assessment suggests that the bridge has sufficient capacity to accommodate the level of development traffic, which equate to little more than one additional trip per minute in the busiest directions in the weekday peak hours. This increase is likely to be unperceivable to local road users.
- 9.1.10 From local observations it is believed that the primary highway capacity issue relates to the two southbound lanes merging to one to the north of the bridge which causes some degree of queues and delays. As such, Gladman is willing to fund the extension of the two lanes further south using the existing but underutilised ghost islands. The extension will allow for a greater amount of stacking space and more opportunities for traffic to merge. PRIME will design such a scheme should the proposals be accepted in principal by HCC Highways.
- 9.1.11 A review of personal injury accidents that have occurred on the local highway network has been undertaken for the most recent 5-year period that the data was available for. 91 accidents have occurred during this period, 16 of which resulted in serious injury with the rest slight. No fatal accidents occurred. The accidents are not particularly concentrated with this and the causation factors listed suggesting that the vast majority of these accidents did not occur as a result of highway layout or design.

9.2 Conclusion

- 9.2.1 It is concluded that the proposed development would not have a severe impact on the operation of the highway network both in terms of safety and capacity. The impact could best be described as minimal and an improvement measure has been offered to increase the southbound merge length on the A3023 north of the bridge.
- 9.2.2 As the proposal complies with local and national planning policy and guidance with respect to sustainable accessibility, safety and impact on the highway network, there are no highways or transportation related reasons why planning permission should not be granted. Should the highway authority have any concerns, we are happy to consult further with them.

APPENDIX A

SCOPING CORRESPONDENCE



David Stoddart

From: Drury, Holly [REDACTED]
Sent: 03 November 2016 12:01
To: David Stoddart
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

David

Please see comments below. I hope these are clear.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [mailto:[REDACTED]]
Sent: 02 November 2016 12:24
To: Drury, Holly
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Thank you for providing me your comments on our proposed access arrangement. Taking each of your points in turn:

1. It will not be possible to provide a footway on the eastern side of the road due to the large tree adjacent to the access of the consented McCarthy & Stone development. I believe the applicant's transport consultant noted this. Any footway construction would impact on the root protection area of the tree resulting in unnecessary ecological harm, unless you would be willing to adopt a no-dig construction? You will note from the drawing that we are proposing an uncontrolled crossing to the west of the tree where we can provide a 2-1.8m footway width. People will then be able to cross at this point to the existing provision on the eastern side of the road. We do then continue the footway on the western side to a similar uncontrolled crossing facility. We felt it better to provide a footway here than nothing. As you will note from Inclusive Mobility, the width of a large wheelchair is 755mm with double buggies typically being 750mm. The 1.5m width you quote is for a wheelchair user and ambulant person travelling side-by-side so I'd suggest that the 1.36m width we that go down to will still be of use to some users and as such should be provided. Should you have concerns with this we will happily remove this section of footway from our proposals, terminating the footway provision at the proposed crossing point to the west of the tree.

The scale of the McCarthy and Stone development meant it was not dealt with by our office so I am unaware of the work carried out by them on this matter. A no dig construction is acceptable, we have a standard detail for this which is available on our website. The 1.5m minimum allows a person to pass a wheelchair user or pushchair and is our minimum requirement. I suggest that you take a further look and site measurements to determine what footway provision can be provided and how you will be linking the development site with the key services. You are assuming 100% walking trips to school and therefore the facilities need to be of a standard to encourage this and cater for the amount of footfall. I would suggest anything below 1.5m would not achieve this.

2. The proposed access has been located centrally to maximise the available visibility. Should you be more concerned over the junction spacing, we can move it further west. We will look at tightening the radius from Elm Grove and/or providing an uncontrolled crossing in the ghost island taper.

I am not sure how locating centrally maximises visibility as the road is straight and there is sufficient frontage to insure that the boundary wall of the neighbouring property doesn't fall within the visibility splay. Designing with maximum visibility is not an acceptable engineering approach. Providing excessive visibility splays can increase vehicle speeds. The design needs to be in accordance with MFS and based on recorded speeds. My concerns relating to the junction have been outlined below and these should be addressed within the TA submitted with this application.

3. I will pass your request for a speed survey on to the applicant. I would be very surprised if the speeds were in excess of the 37mph we are designing to and will be happy to defend this should the applicant not wish to undertake the survey. If the speed survey is undertaken and the 85th percentile speeds are less than 37mph, we will reduce our visibility splays accordingly.

Please see comments above. As it is a straight road the achievable visibility is not in question. What is a concern is the proximity to the junction and forward visibility of a vehicle turning right into the development. Only speed surveys can support this.

4. We are proposing a pedestrian and cycle access onto Rook Farm Way only as the road is unadopted. Ok if there is to be only one access then the design should ensure that a large fire truck could pass vehicles parked in the access road.

5. Construction and phasing will be addressed at the Reserved Matters stage but clearly the access will not need to be metalled and adoptable during the phases of construction prior to occupation.

How construction traffic is going to access the site must be considered at this stage. As there is only one vehicle access the design of this will need to be sufficient to accommodate construction vehicles and allow for them to pass each other. This requirement is obviously excessive for the final access arrangement in this location. I would suggest therefore that it is likely that an access which can accommodate construction traffic and residents whilst the site is being occupied and constructed will be required prior to commencement and post completion of the works this will need to be reduced to create an access more inline with what would be appropriate for a residential access.

6. We will track the access for a refuse collection vehicle. If it can accommodate such a vehicle there will be no need to track a car.

We will need to see a refuse vehicle passing a car/queue of cars at the junction.

Kind regards

Dave

David Stoddart

Principal Transport Planner [REDACTED]



From: Drury, Holly [REDACTED]

Sent: 02 November 2016 11:41

To: David Stoddart [REDACTED]

Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Hi David

It is for you to determine how the proposed growth within the area is taken into consideration.

On another note I have taken a look at your access proposals and have a number of comments. These are detailed below.

1. The proposed footway extension on the western side of St Mary's Road is proposed to be as little as 1.36m wide. Our absolute minimum is 1.5m and this is over a restricted length the preferred minimum is 1.8m. A footway of less than 1.5m cannot accommodate a wheelchair or allow a double buggy. Given that the infant school is situated on this road there is a strong case for requiring this as a minimum width. All options should be looked at and explained why the proposal is put forward as it is. I think there is likely to be opportunities to maximise the footway width if it is kept on the eastern side and crossing just before the site access.
2. The proposed site access is located centrally within the land under the applicants control. There is some concern over the proximity to the Church Road junction and we would prefer to see the access located as far away from the junction as the applicants land ownership allows. This is because there are concerns over the forward visibility of the proposed junction and vehicles waiting to turn from drivers turning into St Mary's Road from Church Road. The left turn into St Mary's Road in particular has a large radius and therefore speeds could be fairly high. In order to support the access proposals I would require tracking of the turning movements at Church Road and suggest that narrowing of the bellmouth or inclusion of an pedestrian island may help with reduce speeds as well as aiding crossing movements at this otherwise very wide bellmouth.
3. Speed surveys will be required as outlined previously. I have discussed the omission of these with our engineer and due to the concerns over the proximity of the proposed access to Church Road we do need to understand what vehicle speeds are at the point in which you are proposing the access.
4. The inset to plan P16031-001B is not clear. Are you proposing an additional access from Rook Farm Way?
5. Could you confirm how construction access is proposed? In addition how is this going to be managed alongside the occupation of the site?
6. We will require tracking for the site access and if this is to be used for construction this will need to be for a car, articulated lorry and refuse vehicle.

I hope the above is clear. If you wish to discuss please do not hesitate to contact me.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [REDACTED]
Sent: 31 October 2016 17:19
To: Drury, Holly
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Sorry, I disagree. Having looked in detail into TEMPro in the past for strategic modelling purposes, TEMPro and local plan allocations do not fully correlate as TEMPro assumptions are produced by the central government with no or little influence from LPAs and do not include individual allocations or applications. It should be used more as a guide. However as Havant 015 (where the allocations sits) contains 105 additional households between 2016 and 2026, with 60 removed to avoid double counting the Barratt site, removal of the remaining 45 is unlikely to have a material influence on the associated growth rates, especially as we are taking an average between it and Havant 016 & 017. We will therefore not adjust the household numbers for the sensitivity test.

Kind regards

Dave

David Stoddart

Principal Transport Planner [REDACTED]



From: Drury, Holly [REDACTED]

Sent: 31 October 2016 17:06

To: David Stoddart [REDACTED]

Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Hi David

Just one comment please see in red below.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA

Senior Engineer – Highways Development Planning

Strategic Transport

01962 826996 (HPSN 826996)

From: David Stoddart [REDACTED]

Sent: 31 October 2016 17:03

To: Drury, Holly

Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Thank you for coming back to me. Just to summarise so that we are both on the same page moving forward:

- Trip rates will be based on those approved for use in the Goldring Close TA;
- Trip distributions will be based 100% on 2011 Census Method of Travel to Work Data;
- I will contact Helen Harris with regards to the school TPs as there may be some useful catchment and modal split information in them;
- Site access visibility splays – we are fully in agreement that visibility splays should be based on the requisite stopping sight distances for 85th observed speeds, however in this location I feel that unnecessary additional survey costs should be avoided as given the proximity of the proposed site access to the neighbouring junction, I feel that it is very unlikely that passing traffic, even at 85th percentile speeds, will be travelling at free flow speeds. I do feel that designing to MfS at 37mph will provide more than a sufficient buffer. Please note that there is a type-o on the drawing you have, “DMRB” in the key should read “MfS”;
- We will make a call on the need for additional capacity assessments once we have completed our traffic forecasting. I do feel at this stage that we are unlikely to send large enough proportions of traffic through other junctions to cause a perceptible impact. If we chose not to undertake additional assessments, we will provide qualitative justification;
- Assessment times – we will include the school PM peak for the island junctions with the trip rates adjusted accordingly based on the TRICS rates for this time period; and
- We will include a sensitivity test for the 161 dwelling local plan allocation with the associated number of dwells removed from TEMPro to avoid double counting. **As this is beyond 2026 which is the current local plan period I don't think they will be included in TEMPRO so no manual reduction should be required.**

Kind regards

Dave

David Stoddart

Principal Transport Planner [REDACTED]



From: Drury, Holly [REDACTED]

Sent: 31 October 2016 16:24

To: David Stoddart [REDACTED]

Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Hi David

Apologies for the delay in my response to you on these matters.

I shall try and address each point in turn:

Trip Rates

The trip rates you are proposing in your latest email were 0.734 in the AM peak and 0.774 in the PM peak. Those agreed for Goldring Close which is in close proximity to your site were 0.608 and 0.707 and based on a TRICS assessment.

The original TRICS analysis you sent through showed two way trip rates of 0.581 and 0.648. Given that you consider the 85th percentile are too high and that I believe your originally proposed rates are a little low and that you do not wish to undertake any further survey work I would be prepared to agree to use the same trip rates as the Goldring Close application (APP/12/00966).

Trip Distribution

The trip distribution utilising the journey to work data would represent a worst case scenario regarding the impact of the development. I believe a gravity model has been requested previously for other sites due to local issues meaning that journey to work data was not representative of the potential impact on sensitive junctions. In this case it is the roads going northbound which are more sensitive and therefore I would suggest that using Journey to work data would be a more robust approach.

My enquiry previously was regarding the level of traffic assumed to be maintained within the island. Having reviewed the journey to work data in more detail however I am content with that approach set out within your original note.

I would like to think as you say that due to the location of the infant, junior and secondary schools that journeys to these destinations if not part of a linked trip would be undertaken on foot or by pedal cycle. Your TA should review the infrastructure to these destinations and ensure they are sufficient to attract/encourage journeys by sustainable modes. A review of the school travel plans for these sites would give you more detail on the modes used to travel to school. These can be obtained from my colleague Helen Harris [REDACTED]

Site Access

I have a meeting to discuss the proposed site access with our engineers later this week and shall be in touch after this meeting. However regarding speed surveys or position on the use of manual for streets visibility splays is set out within our Manual for Street Companion Guide. Within this we detail that we require speed surveys to support the use of manual for street visibility splays. There is obviously a range that visibility can sit within. I am happy for you to table your proposals within the TA but during the planning process I may still require a speed survey to support the assumptions made.

Capacity Assessments

I assume that the capacity assessment proposals are unlikely to change significantly. I agree that junctions 1,2,3 and 7 need to be modelled. I would also require junction 6 to be modelled, we cannot guarantee that all traffic will travel north from the site and I need to understand if there is a constraint if vehicle choose to travel south. Depending on the outcome of the modelling (i.e. they are subject to congestion) results for junctions 3 and 7 I would also expect to see some sensitivity testing on the impact on West Lane and the St Mary's Road/Manor Road/Station Road junction and Station Road/West Lane junction and A3023 West Lane junction due to rat running along this routes. I would like to see this addressed within the TA anyway in some form. I am not sure whether surveys would be necessary at this stage so didn't include it within the original list however we need to be mindful to the fact that this does happen at present from the existing residential areas.

Assessment Times

I would suggest that locally due to the proximity to the schools and given the observed difference in peak hours I would require modelling of the island junctions at both the observed peak and the traditional peak hours.

Committed Development

I would suggest that you consider how you will assess the local plan development traffic. Whilst I do not think this should be included in the base modelling for this sites TA I do believe that you need to have considered the potential further allocation within the TA.

HCC's Transport Contribution Policy

The transport contribution policy is not in use. An appropriate contribution or highway works will be sought and the form of this will be based on the outcomes of the Transport Assessment and identified mitigation and infrastructure deficits.

I hope that answers all your questions but please do not hesitate to contact me should you require anything further.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [REDACTED]
Sent: 12 October 2016 17:01
To: Drury, Holly
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Hi Holly,

I have a few more queries which I would be grateful for your opinion on regarding our assessment.

Following consultation with your colleagues on a large residential application in the Chandler's Ford area, your colleagues have requested that we revise our distribution so that method of travel to work data is only used for such journeys; for other trips purposes, namely education and retail, other methods of distribution should be used. So that we are consistent, we now propose the following:

- Employment trips distributed based on 2011 census method of travel to work data for the local MSOA;
- Education trips distributed based on the assumption that 100% of trips to the local schools which are within 1 mile of the site will be made on foot or via bicycle, so all car based education trips will be distributed towards/from Portsmouth (University, Highbury College etc);
- Retail trips will be distributed based on the following assumptions:
 - 10% to/from Tournurbury Lane (Co-op);
 - 15% to/from Mengham Road (Sainsbury's Local & district centre);
 - 15% to/from Station Road (Tesco Express & district centre); and
 - 60% to/from Park Road South (Tesco Extra, Solent Retail Park & Havant town centre).

We have used TEMPro 7 to forecast trip purposes but in order to provide a concentrated and robust distribution for assessment purposes, we have removed all non-home based trip ends as they are not applicable to residential land uses as an origin and removed home based personal business, recreation/social, visiting friends and relatives and holiday/day trip as the associated trip ends are proportionately small and their associated distribution likely to be somewhat dispersed. A summary of the trip purposes extracted from TEMPro for the local MSOA are shown below:

Trip Purpose	Trip Ends		Trip Ends %	
	AM	PM	AM	PM
HB Work & Employers Business	1118	930	71.9%	64.6%
HB Education	157	75	10.1%	5.2%
HB Shopping	280	434	18.0%	30.2%
Total	1555	1439	100.0%	100.0%

I have attached our traffic flow diagrams for reference. As you will see, we are still sending the vast majority of development trips towards the mainland. I trust that you will find our more detailed distribution methodology agreeable. Please can you let me know if you disagree with this approach or any of our assumptions.

Included in the traffic flow diagrams are our observed traffic flows and queue lengths. As you are aware, we have surveyed 7 junctions in order to quantify the impact of our development traffic, three of which were suggested by ourselves and the other four following consultation with your department. Below is a summary of the proportionate impact of our development in absolute and percentage terms based on the 2016 flows, obviously the proportionate impact in the forecast year will be less.

Junction	AM Peak			PM Peak		
	2016 Obs	Abs Diff	% Diff	2016 Obs	Abs Diff	% Diff
1. A27/A3023 Langstone Road/Park Road South	4165	118	2.8%	4326	119	2.8%
2. A3023 Langstone Road/ Langstone Technology Park Access/ Southbrook Road	2623	127	4.8%	2717	129	4.7%
3. A3023 Havant Road/ Church Road	1742	129	7.4%	1795	131	7.3%
4. A3023 Manor Road/ St Mary's Road	786	17	2.2%	846	18	2.1%
	1155	21	1.8%	1204	23	1.9%

5. Elm Grove/ Cherrywood Gardens						
6. St Mary's Road/ Cherrywood Gardens	322	17	5.3%	281	19	6.8%
7. Church Road/ Tournurbury Lane/ Elm Grove/ St Mary's Road	1456	153	10.5%	1436	160	11.1%

Based on the above, we propose to undertake capacity assessments at junctions 1, 2, 3 and 7. We suggest that a percentage impact assessment at the other three junctions will be sufficient as the impact is less than the traditional 30 two-way trip threshold for capacity assessment and the percentage increase is likely to be less than the typical daily fluctuation in traffic flow. Please can you confirm if you concur with this?

The observed flows shown at each junction are the AM and PM network peak hours which for the two mainland junctions were 0745-0845 and 1630-1730 with the junctions on the island having peaks 15-minutes later. However strictly speaking, the network PM peak at the island junctions was 1530-1630, presumably due to school traffic. With this in mind, do you require us to assess our impact on the PM peak and school PM peak? If we were to assess the school PM peak our proportionate impact would be less as the residential peak applied to the site is 90 minutes later meaning that our trip rates for the school PM peak would be lower.

I had a chat with Peter Marshall earlier who provided me with more details regarding the Bellway site off Hawthorne Grove and the Barratt site off Station Road. We will include both as committed developments. Peter also mentioned the McCarthy & Stone retirement apartments off Elm Grove but as the quantum is so small at 33 apartments, and as such developments tend to generate little traffic in the typical network peaks, we'll exclude this. Peter is not aware of any other developments we will need to consider. He did however mention the 161 dwelling draft Local Plan allocation off North Shore Road, but as you have asked us not to include reference to the draft Local Plan in terms of policy, I assume we should not include this in our assessment. TEMPro will arguable account for this.

I've had a glance at the TA and TS for the committed developments and I see that average TRICS derived trip rates, much lower than the 85th percentile trip rates we propose to use as per my previous email, were accepted by your authority for both committed developments and the Planning Inspectorate with regards to the Bellway site. On that basis, please can you confirm if you would rather we use the average trip rates provided in our Scoping Checklist or 85th percentile trip rates as per my previous email.

I have also been made aware of HCC's Transport Contributions Policy (2007). Please can you confirm if you are likely to ask us to base our contributions on this document and if so, whether the trip rates stated in the document or our trips rates used in the assessment will form the basis for contributions? Also, hypothetically speaking at this time as we are yet to run our assessment, if we are to provide a direct improvement, say via S278, is there a mechanism for the associated cost to be discounted from the total contributions?

Also, we have updated our access drawing (attached) based on topo survey information. We have based the visibility splay on the MfS stopping sight distance for 37mph with a greater distance in each direction being achievable. We feel this demonstrates that the access will have more than sufficient visibility to ensure safe access and egress.

If you have any queries or would like to discuss any of this over the phone, please don't hesitate to give me a call.

Kind regards

Dave

David Stoddart

Principal Transport Planner

From: David Stoddart

Sent: 06 October 2016 15:50

To: 'Drury, Holly' [REDACTED]

Cc: David Schumacher [REDACTED]; Neil Lewis [REDACTED]

Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Thank you for providing me with your full response.

Just picking up on a couple of points. With regards to the trip rates, my client has already incurred substantial costs by agreeing to surveying the additional junctions requested by your colleague, David Earl, three of which I feel do not warrant assessment given that we will be sending far less than 30 two-way trips through them and I did not observe any delays at them during two peak hour site visits, as well as the costs associated with the original ones we suggested. My client is looking to submit the planning application in the next few weeks which leaves little time for further surveys. We therefore propose to use TRICS 85th percentile trip rates in order to provide a robust assessment. The rates and resultant generation we intend to use are below:

Time	85th %ile Trip Rates			85th %ile Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	0.243	0.491	0.734	56	113	169
17:00-18:00	0.405	0.369	0.774	93	85	178

I am not convinced that locally derived trip rates would be fully applicable to the application site given the lack of recent large scale residential development on the island. I trust that the use of 85th %ile TRICS trip rates will be agreeable. I attached the TRICS output for your information.

Apologies, but the information provided at point 17 in our Scoping Checklist was out-of-date. We intend to use 2011 census method of travel to work data for our distribution. I accept that this data is applicable to journeys to work only but it will effectively skew the traffic impact higher giving us a more concentrated distribution towards the mainland as large proportions of education, retail and leisure trips are likely to remain on the island. I did provide you with an initial distribution based on this methodology but we have since revised it to add a greater level of detail, particularly by forecasting turning movements at the A27 junction. Please find attached our distribution along with the distributed development trips based on the above trip rates. Also attached are details of our distribution calculation. We have made some assumptions regarding the distribution of the local MSOAs with traffic to/from the Havant 014 MSOA split 50/50 between Havant town centre and Langstone Technology Park, Havant 015 split 70/30 along Manor Road and northern areas of the island and Havant 016 split 50/50 along Beach Road and Elm Grove.

Finally, we do not feel that speed surveys are required at the proposed site access given that the location is some 55m away from the Elm Grove junction, meaning that north-eastbound traffic will be decelerating and south-westbound traffic is unlikely to have reached speeds greater than 30mph as it passes the site. We will however present the greatest splays achievable and provide some narrative in terms of the equivalent SSDs.

I trust that the above is acceptable to you. Please do not hesitate to contact me should you wish to discuss.

Kind regards

Dave

David Stoddart

Principal Transport Planner [REDACTED]



From: Drury, Holly [REDACTED]

Sent: 03 October 2016 15:50

To: David Stoddart [REDACTED]

Cc: David Schumacher [REDACTED]; Neil Lewis [REDACTED]
[REDACTED]

Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

David

Apologies for the delay in my response to you. I see that my colleague David Earl has provided comments on the survey locations. I have populated the table sent through and attached for your information. My comments are based on very limited information and I may have more details comments and additional requirements once there is survey information and details regarding the distribution etc.

Happy to discuss further. If you have any further questions or additional information that you would like to discuss with me please do not hesitate to contact me.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [REDACTED]

Sent: 31 August 2016 10:49

To: Drury, Holly

Cc: David Schumacher; Neil Lewis [REDACTED]

Subject: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Many thanks for returning my voicemail earlier, it's probably best if you can arrange for the Hants DC contacts map <http://www3.hants.gov.uk/highways-dc-map.pdf> to be taken down given that Rob and Dave have moved on!!

As I mentioned on the phone, my company has been instructed by Gladman Developments to undertake a TA and Travel Plan in support of a proposed residential development for up to 230 dwellings off St Mary's Road, Hayling Island. I understand that the site is allocated for residential development. Our proposed scope of assessment is attached in the form of a scoping checklist and appendices. I would appreciate it if you could add any comments to the various points of the checklist, where relevant, in the final column marked "LHA Comments", alternatively any response in your preferred format would be equally appreciated.

As per your Planning Advice Charging Guide, a cheque for £2,400 will be posted shortly.

If you require any further information at this stage, please do not hesitate to contact me.

Kind regards

Dave

David Stoddart Principal Transport Planner BA(Hons) MCIHT MILT | DD: 0151 728 1864 M: 07944 446528



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SCOPING CHECKLIST FOR: Up to 230 dwellings on land to the west of St. Mary's Road, Hayling Island, Hampshire

HIGHWAY AUTHORITY: Hampshire County Council (HCC)

DATE PREPARED: 30/08/16

Ref	Item	Intention	LHA Comments
1	Level of planning approval sought? e.g. outline, full.	Outline	With all matters reserved except Highways I assume?
2	Size and description of development proposals	Circa 230 dwellings – See Figure 1 in Appendix I	N/A
3	Description of existing land uses, existing trip distribution	Agricultural land – no existing trips assumed	N/A
4	Does the development involve the relocation of an existing use?	No	N/A
5	What transport based supporting documents will be produced?	Transport Assessment, Framework Travel Plan, Stage 1 Road Safety Audit with Designers response to Safety Audit.	Transport assessment should also include a walking and cycling audit including the routes to schools. Details of the proposed site access including justification for its form and modelling.
6	Are traffic surveys of the existing conditions available or required?	ATC data at approximate location of the site access already collected as part of the due diligence process.	Please see email conversation with David Earl dated 9 th September 2016.
7	Are further traffic surveys required?	Distribution exercise has been undertaken using 2011 Census Method of Travel to Work data (See attached Appendix II). Upon establishing the results, we propose to assess the following junctions. 1. St. Mary's Rd/Church Rd/ Main Road/Tournerbury La (Staggered priority control); 2. Church Rd/A3023 Havant Rd (Roundabout); and 3. A3023 Langstone Rd/ A27 (Grade Separated Roundabout). Any other please advise.	Please see email conversation with David Earl dated 9 th September 2016.
8	Details of any other developments to be	Please advise if there are any committed developments that need	Development from Beach

	taken into account.	to be taken account of.	Grove/Hawthorne Grove Hayling Island which is not yet complete. Station Road, West Town Hayling Island. I have cc'd my colleague at Havant Peter Marshal for comment on this matter as there may be other smaller applications which would have a cumulative impact.																												
9	Details of any adjacent highway improvement proposals by others	Please advise if there are any highway improvement schemes that need to be taken account of.	N/A																												
10	When are the critical periods for assessments?	Weekday AM and PM to be derived from surveys mentioned above.	Seems sensible																												
11	When would the site be fully operational?	2021 - 5 years post submission of the planning application																													
12	What are the assessment years?	2016 – Base flows only 2021 – 5 years post submission – with and w/out development	Agreed																												
13	Traffic growth factors?	TEMPRO growth for local MSOA manually adjusted with any committed development removed from planning assumptions to remove double counting. NTM adjustment applied	Agreed																												
14	How will vehicular trip generation be derived for the proposal?	Average trip rates have been derived from the TRICS database, which are as follows: <table><tr><th></th><th colspan="2">Arrivals</th><th colspan="2">Departures</th><th colspan="2">Total</th></tr><tr><th>Time</th><th>Rate</th><th>Flow</th><th>Rate</th><th>Flow</th><th>Rate</th><th>Flow</th></tr><tr><td>08:00-09:00</td><td>0.161</td><td>37</td><td>0.420</td><td>97</td><td>0.581</td><td>134</td></tr><tr><td>17:00-18:00</td><td>0.407</td><td>94</td><td>0.241</td><td>55</td><td>0.648</td><td>149</td></tr></table> The full TRICS output has been provided with this scoping checklist (Appendix III)		Arrivals		Departures		Total		Time	Rate	Flow	Rate	Flow	Rate	Flow	08:00-09:00	0.161	37	0.420	97	0.581	134	17:00-18:00	0.407	94	0.241	55	0.648	149	I would suggest that due to the nature of Hayling Island being an island the standard TRICS approach would not provide a robust trip rate in order to assess the application. There are existing roads in the vicinity of the proposed development which could be surveyed to determine trip generation and distribution. For example Garden Close. A methodology should be put together to determine a local trip rate for the proposed development.
	Arrivals		Departures		Total																										
Time	Rate	Flow	Rate	Flow	Rate	Flow																									
08:00-09:00	0.161	37	0.420	97	0.581	134																									
17:00-18:00	0.407	94	0.241	55	0.648	149																									
15	How will non-car mode trip generation be derived for the proposal?	Factors will be derived between forecast vehicular trips described in point 13 above and car driver trips from local 2011 Census MTW data. These factors will then be applied to other modes reflecting the census mode split.	Census journey to work data should provide a model split. This may need to be corrected depending on the result of the survey data and vehicle trips.																												

16	Would traffic from adjacent sites be attracted to the site? Pass-by traffic?	100% newly generated trips	N/A
17	What is the assumed trip distribution?	Trips from the site to be distributed in accordance with existing traffic flows measured via ATC mentioned in 7 above	I would need to see the ATC data in order to comment on this. A number of trips are shown to travel east across the island and it is not clear where these would be travelling to. I would be expecting to see most trips travelling north off the island in the AM peak and south onto the island in the PM peak. These trips would be split across West Lane and the A3023.
18	What is the extent of the accident study area to be considered?	See Figure I in Appendix I	Accident data on St Mary's Road, Manor Road and West Lane/Station Road route should also be collected and reviewed as part of the application.
19	Capacity tests required for the proposed and following existing junctions	Formal assessment proposed for site access and at the junctions mentioned in 7 above	I cannot comment on the requirements for this until we have the results of the survey data and assessments have been undertaken to determine the level of increase in traffic as a result of the development. This should be shown for individual arms of the junctions and the junction as a whole.
20	Are adjacent junctions or links likely to become overloaded?	To be confirmed through capacity assessment	Agree
21	Is a new or modified highway access likely?	Single priority controlled access to be proposed on Town Road (See attached Drawing P16031-001A (Appendix IV). Footway and carriageway dimensions in accordance with MfS. Comments welcome on suggested access arrangements	Speed surveys in the vicinity of the site access will be required to support the use of MfS design guidance. A GA of the site access should be provided and justification for its form outlined within the TA.
22	What are the visibility requirements?	Visibility splays shown on Drawing P16031-001A are MfS compliant for a 30mph speed limit	These will need to be supported by a speed survey.

23	What level of car parking is required?	To be agreed at Reserved Matters stage however please advise on most current local guidance such that reference can be made in the Transport Assessment	This is a matter for the district.
24	Are special provisions required for cyclists, pedestrians, those with a disability or public transport?	To be reviewed as part of Transport Assessment	No comment
25	What is the extent of the accident study area?	See attached Figure 1 suggesting the extent of the accident study area	See answer to 18
26	What planning policy should the development comply with?	• NPPF; • MfS/MfS2 • HCC LTP 2011 - 2031; • Havant BC Core Strategy 2011; • Emerging policies in Havant BC Draft Local Plan 2016 – 2036; and • HCC to advise on any others	The emerging local plan doesn't have any policy basis as it is yet to be adopted and in highway terms is not supported with a transport assessment as of yet.
27	Are there any other special circumstances relevant to this proposal?	Please advise	Due to the application coming forward prior to allocation within Havant Borough Councils Local Plan a full assessment of the impact of the development on Hayling Island.

ATTACHMENTS:-

APPENDIX I
APPENDIX II

FIGURE I - SITE LOCATION, TRAFFIC SURVEY AND ACCIDENT STUDY AREA PLAN
2011 CENUS METHOD OF TRAVEL TO WORK DISTIBUTION CALCULATION

APPENDIX III
APPENDIX IV
APPENDIX V

FIGURE IIA – DEVELOPMENT TRAFFIC DISTRIBUTION
FIGURE IIB – 2-WAY DEVELOPMENT TRIPS
TRICS OUTPUTS
DRAWING P16031-001A – PROPOSED ACCESS STRATEGY
HCC PRE-APPLICATION ADVICE FORM

