



Persimmon Homes South Coast

# Land to the West of Langstone Road, Havant

## Transport Assessment

July 2021



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## Transport Assessment

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## APPENDICES

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# 1. Introduction

## 1.1 Overview

- 1.1.1 This Transport Assessment (TA) has been prepared by mode transport planning (mode) on behalf of Persimmon Homes South Coast. It accompanies an Outline planning application (with all matters reserved except access) for development proposals on land to the west of Langstone Road, Havant.
- 1.1.2 The site is located on the western side of Langstone Road, to the south of Havant and within the Havant Borough Council (HBC) Authority area. Hampshire County Council (HCC) act as the local highway authority.
- 1.1.3 The development proposals comprise 65 residential dwellings with access in the form of a simple priority junction onto The Mallards, designed in accordance with the Manual for Streets design criteria. An illustrative site layout is provided in [Appendix A](#).

## 1.2 Document Purpose

- 1.2.1 This TA has been prepared to consider the development proposals in transport terms alongside relevant national and local planning policy and guidance, principally the National Planning Policy Framework (NPPF).
- 1.2.2 This TA has been prepared to evaluate the existing conditions of the site in relation to the local road network and sustainable travel infrastructure, and how the proposed development is anticipated to affect these.
- 1.2.3 The TA has been prepared with the following objectives:
  - To provide a summary of relevant national and local planning policies to show that the development proposals are in accordance with applicable policies;
  - To present and review the existing sustainable travel credentials of the site and the surrounding area. In doing so, confirming the opportunity for future residents to utilise sustainable modes of travel;
  - To review the proposed layout in terms of development schedule and cycle and car parking provision;
  - To provide a forecast travel demand for the development proposals for all travel modes to suit the forecast travel demand, prioritising sustainable modes of travel;
  - To review the anticipated development traffic impact to determine the impact of the development proposals on the local road network in a 2036 future year.

- 1.2.4 Pre-application discussions have been held with Officers at HCC, including preparation of a Transport Assessment Scoping Note. HCC and Highways England (HE) also contributed to a pre-application response from Havant Borough Council in June 2019. The pre-application discussions have resulted in the development proposals being assessed via the Hayling Island Paramics traffic model to determine the impacts of the development proposals. Full details of this are provided in [Section 5](#).

## 1.3 Sections of Transport Assessment

- 1.3.1 The remainder of this TA is structured as follows:

### **Section 2 – Planning Policy Context**

- Identifies the applicable national and local level transport related policies and how the development proposals are in accordance with these.

### **Section 3 – Site Location and Accessibility**

- Describes the existing site and its location to local facilities, including sustainable travel infrastructure for pedestrians, cyclists and public transport users. This section also details the local highway network and the most recently available Personal Injury Collision (PIC) data.

### **Section 4 – Development Proposals**

- Details the development proposals including access arrangements, car and cycle parking provision and servicing arrangements.

### **Section 5 – Traffic Demand and Development Impact**

- Assesses the trip generation associated with the proposed development and the impact on the local highway network.

### **Section 6 – Mitigation Measures**

- Identifies any appropriate mitigation measures to minimise the impacts of the development.

### **Section 7 – Summary and Conclusion**

- Sets out the summary and conclusions of the report.

## 2. Planning Policy Context

### 2.1 Overview

2.1.1 This section of the report details the transport aspects of adopted national and local policies relevant to the development proposals that have informed the preparation of this TA. The applicable policy documents are as follows:

- National Planning Policy Framework;
- National Planning Practice Guidance;
- Havant Local Plan (Core Strategy);
- Havant Parking Supplementary Planning Document; and
- The emerging Havant Borough Council (Submission Version).

### 2.2 National Policy

#### National Planning Policy Framework

2.2.1 The NPPF sets out Government's planning policies for England and how these are expected to be applied. The NPPF was first published in March 2012 and most recently revised in February 2019. The NPPF continues to presume in favour of sustainable development and is a material consideration in planning decisions.

2.2.2 One of the 12 core land-use principles within the NPPF includes:

- *"[to] actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling and focus significant development in locations which are or can be made sustainable."*

2.2.3 Chapter 9 'Promoting Sustainable Transport' of the 2019 NPPF states that *"transport issues should be considered from the earliest stages of plan-making and development proposals"*.

2.2.4 Paragraph 108 of the NPPF states that when assessing specific sites used for development applications, it should be ensured that:

- *"Appropriate opportunities to promote sustainable transport modes can be - or have been - taken up, given the type of development and its location;*
- *Safe and suitable access to the site can be achieved for all users; and*
- *Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*

2.2.5 Paragraph 109 of the 2019 NPPF ultimately states the following for transport:

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

### National Planning Practice Guidance

2.2.6 The NPPG provides additional information in support of the NPPF and contains specific guidance on travel plans, transport assessment and statements. The guidance states that these documents should, *“primarily focus on evaluating the potential transport impacts of a development proposal”*, and that they *“can be used to establish whether the residential transport impacts of a proposed development are likely to be ‘severe’, which may be reason for refusal, in accordance with the NPPF”*.

## 2.3 Local Policy

2.3.1 Local policy in Havant is contained within the Havant Borough Local Plan (Core Strategy), adopted in March 2011 and the Local Plan (Allocations) adopted in July 2014. It is noted that no relevant transport related policies are included within the Local Plan (Allocations) document.

### Local Plan (Core Strategy)

2.3.2 Policy CS20 of the Core Strategy relates to transport and access strategy. This states that development will be permitted that:

- *“Does not increase congestion and promotes better use of existing transport networks...”*
- *Maintains or improves the range of transport modes accessible to the users of the development site with specific emphasis on public transport, especially high quality/frequency buses and includes walking and cycling where appropriate”*

2.3.3 Policy DM 11 of the Core Strategy references planning for more sustainable travel. This seeks to increase the integration of sustainable travel modes by appropriate measures including:

- *“Securing on-site and/or off-site interventions that promote integrated travel and access by non-motorised modes.*
- *Requiring safe and secure vehicular and cycle parking and turning facilities to adopted standards...*
- *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. This will facilitate and encourage short distance trips by cycle and walking, including to public transport interchanges.”*

2.3.4 Mitigating the impacts of travel forms Policy DM12. This states that new development is required to mitigate its travel impact. This includes the submission of a Transport Assessment and Travel Plan alongside any major development application.

2.3.5 Policy DM13 relates to car and cycle parking at residential developments and states that this should be provided in accordance with the Residential Car Parking and Cycle Provision Supplementary Planning Document (SPD).

### Havant Parking SPD

2.3.6 Since the adoption of the Core Strategy, the Parking SPD has been updated and adopted in July 2016, with partial updates in September 2019. The minimum car parking standards applicable outside of Havant and Waterlooville town centres are summarised in [Table 2.1](#).

**Table 2.1 Havant Parking SPD Car Parking Standards**

| Size of Dwelling | Minimum Car Parking Requirement (allocated parking) | Minimum Car Parking Requirement (shared/communal parking – unallocated) |
|------------------|-----------------------------------------------------|-------------------------------------------------------------------------|
| 1 bedroom        | 1 space                                             | 0.9 spaces                                                              |
| 2 bedrooms       | 2 spaces                                            | 1.3 spaces                                                              |
| 3 bedrooms       | 2 spaces                                            | 1.9 spaces                                                              |
| 4 bedrooms       | 3 spaces                                            | 2.4 spaces                                                              |

2.3.7 The standards also state that *“with the exception of small residential developments an additional 20% of unallocated parking for visitors should be accommodated.”*

2.3.8 The cycle parking standards set out within the Havant Parking SPD are summarised in [Table 2.2](#).

**Table 2.2 Havant Parking SPD Cycle Parking Standards**

| Size of Dwelling | Long Stay         | Short Stay                                                                                                                                           |
|------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 bedroom        | 1 space per unit  | In larger developments (schemes of 10 or more dwellings), short term visitor parking will be expected at 20% of the long term cycle parking standard |
| 2 bedrooms       | 2 spaces per unit |                                                                                                                                                      |
| 3 bedrooms       | 2 spaces per unit |                                                                                                                                                      |
| 4 bedrooms       | 2 spaces per unit |                                                                                                                                                      |

### Havant Borough Council Local Plan (Submission Version)

2.3.9 In February 2021, Havant submitted their new Local Plan for Examination in Public ahead of adoption. Whilst this is not adopted policy in the Borough, this provides an indication on the future planning policies to be applied in the area.

2.3.10 Draft Policy IN3 relates to transport and parking and stated that development proposals will be permitted providing the site is designed so that:

- *“Safe and suitable access to the site is provided for all people and modes of transport;*

- *Sustainable modes of travel are encouraged and supported through on and/or off-site measures;*
- *The site layout encourages lower vehicle speeds, and prioritises the safe and convenient movement of pedestrians and cyclists within the site;*
- *Pedestrian and cycle routes are provided which conveniently reach all parts of the site, and link with the wider network beyond the site...*
- *Provision is made for the parking of cars, motor cycles and cycles in line with Council standards;*
- *Electric vehicle charging infrastructure is provided for:*
  - a. *Each new residential unit with private off-street parking;*
  - b. *An appropriate number of spaces in shared parking at residential and commercial development...*
- *Where required, a satisfactory Transport Statement or Transport Assessment is submitted in support of the planning application to evaluate transport impacts...*
- *The traffic generated by the development, taking into account any proposed avoidance and mitigation measures, would not result in severe cumulative impacts on the transport network or the environment;*
- *A Travel Plan is provided in support of a planning application where appropriate in relation to the scale and type of development."*

## 2.4 Summary

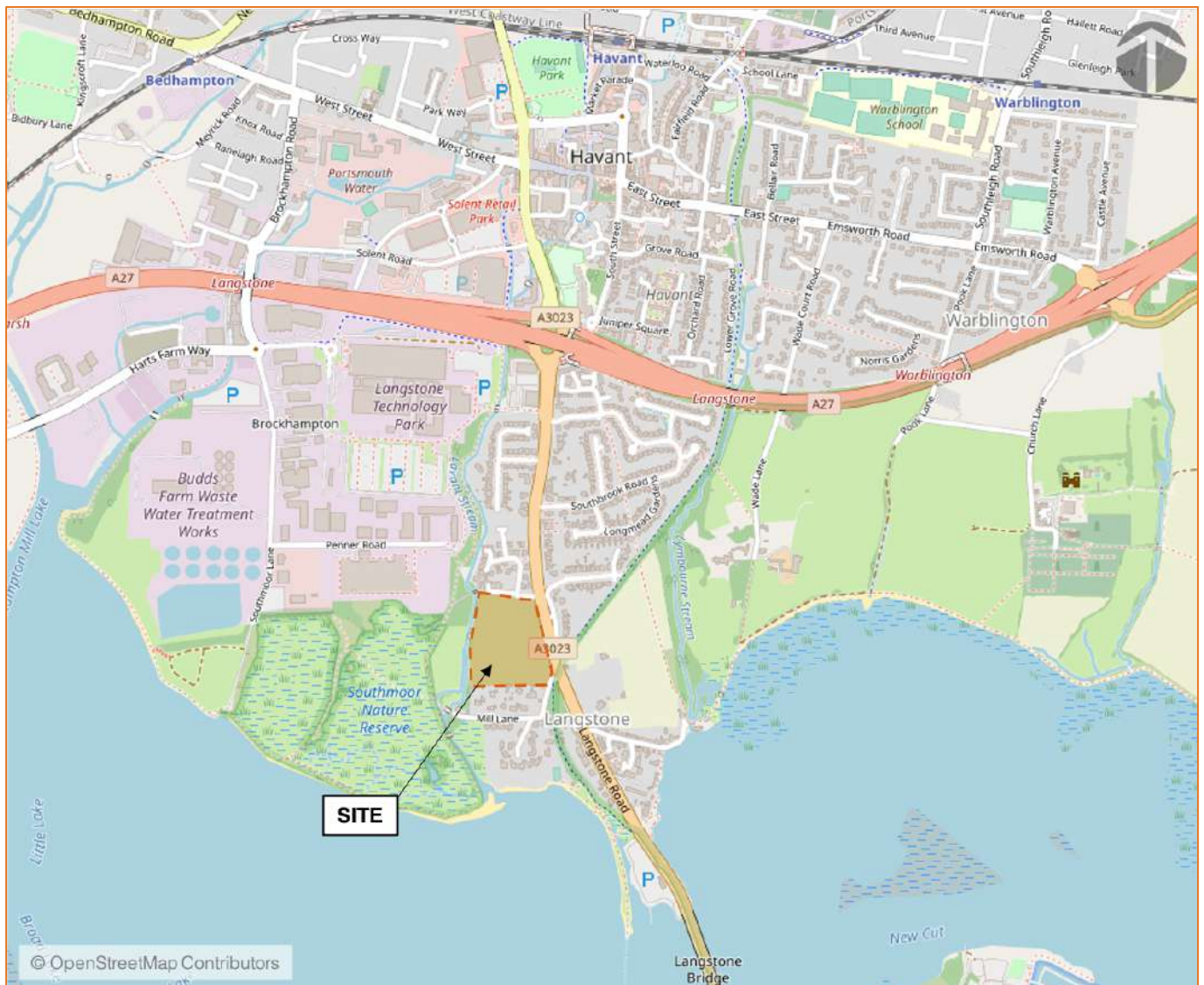
- 2.4.1 National and local level transport policy encourages new developments to be located in areas that are readily accessible and encourage opportunities to use sustainable travel modes, including on foot, cycle and by public transport.
- 2.4.2 This TA provides a full and detailed assessment of the development proposal and the existing sustainable transport connections in the locality in **Section 3**. The TA also presents a sustainable access strategy detailing how the proposed development will link to existing travel infrastructure, along with a detailed assessment of the traffic impact of the development proposal on the local highway network.

## 3. Site Location and Accessibility

### 3.1 Site Location

- 3.1.1 The application site is located to the west of Langstone Road, immediately south of The Mallards and north of Mill Lane. The application site is also situated to the southeast of Langstone Technology Park.
- 3.1.2 Havant is located approximately 1 kilometre to the north of the site with Hayling Island accessed via Langstone Road to the south. Havant is strategically located with Portsmouth to the southwest and Chichester to the east, linked by the A27 trunk road. The A27 provides a link east towards Brighton and west to Southampton, the M27 and onwards towards Bournemouth and Ringwood.
- 3.1.3 In the vicinity of the site, Langstone Road is subject to a 30 mph speed limit with one lane of traffic for northbound and southbound vehicles. Street lighting is also present along Langstone Road.
- 3.1.4 The site is currently accessed from The Mallards via a gated entrance and a dropped kerb. This leads onto a grass surface, covering the expanse of the site. The Mallards is a residential street and is also subject to a 30 mph speed limit.
- 3.1.5 The location of the application site is demonstrated further on [Figure 3.1](#).

Figure 3.1 Site Location



## 3.2 Accessibility on Foot

- 3.2.1 National and local planning policy advocates that walking is an important mode of transport that provides the greatest potential to reduce car trips at a local level.
- 3.2.2 A well-established network of pedestrian routes exists around the location of the application site, providing good connectivity to nearby bus stops, offering access to the site with an opportunity to travel by sustainable modes of transport.
- 3.2.3 The Mallards is provided with a lit footway along the northern side of the carriageway, continuing east to a priority junction with Langstone Road. The junction benefits from a pedestrian and cycle crossing with dropped kerb and tactile paving across The Mallards. Immediately north of this junction is the northbound Langstone Avenue bus stop.

- 3.2.4 Langstone Road is provided with a shared lit footway/cycleway on the northbound side of the carriageway, which continues north of The Mallards junction to the A27 and south towards Hayling Island via Mill Lane.
- 3.2.5 Lit footways also continue north on Langstone Road on the southbound side of the carriageway and benefit from a number of pedestrian refuge islands facilitating safe pedestrian access between residential and commercial areas on either side of the road. A number of priority junctions are present along Langstone Road, each of which are provided with dropped kerbs, and some of which also benefitting from tactile paving.
- 3.2.6 Footway infrastructure connects Langstone Road with Park Road South, via a lit underpass and pedestrian bridge under the A27 Havant Bypass which continues north to Solent Road. Solent Road is provided with a pedestrian refuge island with tactile paving and dropped kerb, facilitating safe pedestrian access across the A27.
- 3.2.7 Lit footways continue north on Park Road South to a signalled pedestrian crossing across Elm Lane. Lit footways continue east on Elm Lane, then north on Market Parade to a pair of zebra crossings on North Street, providing safe pedestrian access between the site and Havant Railway station.

### 3.3 Accessibility by Cycle

- 3.3.1 The location of the application site is such that there is a network of cycle routes along key highway links, providing safe cycle access to nearby bus stops and railway stations offering travel to the site by sustainable modes of transport.
- 3.3.2 As noted above, Langstone Road benefits from a lit shared footway/cycleway on the northbound carriageway. North of the site, the shared facility continues towards the A27 and south of the site. The footway/cycleway continues southbound on Langstone Road and along Mill Lane before joining back with Langstone Road immediately north of Langstone Sailing Club.
- 3.3.3 The National Cycle Network (NCN) Route 2 travels adjacent to the southeast corner of the site, as demonstrated on **Figure 3.2**. This designated traffic-free cycle route within close vicinity of the application site provides cyclists safe access to Havant and Warblington Railway station to the north and Hayling Island in the south. Within Havant, NCN Route 2 provides a connection to NCN Route 22 which also benefits from primarily being a traffic-free cycle track and offers a route to Havant Railway station.

Figure 3.2 Local Cycle Routes



### 3.4 Accessibility by Bus

3.4.1 The nearest bus stops are located on Langstone Road. The northbound stop is 70m north of the proposed access point with the southbound stop being 150m east of this point. Both stops are served by Routes 30, 31 and 630, as outlined in [Table 3.1](#).

3.4.2 Both bus stops are provided with a flag, pole and timetable information.

Table 3.1 Local Bus Routes

| Route No. | Frequency (no. of buses per hour) |                 |                 | Route                                                         |
|-----------|-----------------------------------|-----------------|-----------------|---------------------------------------------------------------|
|           | Weekday AM Peak                   | Weekday PM Peak | Weekend Daytime |                                                               |
| 30        | 2                                 | 2               | 2               | Havant – Hayling Island – Havant                              |
| 31        | 2                                 | 2               | 2               | Havant – Hayling Island – Havant                              |
| 630       | 1                                 | 0               | 0               | Oaklands School, Purbrook – Mill Rythe School, Hayling Island |

3.4.3 Route 630 operates between 2 schools therefore only travelling in each direction every weekday at typical school opening and closing hours during school term time periods.

### 3.5 Accessibility by Rail

3.5.1 Havant Railway station is situated 1.7 kilometres north of the application site, accessible within a walk time of approximately 23 minutes and a cycle time of approximately 9 minutes. Typical journey times and frequencies to a selection of destinations are outlined in [Table 3.2](#).

Table 3.2 Direct Rail Services from Havant

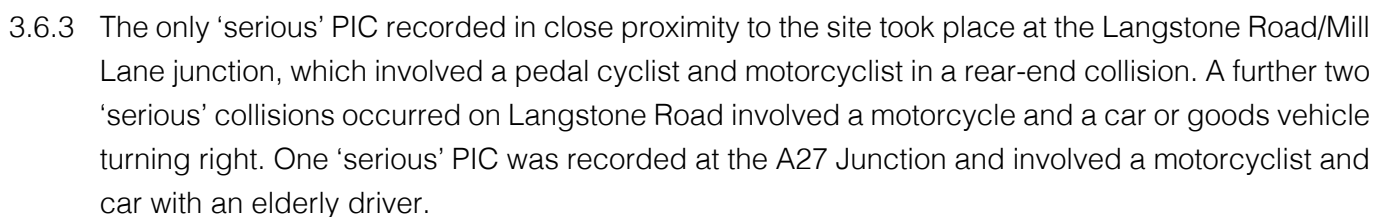
| Route No.           | Frequency (no. of trains per hour) |                 |                 | Journey Time |
|---------------------|------------------------------------|-----------------|-----------------|--------------|
|                     | Weekday AM Peak                    | Weekday PM Peak | Weekend Daytime |              |
| Chichester          | 5                                  | 5               | 5               | 13 minutes   |
| Portsmouth          | 6                                  | 6               | 6               | 16 minutes   |
| Southampton Central | 3                                  | 2               | 2               | 40 minutes   |
| Gatwick Airport     | 2                                  | 2               | 2               | 71 minutes   |
| London Waterloo     | 3                                  | 4               | 3               | 87 minutes   |

3.5.2 Additional rail services can be accessed from Portsmouth, Southampton Central and Gatwick Airport to provide access to the wider National Rail network.

### 3.6 Personal Injury Collisions Analysis

3.6.1 To enable a review of the road safety record on the highway network in the vicinity of the application site, Personal Injury Collision (PIC) data has been obtained from Hampshire Constabulary over the 5-year period to 31<sup>st</sup> December 2019. This PIC data is included at [Appendix B](#).

### Figure 3.3 PIC Locations



- 3.6.4 Of the 'slight' PICs recorded around the A27 Junction and on Langstone Road north of the site, most were as a result of either rear end shunts or side-swipe collisions. Only one PIC involved a vulnerable road user, with a pedal cyclist sustaining minor injuries on approach to the junction but no other vehicles were involved.
- 3.6.5 South of the site, four 'slight' PICs are recorded, with one containing a vulnerable road user, with a cyclist and a car being involved in a side-swipe collision. Two of the incidents involved only one vehicle, with the other involving a rear end shunt between two cars.
- 3.6.6 There have been no PICs recorded within 250m north or south of the sites access point in the latest 5-year period.
- 3.6.7 From this analysis, it is considered that the proposed development will have no adverse impact on highway safety.

### 3.7 Summary

- 3.7.1 In summary, this section has identified that the site is well located to provide future residents with a realistic choice of travel modes for journeys to/from the development site. A review of the recent collision data indicates that there are no identifiable collision trends in the area and it is not anticipated that the development would result in a material impact on highway safety.

## 4. Development Proposals

### 4.1 Development Quantum

4.1.1 The development proposals comprise 65 residential dwellings, in a mix of private and affordable tenures. The proposed schedule of accommodation is summarised in [Table 4.1](#).

**Table 4.1 Schedule of Accommodation**

| Number of Bedrooms | Tenure     | Number of Units |
|--------------------|------------|-----------------|
| 1 Bedroom House    | Private    | 6               |
| 1 Bedroom House    | Affordable | 10              |
| 2 Bedroom House    | Private    | 6               |
| 2 Bedroom House    | Affordable | 2               |
| 3 Bedroom House    | Private    | 21              |
| 3 Bedroom House    | Affordable | 6               |
| 4 Bedroom House    | Private    | 13              |
| 4 Bedroom House    | Affordable | 1               |
| <b>TOTAL</b>       | <b>-</b>   | <b>65</b>       |

4.1.2 The illustrative site layout plan is provided in [Appendix A](#).

### 4.2 Access Arrangements

4.2.1 Access into the development site will be taken via The Mallards. This is proposed in the form of a 6m wide carriageway with a 2 metre wide footway located on the western side of the access.

4.2.2 A pedestrian crossing point across The Mallards is included in the design to tie into the existing footway network in the area.

4.2.3 The access is designed in accordance with Manual for Streets with visibility splays of 2.4m by 43m provided based on the 30mph speed limit. For the pedestrian crossing point, visibility splays of 25m are provided to account for reduced vehicle speeds due to the 90 degree bend in The Mallards at the crossing point.

4.2.4 The proposed access arrangements are shown on [Drawing 32-4760-SK05-D](#) at [Appendix C](#).

## 4.3 Parking Provision

### Car Parking Provision

- 4.3.1 Car parking standards in Havant are set out within the Parking SPD, as summarised in [Table 4.2](#) and how this may be applied as part of applying for reserved matters detail on the layout.

**Table 4.2 Havant Parking Standards and Proposed Development Parking**

| Size of Dwelling | Minimum Car Parking Requirement (allocated parking) | Development Quantum | Minimum Parking Provision |
|------------------|-----------------------------------------------------|---------------------|---------------------------|
| 1 bedroom        | 1 space                                             | 16                  | 16                        |
| 2 bedrooms       | 2 spaces                                            | 8                   | 16                        |
| 3 bedrooms       | 2 spaces                                            | 27                  | 54                        |
| 4 bedrooms       | 3 spaces                                            | 14                  | 42                        |
| Visitor spaces   | 20% provision                                       |                     | 26                        |
| <b>TOTAL</b>     | <b>-</b>                                            | <b>65</b>           | <b>154</b>                |

- 4.3.2 Subject to reserved matters, the development proposals are expected to include for allocating spaces to all units, either on driveways or garages adjacent to the property or by providing parking spaces along the unit frontage.
- 4.3.3 Where properties have dedicated garages or driveway, electric vehicle charging points will be provided. This is in accordance with the principles of the policy document.

### Cycle Parking Provision

- 4.3.4 Whilst a reserved matter, it is envisaged that secure cycle stores will be provided within gardens of each unit. Some dwellings may also have access to garages, which can be used to store cycles in addition to vehicles.

## 4.4 Servicing Arrangements

- 4.4.1 The internal layout of the site remains subject to reserved matters, and it will be ensured that refuse collection vehicles will be able to enter and exit the site in a forward gear and suitable turning places provided to accommodate turning manoeuvres. Swept path analysis of the refuse vehicle accessing and egressing the proposed access is nevertheless provided in [Appendix D](#).
- 4.4.2 Carry distances for refuse collection operatives will be within the recommended 25m carry distance and carry distance for residents will be within the recommended 30m distance as outlined in MfS (para. 6.8.9). Residential bin stores will either be located within the curtilage of each dwelling or within communal stores.

- 4.4.3 All dwellings will be within 45m of an internal access road providing adequate access for fire appliances.

## 5. Traffic Demand and Development Impact

### 5.1 Overview

- 5.1.1 This section sets out the trip generation and development impact assessments associated with the development proposals.
- 5.1.2 To assess the development impacts, Systra has been commissioned to assess the development proposals using the Hayling Island Microsimulation Model. The Systra report is summarised in this section, with the full report provided in [Appendix E](#).
- 5.1.3 The above involves rerunning the traffic models prepared for the Local Plan (LPD) evidence baseline to assess the potential impacts associated with the allocated sites within the emerging Local Plan. These models have been rerun with the proposed development traffic to identify the impact of the development on the Langstone Road corridor.

### 5.2 Trip Generation

- 5.2.1 To identify the potential trip generation associated with the development, the trip rates applied within the LDP traffic assessment have been applied to the scheme. The peak hour predicted trip generation is summarised in [Table 5.1](#), as per Table 1 of the Systra Report.

**Table 5.1 Proposed Development Trip Generation**

| Trip Type          | AM Peak (08:00-09:00) |        |         | PM Peak (17:00-18:00) |        |         |
|--------------------|-----------------------|--------|---------|-----------------------|--------|---------|
|                    | Arrive                | Depart | Two-way | Arrive                | Depart | Two-way |
| Total Person Trips | 24                    | 56     | 80      | 54                    | 31     | 85      |

- 5.2.2 [Table 5.1](#) indicates that the proposed development could generate 80 two-way total person trips in the weekday morning peak hour and 85 two-way total person trips in the weekday evening peak hour.
- 5.2.3 The above trip generation is based on the TRICS “Privately Owned Houses” category, with the trip rates used higher than those presented within the TA Scoping Note formed as part of the pre-application discussions. No allowance has been made for the affordable housing aspect of the scheme, with this instead assessed using the Private Houses trip rates. As such, this is considered to provide a robust estimation of the development trip generation.

## 5.3 Assessment Scenarios

- 5.3.1 The LPD traffic modelling assessed a future year of 2026 with two versions of the model created. The first is a 'Do Minimum' scenario, assessing the impact of committed development and background traffic growth without any alterations to the highway network. The second model, M1a, provides a package of mitigation measures, such as right turn filters and bus laybys within the network, to improve the operation.
- 5.3.2 The impact of the proposed development has been assessed within each of the modelling versions.
- 5.3.3 In addition to the 2036 future year, a 2025 modelling scenario has been created by altering the background growth. As such, the following scenarios has been assessed:
- 2025 Do Minimum;
  - 2025 Do Minimum + Proposed Development;
  - 2025 M1a;
  - 2025 M1a + Proposed Development;
  - 2036 Do Minimum;
  - 2036 Do Minimum + Proposed Development;
  - 2036 M1a; and
  - 2036 M1a + Proposed Development.
- 5.3.4 Again, the above is summarised in more detail in the Systra Note.

## 5.4 Hayling Island Paramics Modelling Summary

### Journey Time Impacts

- 5.4.1 The traffic model identifies three strategic routes between Hayling Island and Havant/the A27, all of which pass along Langstone Road past the development site.
- 5.4.2 The largest increase in journey time associated with the development proposal is 23 seconds for strategic route 3 southbound in the weekday morning peak hour in the 2036 Do Minimum with development scenario. It is noted that route 2 northbound experiences a 15 second decrease in journey time in the same modelling output.
- 5.4.3 In 2025, the impacts are lower, with a maximum increase in journey time of 11 seconds on the southbound routes in the Do Minimum with development scenario.

- 5.4.4 In the weekday evening peak hour, the impacts are lower with a maximum increase in journey time of two seconds.
- 5.4.5 In the M1a modelling scenarios, the development proposals would result in a maximum journey time increase of 9 seconds on strategic route 2 northbound in the 2025 M1a with development scenario. In the 2036 scenario the largest increase in journey time is five seconds.
- 5.4.6 In the weekday evening peak hour, the maximum increase in journey time is 5 seconds in both the 2025 and 2036 future years.
- 5.4.7 The summary of the Systra note is that *“differences in journey time are more likely due to model variation than directly attributable to the Mallards scheme.”*

### Queuing Impacts

- 5.4.8 The Systra note also provides commentary on potential queuing associated with the development site operation at The Mallards/Langstone Road junction.
- 5.4.9 This indicates that the development proposals would increase traffic at The Mallards/Langstone Road junction compared to the baseline (without development) scenario, with instances of 2-3 vehicles queuing to exit The Mallards in the 2025 Do Minimum with development scenario. In the 2025 M1a with development scenario, instances of 4-8 vehicles queuing are noted in the weekday morning peak hour due to the heavy northbound traffic flow.
- 5.4.10 In the 2036 scenarios, the Do Minimum with development scenario notes a 4-8 vehicle queue in the weekday morning and evening peak hours, with a potential queue of 4 vehicles to turn right into The Mallards.
- 5.4.11 In the 2036 M1a modelling scenarios, the weekday morning peak hour indicates a 3-6 vehicle rolling queue along The Mallards and up to four vehicles waiting to turn right into The Mallards. In the weekday evening peak hour, queues of 2-6 vehicles are recorded on the side arm with no queues noted for right turning traffic.
- 5.4.12 It is noted that all of the above queues are snapshots, and not reflective of the full peak hour duration, which is largely characterised by periods of zero queuing at the junction.

## 5.5 Summary

- 5.5.1 Based on the above, it is considered that the impact of the proposed development is negligible in both the Do Minimum and M1a modelling summaries. The above modelling indicates that the M1a mitigation scheme would not materially improve the operation of the highway network compared to the Do Minimum with development scheme and on this basis, it is considered that no alterations to the highway network are considered necessary to make the development acceptable in highways terms. The modelling indicates that there are no severe impacts arising from the development proposals.

## 6. Mitigation Measures

### 6.1 Overview

6.1.1 Whilst the impact of the development on the local highway network has been shown to be negligible, the development proposals include for measures to reduce potential transport impacts associated with the development proposals.

### 6.2 Promoting Smarter Choices via Travel Planning

6.2.1 To encourage sustainable travel behaviour from the site, a Travel Plan has been prepared as part of the application documentation. The Travel Plan will seek to reduce reliance on the private car and take reasonable steps to engage residents in the concepts of Smarter Choices.

6.2.2 The Travel Plan includes a range of initiatives to reduce the need to travel and to encourage the uptake of sustainable travel modes. It comprises a package of site-specific measures aiming to improve the available choices and raise awareness of these choices. It is anticipated that, over time, the Travel Plan will reduce the number of trips to and from the site by private car, and thus contribute to a reduction in peak period congestion on the local highway network.

## 7. Summary and Conclusion

### 7.1 Summary

7.1.1 This Transport Assessment (TA) has been prepared by mode transport planning (mode) on behalf of Persimmon Homes South Coast. It accompanies an Outline planning application (with all matters reserved except access) for development proposals comprising 65 residential dwellings on land to the west of Langstone Road, Havant.

7.1.2 In summary, this TA has identified the following:

- The location of the application site provides opportunity for residents to travel to the site by sustainable modes such as on foot, by cycle or via public transport, thereby reducing the reliance on the private car;
- Examination of PIC data identifies that the development proposals will have no adverse highway safety impact to the local highway network;
- Access is to be taken via a new access onto The Mallards, including a 2-metre footway to link to the existing footway network along the northern side of The Mallards;
- The site access has been designed in accordance with Manual for Streets with visibility splays of 2.4m x 43 m provided based on the 30 mph speed limit;
- Car and cycle parking will be provided in accordance with the Havant Parking Standards SPD (subject to reserved matters);
- The site is predicted to generate 80 two-way total person trips in the weekday morning peak hour and 85 two-way total person trips in the weekday evening peak hour;
- Capacity modelling indicates that the proposed development would have a negligible impact on the operation of the local highway network; and
- A Travel Plan has been prepared to promote sustainable travel to/from the site by residents.

### 7.2 Conclusion

7.2.1 In view of the above, the development proposals are considered to be acceptable in transport terms and accords with relevant national and local policy criteria. The assessment work undertaken has indicated that there would be no demonstrable harm arising from the proposed development and it will not cause any severe impacts. Therefore, there are considered to be no transport or traffic related reasons why the development should not be granted planning consent.

# APPENDICES

# APPENDIX A

## Site Layout



-  Principal elevation
-  Primary Street
-  Secondary Street
-  Private Drive

| Rev                                                                                                                                | Date                      | Revision Details | Dr | Ch |
|------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------|----|----|
|  <b>PERSIMMON</b><br>Together, we make a home |                           |                  |    |    |
| Job Title<br><b>Southmere Field, Langstone</b>                                                                                     |                           |                  |    |    |
| Drawing Title<br><b>Layout Structure</b>                                                                                           |                           |                  |    |    |
| Job No<br>-                                                                                                                        | Drawing No<br>A-02-111-SD | Rev<br>-         |    |    |
| Drawn<br>br                                                                                                                        | Checked<br>ga             | Date<br>02.06.21 |    |    |
| Scale<br><b>1:500 @ A1 / 1:1000 @ A3</b>                                                                                           |                           |                  |    |    |
| <br>metres 10 20 30 40 50                     |                           |                  |    |    |
| Status<br><b>APPROVAL</b>                                                                                                          |                           |                  |    |    |

# APPENDIX B

## PIC Data



© Crown copyright. All rights reserved  
 Hampshire Police  
 Licence No. 01021C 2020

1 : 3780  
 DATE 03/03/2020

DRAWING No.  
 DRAWN BY

**Accidents between dates**            **01/01/2014 and 31/12/2019**    (72) months

**Selection:**

**Notes:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

**Selected Polygon:HR LANGSTONE ROAD**

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

**Notes:**

140109591 29/03/2014 Time 1350 Vehicles 3 Casualties 3 Slight  
E:471618 N: 105563 First Road: A 3023 Road Type Single carriageway  
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

**Causation**

|      | Factor:                     | Participant: | Confidence: |
|------|-----------------------------|--------------|-------------|
| 1st: | Following too close         | Vehicle 3    | Very Likely |
| 2nd: | Distraction outside vehicle | Vehicle 3    | Very Likely |
| 3rd: | Nervous/Uncertain/Panic     | Vehicle 3    |             |
| 4th: |                             |              |             |
| 5th: |                             |              |             |
| 6th: |                             |              |             |

VEH 1 (CAR) TRAVELLING S ALONG A3023 LANGSTONE ROAD STOPPED IN HEAVY TRAFFIC. VEH 2 (CAR) STOPPED BEHIND. VEH 3 (CAR) FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEH 2, PUSHING VEH 2 INTO THE REAR OF VEH 1.

Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH LANGBROOK CLOSE, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Cleared junction or waiting/park First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 57 Female  
Not hit and run Breath test Not requested  
Left hand drive: No

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

Selection: Notes:

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

Vehicle Reference 2 Car Going ahead but held up  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Cleared junction or waiting/park First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 23 Female  
Not hit and run Breath test Not requested  
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 23 Female Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 2 Age: 21 Female Passenger Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Casualty Reference: 3 Vehicle: 2 Age: 3 Female Passenger Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Back seat

Vehicle Reference 3 Car Going ahead other  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 77 Female  
Not hit and run Breath test Not requested  
Left hand drive: No

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

**Notes:**

150047983 10/02/2015 Time 1530 Vehicles 2 Casualties 2 Serious  
E:471802 N: 104786 First Road: A 3023 Road Type Single carriageway  
Speed limit: 40 Junction Detail: Not within 20m of junction  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

**Causation**

|      | Factor:                 | Participant: | Confidence: |
|------|-------------------------|--------------|-------------|
| 1st: | Failed to look properly | Vehicle 1    | Very Likely |
| 2nd: |                         |              |             |
| 3rd: |                         |              |             |
| 4th: |                         |              |             |
| 5th: |                         |              |             |
| 6th: |                         |              |             |

VEH 1 (CAR) TRAVELLING NW ALONG A3023 LANGSTONE ROAD FAILED TO STOP IN TIME FOR QUEUING  
TRAFFIC AHEAD AND COLLIDED WITH THE REAR OF VEH 2 (CAR).

Occurred on A3023 LANGSTONE ROAD OUTSIDE NUMBER 48, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 42 Female  
Not hit and run Breath test Negative  
Left hand drive: No  
Casualty Reference: 1 Vehicle: 1 Age: 42 Female Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead but held up  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 32 Male  
Not hit and run Breath test Negative  
Left hand drive: No  
Casualty Reference: 2 Vehicle: 2 Age: 32 Male Driver/rider Severity: Serious  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates**      **01/01/2014 and 31/12/2019**      (72) months

**Selection:**      **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents  
 within selected Polygons -HC - RPU Statistics Request ("HR  
 LANGSTONE ROAD")

160140518      13/04/2016      Time 1635      Vehicles 2      Casualties 1      Slight  
 E:471604      N: 105466      First Road: A 3023      Road Type Single carriageway  
 Speed limit: 30      Junction Detail: T & Stag Jct      Give way or controlled      Unclassified  
 Crossing: Control None      Facilities: None within 50m      Road surface Dry  
 Daylight      Fine without high winds  
 Special Conditions at Site None      Carriageway Hazards: None  
 Place accident reported: At scene      DfT Special Projects:

| Causation                         |              |             |  |
|-----------------------------------|--------------|-------------|--|
| Factor:                           | Participant: | Confidence: |  |
| 1st: Stationary or parked vehicle | Vehicle 1    | Very Likely |  |
| 2nd:                              |              |             |  |
| 3rd:                              |              |             |  |
| 4th:                              |              |             |  |
| 5th:                              |              |             |  |
| 6th:                              |              |             |  |

VEH 1 (CAR) TRAVELLING W ALONG SOUTHBROOK ROAD, TURNS RIGHT ONTO A3023 LANGSTONE ROAD  
 AS THERE IS A GAP IN THE TRAFFIC TRAVELLING S AND COLLIDES WITH VEH 2 (M/CYCLE) TRAVELLING  
 S ALONG A3023 LANGSTONE ROAD FILTERING UP THE MIDDLE OF THE ROAD.

Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH LANGBROOK CLOSE, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Turning right  
 Vehicle movement from E to N No tow / articulation Leaving the main road  
 On main carriageway No skidding, jack-knifing or overturning  
 Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:  
 Hit object in road None Off road: None  
 Did not leave carr Age of Driver 79 Male  
 Not hit and run Breath test Negative  
 Left hand drive: No

Vehicle Reference 2 Motorcycle over 500cc Going ahead other  
 Vehicle movement from N to S No tow / articulation Leaving the main road  
 On main carriageway No skidding, jack-knifing or overturning  
 Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:  
 Hit object in road None Off road: None  
 Did not leave carr Age of Driver 44 Male  
 Not hit and run Breath test Negative  
 Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 44 Male Driver/rider Severity: Slight  
 Not a pupil  
 Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

**Notes:**

160324774 29/08/2016 Time 1200 Vehicles 1 Casualties 1 Slight  
E:471734 N: 104931 First Road: A 3026 Road Type Single carriageway  
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: Central reservation Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

**Causation**

|      | Factor:                                  | Participant: | Confidence: |
|------|------------------------------------------|--------------|-------------|
| 1st: | Deposit on road (eg oil, mud, chippings) | Vehicle 1    | Very Likely |
| 2nd: | Inexperienced or learner driver/rider    | Vehicle 1    | Very Likely |
| 3rd: |                                          |              |             |
| 4th: |                                          |              |             |
| 5th: |                                          |              |             |
| 6th: |                                          |              |             |

VEH 1 (M/CYCLE) TRAVELLING SE ALONG A3023 LANGSTONE ROAD TURNED LEFT INTO LANGSTONE HIGH STREET WHEN VEHS FRONT WHEEL SKIDDED ON DRIED LEAVES AND DEBRIS ALONG THE EGDE OF THE ROAD CAUSING RIDER TO FALL OFF.

Occurred on A3026 LANGSTONE ROAD AT JUNCTION WITH LANGSTONE HIGH STREET, HAVANT, HAMPSHIRE

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Turning left  
Vehicle movement from NW to SE No tow / articulation Leaving the main road  
On main carriageway Skidded  
Location at impact Mid Junction - on roundabout or r First impact Did not impact Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 17 Female  
Not hit and run Breath test Negative  
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 17 Female Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

Selection:

Notes:

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

160398926 21/10/2016 Time 2300 Vehicles 2 Casualties 1 Serious  
E:471678 N: 105044 First Road: A 3023 Road Type Single carriageway  
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Darkness: street lights present and lit Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

Causation

|      | Factor:                                     | Participant: | Confidence: |
|------|---------------------------------------------|--------------|-------------|
| 1st: | Failed to look properly                     | Vehicle 1    | Very Likely |
| 2nd: | Failed to judge other persons path or speed | Vehicle 1    | Possible    |
| 3rd: | Cyclist wearing dark clothing at night      | Vehicle 1    |             |
| 4th: |                                             |              |             |
| 5th: |                                             |              |             |
| 6th: |                                             |              |             |

VEH 2 (M/CYCLE) TRAV S ALONG A3023 LANGSTONE ROAD, PASSING JUNCTION WITH MILL LANE WHEN  
VEH 1 (P/CYCLE) CROSSES ROAD WEST TO EAST FAILING TO GIVEWAY TO VEH 1 AND COLLIDES.  
Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH MILL ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Pedal Cycle Going ahead other  
Vehicle movement from W to E No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Cleared junction or waiting/park First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 59 Male  
Not hit and run Breath test Not applicable  
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 59 Male Driver/rider Severity: Serious  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: No

Vehicle Reference 2 Motor Cycle over 50 cc and up to 125cc Going ahead other  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 28 Male  
Not hit and run Breath test Negative  
Left hand drive: No

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

Notes:

44170029426 24/01/2017 Time 0930 Vehicles 2 Casualties 2 Slight  
E:471602 N:105465 First Road: A 3023 Road Type Single carriageway  
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

Causation

|      | Factor:                               | Participant: | Confidence: |
|------|---------------------------------------|--------------|-------------|
| 1st: | Temporary road layout (eg contraflow) | Vehicle 2    | Very Likely |
| 2nd: | Poor turn or manoeuvre                | Vehicle 2    | Possible    |
| 3rd: |                                       |              |             |
| 4th: |                                       |              |             |
| 5th: |                                       |              |             |
| 6th: |                                       |              |             |

VEH 2 TRAVELLING W ALONG SOUTHBROOK ROAD, TURNS RIGHT ONTO A3023 LANGSTONE ROAD  
ACROSS THE PATH OF VEH 1 (CAR) TRAVELLING S ALONG A3023 LANGSTONE ROAD AND COLLIDES.  
Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH LANGBROOK CLOSE, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 33 Female  
Not hit and run Breath test Not requested  
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 33 Female Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Turning right  
Vehicle movement from E to N No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 58 Female  
Not hit and run Breath test Not requested  
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 58 Female Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

**Selection:**

**Notes:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

44170105437 21/03/2017 Time 1124 Vehicles 1 Casualties 1 Slight  
E:471694 N: 105002 First Road: A 3023 Road Type Single carriageway  
Speed limit: 40 Junction Detail: Not within 20m of junction  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

**Causation**

|      | Factor:      | Participant: | Confidence: |
|------|--------------|--------------|-------------|
| 1st: | Dazzling sun | Vehicle 1    | Very Likely |
| 2nd: |              |              |             |
| 3rd: |              |              |             |
| 4th: |              |              |             |
| 5th: |              |              |             |
| 6th: |              |              |             |

VEH 1 (CAR) TRAVELLING SE ALONG A3023 LANGSTONE ROAD, THE DRIVER IS TEMPORARILY BLINDED BY LOW BRIGHT SUNLIGHT AND COLLIDES WITH THE NEARSIDE KERB.

Occurred on A3023 LANGSTONE ROAD OUTSIDE OF LANGSTONE LODGE, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from N to SE No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Nearside Hit vehicle:  
Hit object in road Kerb Off road: None  
Did not leave carr Age of Driver 40 Male  
Not hit and run Breath test Driver not contacted  
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 9 Female Passenger Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist  
Front seat

**Accidents between dates**      **01/01/2014 and 31/12/2019**      (72) months

**Selection:**

**Notes:**

Selected using Pre-defined Query : ; Refined using Accidents  
 within selected Polygons -HC - RPU Statistics Request ("HR  
 LANGSTONE ROAD")

44190020934      18/01/2019      Time 0830      Vehicles 2      Casualties 1      Slight  
 E:471607      N: 105488      First Road: U      Road Type Single carriageway  
 Speed limit: 40      Junction Detail: T & Stag Jct      Give way or controlled      Unclassified  
 Crossing: Control None      Facilities: Central reservation      Road surface Dry  
 Daylight      Fine without high winds  
 Special Conditions at Site None      Carriageway Hazards: None  
 Place accident reported: At scene      DfT Special Projects:

**Causation**

|      | Factor:                 | Participant: | Confidence: |
|------|-------------------------|--------------|-------------|
| 1st: | Failed to look properly | Vehicle 1    | Very Likely |
| 2nd: |                         |              |             |
| 3rd: |                         |              |             |
| 4th: |                         |              |             |
| 5th: |                         |              |             |
| 6th: |                         |              |             |

VEH1 (VAN) TRAVELLING S ALONG LANGSTONE ROAD FAILED TO SLOW FOR TRAFFIC AHEAD AND  
 COLLIDED WITH THE REAR OF VEH2 (CAR) TRAVELLING S IN FRONT.  
 Occurred on      LANGSTONE ROAD AT JUNCTION WITH SOUTHBROOK ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1      Van or Goods 3.5 tonnes mgw and under      Going ahead other  
 Vehicle movement from N to S      No tow / articulation      Leaving the main road  
 On main carriageway      No skidding, jack-knifing or overturning  
 Location at impact Jct Approach      First impact Front      Hit vehicle:  
 Hit object in road None      Off road: None  
 Did not leave carr      Age of Driver 63      Male  
 Not hit and run      Breath test Negative  
                                                                                          Left hand drive: No

Casualty Reference: 1      Vehicle: 1      Age: 52      Female      Passenger      Severity: Slight  
 Not a pupil  
 Seatbelt Not Applicable      Cycle helmet: Not a cyclist

Not car passenger

Vehicle Reference 2      Car      Stopping  
 Vehicle movement from N to S      No tow / articulation      Leaving the main road  
 On main carriageway      No skidding, jack-knifing or overturning  
 Location at impact Jct Approach      First impact Back      Hit vehicle:  
 Hit object in road None      Off road: None  
 Did not leave carr      Age of Driver 75      Male  
 Not hit and run      Breath test Negative  
                                                                                          Left hand drive: No

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

**Notes:**

44190149553 30/04/2019 Time 0715 Vehicles 2 Casualties 1 Slight  
E:471716 N:104940 First Road: A 3023 Road Type Single carriageway  
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: Central reservation Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

**Causation**

| Factor: | Participant: | Confidence: |
|---------|--------------|-------------|
| 1st:    |              |             |
| 2nd:    |              |             |
| 3rd:    |              |             |
| 4th:    |              |             |
| 5th:    |              |             |
| 6th:    |              |             |

VEH1 (CAR) TRAVELLING NW ALONG A3023 LANGSTONE ROAD SLOWED TO PULL INTO A LAYBY ON THE  
NEAR SIDE AND WAS STRUCK FROM BEHIND BY VEH2 (CAR) THAT HAD FAILED TO REACT IN TIME.  
Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH LANGSTONE HIGH STREET, LANGSTONE,  
HAMPSHIRE.

Vehicle Reference 1 Car Stopping  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Cleared junction or waiting/park First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 23 Female  
Not hit and run Breath test Driver not contacted  
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 23 Female Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 20 Female  
Not hit and run Breath test Driver not contacted  
Left hand drive: No

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

Selection: Notes:

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

44190259044 23/07/2019 Time 1847 Vehicles 2 Casualties 1 Slight  
E:471603 N: 105471 First Road: A 3023 Road Type Single carriageway  
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

| Factor: | Participant: | Confidence: |
|---------|--------------|-------------|
| 1st:    |              |             |
| 2nd:    |              |             |
| 3rd:    |              |             |
| 4th:    |              |             |
| 5th:    |              |             |
| 6th:    |              |             |

VEH 1 (CAR) TRAVELLING S ALONG A3023 LANGSTONE ROAD CUT UP VEH 2 (BUS) TRAVELLING S  
CAUSING VEH 2 TO BRAKE AND CAS 1 (PASSENGER) TO BECOME INJURED.  
Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH SOUTHBROOK ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Did not impact Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver Not traced  
Non-stop, not hit Breath test Driver not contacted  
Left hand drive: No

Vehicle Reference 2 Bus or coach Going ahead other  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Did not impact Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 46 Male  
Not hit and run Breath test Driver not contacted  
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 24 Female Passenger Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist  
Not car passenger Seated bu

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

**Notes:**

44190316691 05/09/2019 Time 1615 Vehicles 2 Casualties 1 Serious  
E:471604 N: 105465 First Road: A 3023 Road Type Single carriageway  
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine with high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

**Causation**

|      | Factor:                 | Participant: | Confidence: |
|------|-------------------------|--------------|-------------|
| 1st: | Failed to look properly | Vehicle 1    | Very Likely |
| 2nd: |                         |              |             |
| 3rd: |                         |              |             |
| 4th: |                         |              |             |
| 5th: |                         |              |             |
| 6th: |                         |              |             |

VEH1 (VAN) TRAVELLING W ALONG SOUTHBROOK ROAD TURNED RIGHT ONTO A3023 LANGSTONE ROAD, FAILING TO NOTICE VEH2 (M/CYCLE) TRAVELLING S ALONG A3023 LANGSTONE ROAD.  
Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH SOUTHBROOK ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Turning right  
Vehicle movement from E to N No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 38 Male  
Not hit and run Breath test Negative  
Left hand drive: No

Vehicle Reference 2 Motorcycle over 500cc Going ahead other  
Vehicle movement from N to S No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 52 Male  
Not hit and run Breath test Negative  
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 52 Male Driver/rider Severity: Serious  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates 01/01/2014 and 31/12/2019 (72) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
within selected Polygons -HC - RPU Statistics Request ("HR  
LANGSTONE ROAD")

**Notes:**

140086608 11/03/2014 Time 1440 Vehicles 2 Casualties 1 Slight  
E:471743 N: 104926 First Road: A 3023 Road Type Single carriageway  
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

**Causation**

|      | Factor:                                  | Participant: | Confidence: |
|------|------------------------------------------|--------------|-------------|
| 1st: | Cyclist entering road from pavement      | Vehicle 2    | Very Likely |
| 2nd: | Impaired by drugs (illicit or medicinal) | Vehicle 2    | Possible    |
| 3rd: | Failed to look properly                  | Vehicle 2    | Possible    |
| 4th: | Failed to look properly                  | Vehicle 1    | Possible    |
| 5th: | Travelling too fast for conditions       | Vehicle 1    | Possible    |
| 6th: | Buildings, road signs, street furniture  | Vehicle 1    | Possible    |

VEH 1 (CAR) WAS TRAVELLING W ALONG LANGSTONE HIGH STREET APPROACHING THE JUNCTION  
WITH A3023 LANGSTONE ROAD. VEH 2 (P/CYCLE) TRAVELLING NW ALONG THE PAVEMENT OF  
LANGSTONE ROAD COLLIDED WITH THE NEARSIDE OF VEH 1.

Occurred on A3023 LANGSTONE ROAD AT JUNCTION WITH LANGSTONE HIGH STREET, HAVANT,  
HAMPSHIRE

Vehicle Reference 1 Car Stopping  
Vehicle movement from E to W No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Nearside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 70 Male  
Not hit and run Breath test Driver not contacted  
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other  
Vehicle movement from SE to NW No tow / articulation Leaving the main road  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 26 Male  
Not hit and run Breath test Not applicable  
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 26 Male Driver/rider Severity: Slight  
Not a pupil  
Seatbelt Not Applicable Cycle helmet: No

**Accidents between dates**      **01/01/2014 and 31/12/2019**    (72) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents  
 within selected Polygons -HC - RPU Statistics Request ("HR  
 LANGSTONE ROAD")

**Notes:**

Accidents involving:

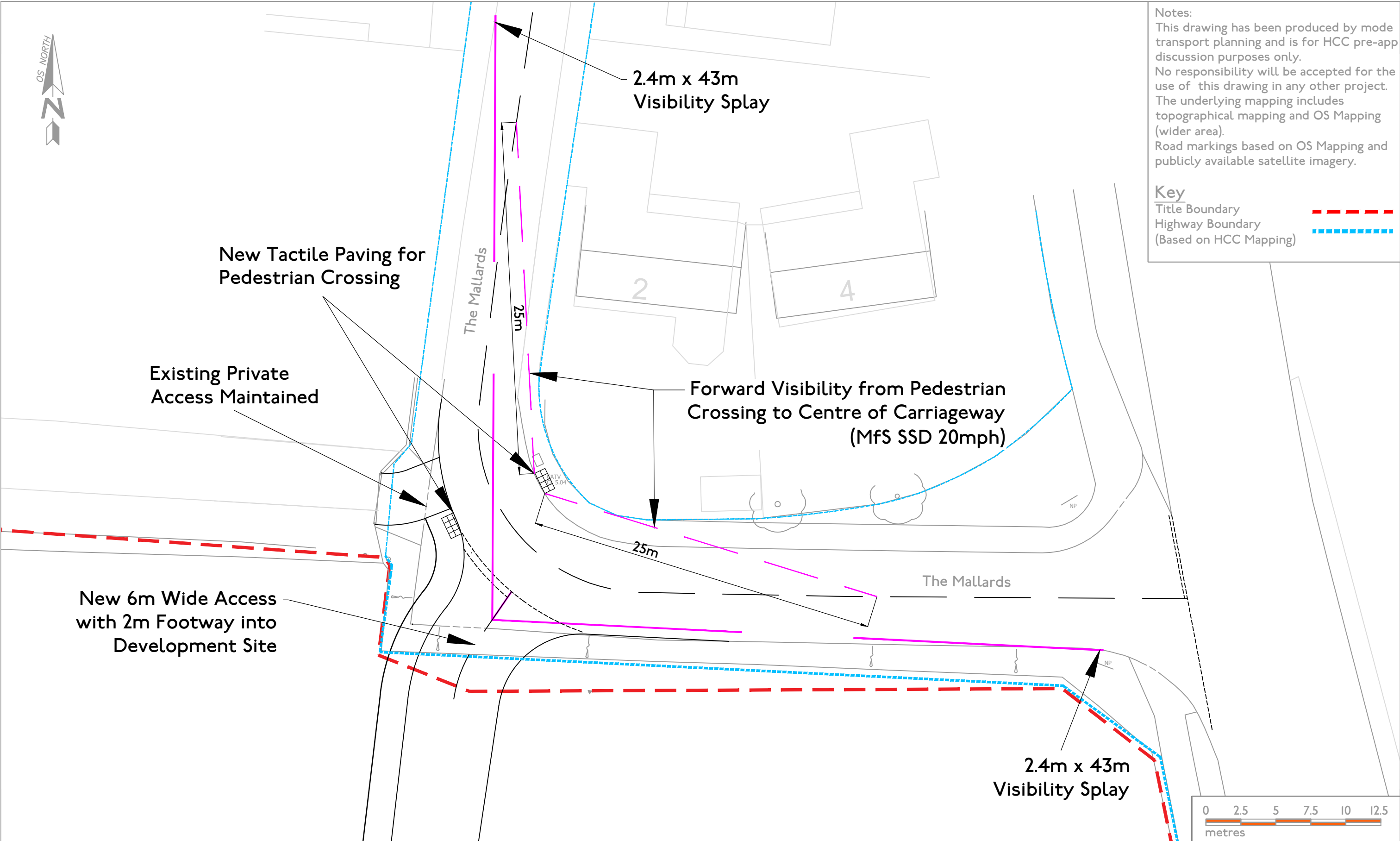
|                                          | Fatal    | Serious  | Slight   | Total     |
|------------------------------------------|----------|----------|----------|-----------|
| Motor vehicles only (excluding 2-wheels) | 0        | 1        | 6        | 7         |
| 2-wheeled motor vehicles                 | 0        | 2        | 2        | 4         |
| Pedal cycles                             | 0        | 1        | 1        | 2         |
| Horses & other                           | 0        | 0        | 0        | 0         |
| <b>Total</b>                             | <b>0</b> | <b>3</b> | <b>9</b> | <b>12</b> |

Casualties:

|                  | Fatal    | Serious  | Slight    | Total     |
|------------------|----------|----------|-----------|-----------|
| Vehicle driver   | 0        | 1        | 5         | 6         |
| Passenger        | 0        | 0        | 5         | 5         |
| Motorcycle rider | 0        | 1        | 2         | 3         |
| Cyclist          | 0        | 1        | 1         | 2         |
| Pedestrian       | 0        | 0        | 0         | 0         |
| Other            | 0        | 0        | 0         | 0         |
| <b>Total</b>     | <b>0</b> | <b>3</b> | <b>13</b> | <b>16</b> |

# APPENDIX C

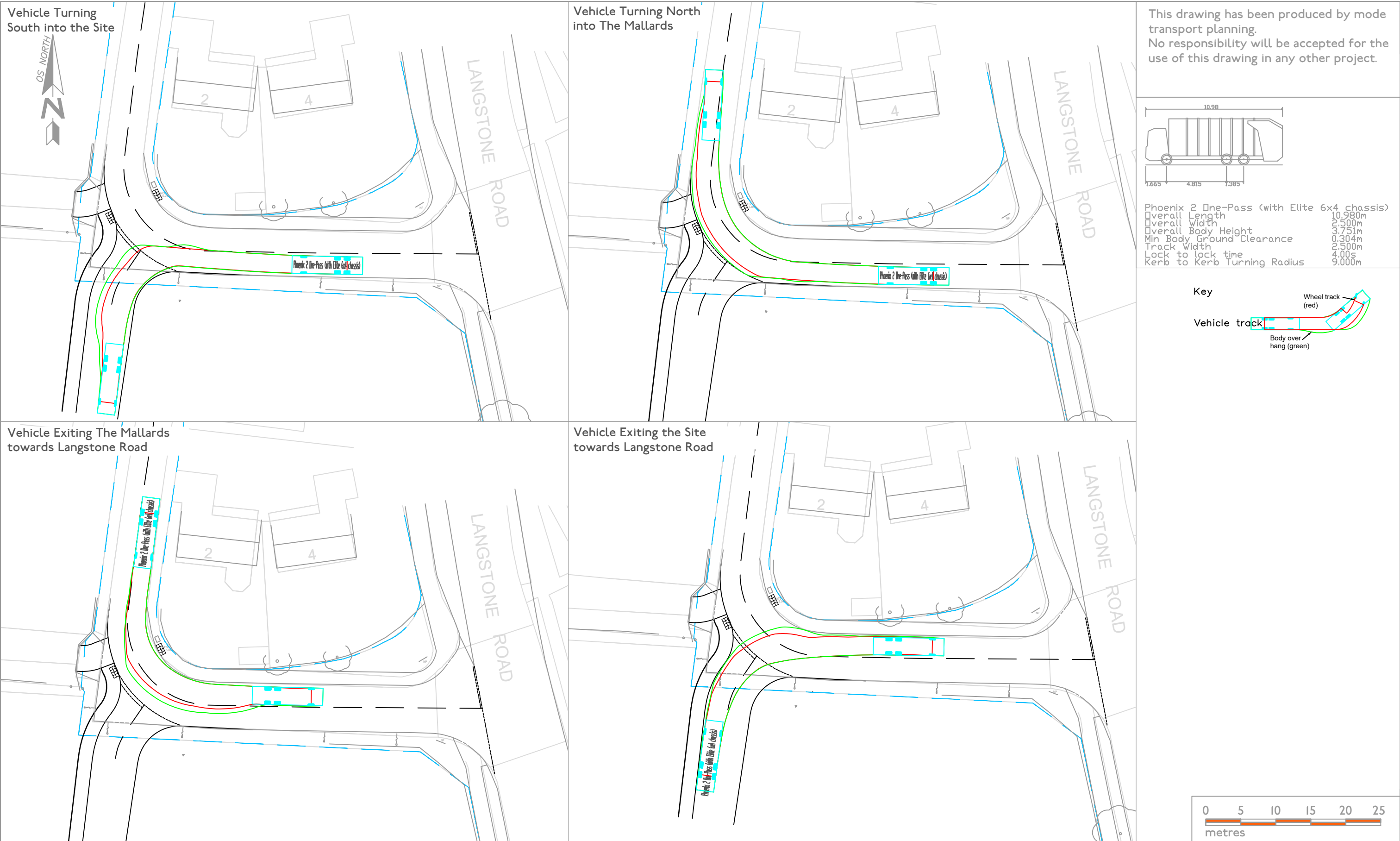
## Site Access Arrangements



|               |                                                   |                        |                                                                            |                                               |            |             |               |      |            |                                                                                                                                     |
|---------------|---------------------------------------------------|------------------------|----------------------------------------------------------------------------|-----------------------------------------------|------------|-------------|---------------|------|------------|-------------------------------------------------------------------------------------------------------------------------------------|
| drawing title | client                                            |                        | mode transport planning<br>9 Greyfriars Road<br>Reading<br>RG1 1NU         | <div>mode</div> <div>transport planning</div> | scale      | D           | MF            | CH   | 02.07.2021 | Road Markings Amended<br>Footway Amended<br>Revised Following Highway Comments<br>Revised Following Highway Comments<br>First Issue |
|               | Indicative Access Arrangment<br>onto The Mallards |                        |                                                                            |                                               | 1:250 @ A3 | C           | RJM           | CH   | 21.05.2021 |                                                                                                                                     |
|               |                                                   |                        |                                                                            |                                               | drawn      | B           | COR           | CH   | 16.04.2020 |                                                                                                                                     |
|               |                                                   |                        |                                                                            |                                               | COR        | A           | COR           | CH   | 19.03.2020 |                                                                                                                                     |
| job title     |                                                   | Langstone Road, Havant | t 0118 206 2945<br>e info@modetransport.co.uk<br>w www.modetransport.co.uk | checked                                       | CH         | rev         | chk           | date | remarks    |                                                                                                                                     |
|               |                                                   |                        |                                                                            |                                               | Feb '20    | by          | by            |      |            |                                                                                                                                     |
|               |                                                   |                        |                                                                            |                                               |            | drawing no. | J32-4760-SK05 |      |            |                                                                                                                                     |

# APPENDIX D

## Swept Path Analysis



|                                                                  |                                           |                                                                            |                                       |                     |           |           |      |          |                            |
|------------------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------|---------------------------------------|---------------------|-----------|-----------|------|----------|----------------------------|
| drawing title<br><br>Swept Path Analysis<br>Large Refuse Vehicle | client<br><br>Persimmon Homes South Coast | mode transport planning<br>9 Greyfriars Road<br>Reading<br>RG1 1NU         | <div>mode</div><br>transport planning | scale<br>1:500 @ A3 | A         | MF        | CH   | 02/07/21 | Updated Access Arrangement |
|                                                                  | drawn<br>COR                              |                                                                            |                                       |                     |           |           |      |          |                            |
|                                                                  | job title<br><br>Langstone Road, Havant   | t 0118 206 2945<br>e info@modetransport.co.uk<br>w www.modetransport.co.uk |                                       | checked<br>CH       | rev<br>by | chk<br>by | date | remarks  |                            |
|                                                                  | created<br>Feb '20                        | drawing no.<br>J32-4760-SK02                                               |                                       |                     |           |           |      |          |                            |

# APPENDIX E

Systra Report

# BRIEFING NOTE



## HAYLING MICROSIMULATION MODEL

### THE MALLARDS HOUSING TESTING NOTE

#### IDENTIFICATION TABLE

|                             |                                   |
|-----------------------------|-----------------------------------|
| <b>Client/Project owner</b> | Havant Borough Council            |
| <b>Project</b>              | Hayling Microsimulation Model     |
| <b>Title of Document</b>    | The Mallards Housing Testing Note |
| <b>Type of Document</b>     | Briefing Note                     |
| <b>Date</b>                 | 11/05/2021                        |
| <b>Reference number</b>     | GB01T19D69/11/05/2021             |
| <b>Number of pages</b>      | 11                                |

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## 1. INTRODUCTION

SYSTRA Ltd (SYSTRA) were commissioned by Havant Borough Council (HBC) to undertake testing of a proposed new housing development at The Mallards, off the A3023 Langstone Road on Hayling Island. The testing utilises two existing Paramics Discovery models developed for the Council, namely:

- 2036 Do Minimum
- 2036 M1a

These two reference case models were used for the initial mitigation testing undertaken in *Hayling Island LDP Forecasting Report January 2019 Final Draft (SYSTRA Ref. GB01T17H90\_MIT\_1, January 2019)*. The 2036 Do Minimum model includes all committed development and background traffic growth as well as the development associated with the allocated LDP sites. The 2036 M1a network adds the “friction reducing measures” from mitigation package M1, as detailed in the forecasting report. This includes bus laybys at a number of locations, and the addition of right turn filters at a number of junctions on the A3023.

This briefing note outlines the testing and assessment of The Mallards development demand on the local area and strategic journey times on and off the island. The testing will be for forecast year 2036 and an interim post-baseline scenario 2025.

## 2. TESTING SCENARIOS

The testing will involve the comparison of outputs between the following model scenarios:

- 2025 Do Minimum
- 2025 Do Minimum + The Mallards
- 2025 M1a
- 2025 M1a + The Mallards
- 2036 Do Minimum
- 2036 Do Minimum + The Mallards
- 2036 M1a
- 2036 M1a + The Mallards

## 3. MODEL NETWORK UPDATES

Versions of the 2036 Do Minimum and 2036 M1a models were created. Mode Transport provided drawing number J32-4760-SK05 detailing the proposed site access arrangements. The access was coded into these versions to create the “+ The Mallards” scenario for each model. Figure 1 illustrates how the site accesses the existing road network at The Mallards, with the priority junction at the A3023 left unaltered. Zone 73 is used to solely represent the proposed housing scheme. Zone 28 is a shared zone which represents the existing housing stock of The Mallards, as well as other accesses on the A3023.





Figure 1. Paramics Model representation of the proposed The Mallards access (Zone 73)

## 4. DEMAND DEVELOPMENT

### 4.1 Trip Generation

Mode Transport provided the housing scheme information, detailing that the site would be comprised of 65 units (29% affordable). HBC agreed that the trip rate for “Privately Owned Houses”, previously used for the committed development and LDP traffic demands in the forecasting work, should be utilised to derive trips associated with the proposed scheme. No allowance for the affordable portion of the units has been made to discount the trip generation, offering a “worst case” scenario. Table 1 outlines the trip generation for the AM, IP and PM respectively (07:00-10:00, 10:00-16:00, 16:00-19:00).

Table 1. The Mallards Trip Generation

| The Mallards Trip Generation |               |                 |               |                 |               |                 |
|------------------------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
|                              | Arrival<br>AM | Departure<br>AM | Arrival<br>IP | Departure<br>IP | Arrival<br>PM | Departure<br>PM |
| Trip Volume                  | 24            | 56              | 66            | 65              | 54            | 31              |

The zonal trip distribution of existing Zone 28 was applied to the above trip generation, by time period.

To create the 2036 models, the final trip distribution for the scheme was simply added to the existing 2036 demands, within Matrix 4 and for Zone 73. The existing demand release profile for “Private Housing Development” was applied to Zone 73.

## 4.2 2025 Demand Development

To develop the 2025 Do Minimum demands, two steps were undertaken:

- Change the mainland growth to reflect 2025 rather than 2036
- Define the 2025 housing completions (rather than full allocations for 2036)

In the original forecasting work, uplift relating to development on the mainland was derived using forecasts from the strategic model *Solent Transport's Sub-Regional Transport Model* (SRTM). SYSTRA developed the SRTM and supplied 2036 cordon matrices for the study area around Hayling Island. By comparing the 2036 SRTM cordon to the Base year 2017 SRTM cordon (supplied during the Base model development), the overall percentage increase in volume of trips for mainland to mainland zones was determined for each vehicle type for each time period (AM, IP, and PM). To derive uplift to 2025, the overall increase in volume of trips between 2017-2036 was divided by 19 (19 years between 2017-2036) and multiplied by 8 (eight years between 2017-2025) and this percentage change was applied to the Base year mainland to mainland zones, as detailed in Table 2.

**Table 2. Mainland to Mainland Growth, 2025 and 2036**

| Mainland to Mainland Growth |      |     |     |      |     |     |
|-----------------------------|------|-----|-----|------|-----|-----|
| Period                      | 2025 |     |     | 2036 |     |     |
|                             | Car  | LGV | HGV | Car  | LGV | HGV |
| AM                          | 6%   | 19% | 8%  | 14%  | 45% | 18% |
| IP                          | 15%  | 14% | 9%  | 35%  | 33% | 21% |
| PM                          | 7%   | 18% | 4%  | 16%  | 42% | 10% |

HBC provided details of the projected housing completions for their development sites at 2025 and beyond. The list of sites did not completely match the original list of sites used to develop the 2036 development demands for the model, given the time that has passed since the original forecasting exercise. Where a site from the 2036 list was missing in 2025, it was assumed this site was already completed. Where a site was only partially complete by 2025, the proportion complete was applied to the original 2036 unit values. A number of new sites were shown on the HBC projected 2025 completions list; these were considered to be reflected in the 2036 forecasts as then unknown windfall sites, and so these new sites were applied in the same way as the previous 2036 windfall developments. A summary of the completions used to develop the 2025 demands is shown in Table 3.

**Table 3. 2025 Housing Completions for Demand Development**

| Housing Development Completions |      |      |
|---------------------------------|------|------|
|                                 | 2025 | 2036 |
| Committed Development and LDP   | 540  | 1020 |
| Windfall                        | 107  | 144  |

The 2025 Do Minimum demands were applied to the 2025 Do Minimum scenarios. These demands were copied and trips for Zone 73 added to form the 2025 The Mallards scenario demands.

## 5. JOURNEY TIME ROUTES

Seven journey time route sections were coded into the models, and are as follows:

- Route 1: Beachlands Roundabout to Manor Rd (Brights Lane), northbound and southbound
- Route 2: Sea Front/Sea Grove Avenue to St. Mary's Rd, northbound and southbound
- Route 3: A3023/West Lane to Tech Park, northbound and southbound
- Route 4: Church Road (Kings Road) to A3023 West Lane
- Route 5: Manor Road (Brights Lane) to A3023 West Lane
- Route 6: West Lane (Brights Lane) to A3023 West Lane
- Route X: Langstone Rd (Technology Park) to New Rd Roundabout

These seven sections were then combined into various configurations to provide longer, strategic journey time routes for comparison, stretching along the whole island. The aggregated strategic routes define three main routes heading north/south through Hayling include:

- Strategic Route 1 : Sea Front/Sea Grove Avenue to Mill Rythe to Stoke to Langstone to New Rd Roundabout
- Strategic Route 2 : Beachlands Roundabout to Mill Rythe to Stoke to Langstone to New Rd Roundabout
- Strategic Route 3 : West Lane/Brights Lane to Stoke to Langstone to New Rd Roundabout.

The journey time routes are shown in Figure 2.





**Figure 2. Journey Time Routes**

## 6. JOURNEY TIME COMPARISON

The models were run 10 times each and journey times were collected for the AM, IP, and PM Peak Hours (08:00-09:00, 12:00-13:00, and 17:00-18:00 respectively). A comparison of average journey times along the strategic routes for the 2025 and 2036 Do Minimum models, without and with The Mallards, is found in Table 4.

**Table 4. Do Minimum Journey Time Comparison**

| 08:00 - 09:00         |             |             |        |             |             |        |
|-----------------------|-------------|-------------|--------|-------------|-------------|--------|
| Journey Times (mm:ss) | 2025 Do Min | 2025 Do Min | Diff   | 2036 Do Min | 2036 Do Min | Diff   |
| Description           | + Mallards  |             |        | + Mallards  |             |        |
| Strategic Route 1X NB | 16:44       | 16:43       | -00:01 | 18:14       | 18:22       | 00:08  |
| Strategic Route 1X SB | 14:24       | 14:32       | 00:08  | 17:01       | 17:06       | 00:05  |
| Strategic Route 2X NB | 17:32       | 17:33       | 00:01  | 20:31       | 20:16       | -00:15 |
| Strategic Route 2X SB | 14:03       | 14:10       | 00:07  | 16:39       | 16:43       | 00:04  |
| Strategic Route 3X NB | 13:59       | 13:55       | -00:04 | 15:54       | 16:17       | 00:23  |
| Strategic Route 3X SB | 11:16       | 11:27       | 00:11  | 14:02       | 14:14       | 00:12  |

| 12:00 - 13:00         |             |             |        |             |             |        |
|-----------------------|-------------|-------------|--------|-------------|-------------|--------|
| Journey Times (mm:ss) | 2025 Do Min | 2025 Do Min | Diff   | 2036 Do Min | 2036 Do Min | Diff   |
| Description           | + Mallards  |             |        | + Mallards  |             |        |
| Strategic Route 1X NB | 13:38       | 13:35       | -00:03 | 13:54       | 13:52       | -00:02 |
| Strategic Route 1X SB | 13:13       | 13:08       | -00:05 | 13:19       | 13:26       | 00:07  |
| Strategic Route 2X NB | 13:32       | 13:30       | -00:02 | 13:49       | 13:46       | -00:03 |
| Strategic Route 2X SB | 13:03       | 12:58       | -00:05 | 13:11       | 13:16       | 00:05  |
| Strategic Route 3X NB | 10:32       | 10:30       | -00:02 | 10:45       | 10:47       | 00:02  |
| Strategic Route 3X SB | 09:50       | 09:47       | -00:03 | 09:59       | 10:03       | 00:04  |

| 17:00 - 18:00         |             |             |       |             |             |        |
|-----------------------|-------------|-------------|-------|-------------|-------------|--------|
| Journey Times (mm:ss) | 2025 Do Min | 2025 Do Min | Diff  | 2036 Do Min | 2036 Do Min | Diff   |
| Description           | + Mallards  |             |       | + Mallards  |             |        |
| Strategic Route 1X NB | 14:34       | 14:38       | 00:04 | 15:27       | 15:29       | 00:02  |
| Strategic Route 1X SB | 14:57       | 14:59       | 00:02 | 16:52       | 16:50       | -00:02 |
| Strategic Route 2X NB | 14:27       | 14:29       | 00:02 | 15:17       | 15:19       | 00:02  |
| Strategic Route 2X SB | 14:43       | 14:47       | 00:04 | 16:44       | 16:40       | -00:04 |
| Strategic Route 3X NB | 11:26       | 11:28       | 00:02 | 12:12       | 12:14       | 00:02  |
| Strategic Route 3X SB | 11:36       | 11:37       | 00:01 | 13:33       | 13:31       | -00:02 |

The 2025 Do Minimum comparison shows there is a negligible difference between the without and with The Mallards scenarios. Slightly slower journey times of up to 11 seconds are shown for all southbound routes in the “with” Mallards scenario in the AM peak hour. Investigation of the components of the journey route shows this is equally due to the mainland portion of the route, Point X to Point F, and north island portion, Point F to Point E, and some model runs showed congestion due to right turners into West Lane.

The 2036 comparison broadly shows negligible difference on most routes. The AM peak hour shows the “with” Mallards scenario is usually just slower than the “without” scenario but investigation shows this is not attributable to any one cause and is due to model variation, effectively reflective of daily variation. Indeed, Route 2X NB is slightly faster in the without Mallards scenario.

A comparison of average journey times along the strategic routes for the 2025 and 2036 M1a models, without and with The Mallards, is found in Table 5.



**Table 5. M1a Journey Time Comparison**

| 08:00 - 09:00         |          |            |       |          |            |       |
|-----------------------|----------|------------|-------|----------|------------|-------|
| Journey Times (mm:ss) | 2025 M1a | 2025 M1a + | Diff  | 2036 M1a | 2036 M1a + | Diff  |
| Description           |          | Mallards   |       |          | Mallards   |       |
| Strategic Route 1X NB | 15:37    | 15:45      | 00:08 | 17:02    | 17:04      | 00:02 |
| Strategic Route 1X SB | 13:05    | 13:10      | 00:05 | 13:22    | 13:25      | 00:03 |
| Strategic Route 2X NB | 16:09    | 16:18      | 00:09 | 18:23    | 18:25      | 00:02 |
| Strategic Route 2X SB | 12:42    | 12:42      | 00:00 | 12:57    | 12:59      | 00:02 |
| Strategic Route 3X NB | 12:38    | 12:44      | 00:06 | 14:13    | 14:14      | 00:01 |
| Strategic Route 3X SB | 09:59    | 10:00      | 00:01 | 10:17    | 10:22      | 00:05 |

| 12:00 - 13:00         |          |            |        |          |            |        |
|-----------------------|----------|------------|--------|----------|------------|--------|
| Journey Times (mm:ss) | 2025 M1a | 2025 M1a + | Diff   | 2036 M1a | 2036 M1a + | Diff   |
| Description           |          | Mallards   |        |          | Mallards   |        |
| Strategic Route 1X NB | 13:00    | 12:58      | -00:02 | 13:18    | 13:16      | -00:02 |
| Strategic Route 1X SB | 12:58    | 13:01      | 00:03  | 13:12    | 13:11      | -00:01 |
| Strategic Route 2X NB | 12:53    | 12:52      | -00:01 | 13:09    | 13:09      | 00:00  |
| Strategic Route 2X SB | 12:46    | 12:45      | -00:01 | 12:55    | 12:54      | -00:01 |
| Strategic Route 3X NB | 09:59    | 09:59      | 00:00  | 10:15    | 10:15      | 00:00  |
| Strategic Route 3X SB | 09:45    | 09:46      | 00:01  | 09:57    | 09:56      | -00:01 |

| 17:00 - 18:00         |          |            |        |          |            |        |
|-----------------------|----------|------------|--------|----------|------------|--------|
| Journey Times (mm:ss) | 2025 M1a | 2025 M1a + | Diff   | 2036 M1a | 2036 M1a + | Diff   |
| Description           |          | Mallards   |        |          | Mallards   |        |
| Strategic Route 1X NB | 14:03    | 14:08      | 00:05  | 14:24    | 14:27      | 00:03  |
| Strategic Route 1X SB | 14:17    | 14:16      | -00:01 | 15:11    | 15:07      | -00:04 |
| Strategic Route 2X NB | 13:52    | 13:57      | 00:05  | 14:13    | 14:18      | 00:05  |
| Strategic Route 2X SB | 14:02    | 14:02      | 00:00  | 14:57    | 14:53      | -00:04 |
| Strategic Route 3X NB | 10:57    | 11:00      | 00:03  | 11:16    | 11:20      | 00:04  |
| Strategic Route 3X SB | 11:00    | 10:59      | -00:01 | 11:54    | 11:52      | -00:02 |

The 2025 M1a comparison shows there is a negligible difference between the without and with The Mallards scenarios. The most variation predicated to occur was in the 2025 “with” Mallards scenario being up to 9 seconds slower on all northbound routes in the AM peak hour. Further investigation proved this was mainly on the short section of Route 3 NB which includes the bridge, where platoons can still build behind northbound buses stopping before the bridge. Differences in journey time are more likely due to model variation than directly attributable to the Mallards scheme.

## 7. SITE ACCESS OPERATION

The operation of the junction was observed using model snapshots as well as running and watching the vehicle simulation. The general impression of instances of queueing on the side arm (The Mallards) or on the southbound right turn lane into The Mallards was noted as below:

### 2025 Do Minimum

- Sporadic instances in the AM and PM peak hours of 1-3 vehicles queued on the side arm, but easily finding gaps to exit. Southbound right turners not an issue.

### **2025 Do Minimum + Mallards**

- The AM and PM operate quite similarly, with some instances of 2-3 vehicles max in the queue. This is no different to the other side arms on Langstone Road, some of which are even worse (Southbrook Road). Instances of 1-2 vehicles waiting to turn right into the side arm.

### **2025 M1a**

- For AM and PM, instances of 2-3 vehicles maximum queued on the side arm. Vehicles generally find gaps quite quickly.

### **2025 M1a + Mallards**

- In the AM there were more instances in the snapshots of 4-8 vehicles queued on the side arm, with more difficulty exiting due to the heavy northbound flow.
- In the PM any instances of queues which do occur are shorter due to more gaps in the mainline flow, generally 2-3 vehicles.

### **2036 Do Minimum**

- The AM northbound flow is noticeably heavier, especially around 8:30. Generally for both the AM and PM any instances observed were only 1-3 vehicles queued on the side arm before finding gaps. Southbound right turners in not an issue.

### **2036 Do Minimum + Mallards**

- The AM peak hour shows more instances of 4-8 vehicles queued on the side arm, which can be a moving queue but which is present for longer due to the difficulty in finding gaps in the mainline flow. In reality this would not be so marked due to let out behaviour which is not explicitly modelled. This generally only happens once in the hour, could be around 8:00 or 8:30 depending on the run. More instances of right turners into the side arm queueing due to the heavier northbound flow, at times up to 4 vehicles.
- In the PM instances of longer queues on the side arm of 4-8 vehicles tend to occur in most runs anywhere between 17:30-18:00. Southbound right turners into the side arm were not present in the snapshots but present in the simulation from about 17:30-18:00, at times up to 4 vehicles.
- These are of course not constant conditions and for large portions of the peak hours there are no queued vehicles at all.

### **2036 M1a**

- There were generally no issues in the AM, just the usual instances of 1-3 vehicles queued briefly on the side arm.
- The PM showed instances 1-3 vehicles queued on the side arm.
- Right turners into the side arm not an issue.



### 2036 M1a + Mallards

- The AM showed instances of 3-6 vehicles in a rolling queue on the side arm, with difficulty finding gaps, and some instances of up to 4 right turners waiting to turn into the side arm. Other portions of the hour show no vehicles queued.
- The PM showed far fewer instances of queues on the side arm, which could consist of a rolling queue of 2-6 vehicles. Right turners into the side arm not an issue.

## 8. CONCLUSION

The strategic journey time results for both 2025 and 2036 forecast years and for both the Do Minimum and M1a scenarios show a negligible difference with the addition of the proposed Mallards housing scheme. The impacts noted are likely well within the bounds of expected daily variation.

Instances of queues on The Mallards waiting to enter Langstone Road were noted to occur in both forecast years, in both the Do Minimum and M1a, in both the without and with the Mallards scenario. With the Mallards scenario slightly longer queues were noted because there is an increase of trips related to the scheme. All side arms off Langstone Road north of the bridge face the same increased mainline flow in the forecast years, especially 2036, and increased queues and wait times were also observed on the other side arms. Despite the instances of queues on The Mallards, both the without and with Mallards scenario models show long portions of time with no queued vehicles.



## APPROVAL

| Version | Name        |                  | Position             | Date       | Modifications |
|---------|-------------|------------------|----------------------|------------|---------------|
| 1       | Author      | Elaine Elcock    | Consultant           | 04/05/2021 |               |
|         | Checked by  | Christopher Shaw | Associate Consultant | 11/05/2021 |               |
|         | Approved by | Christopher Shaw | Associate Consultant | 11/05/2021 |               |
| 2       | Author      |                  |                      | DD/MM/YY   |               |
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