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Padnell Grange, Waterlooville

Transport Assessment

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Table of Contents

1.0	Introduction	3
2.0	Policy context	7
3.0	Existing situation	18
4.0	Development proposals.....	35
5.0	Travel characteristics	46
6.0	Impact of development generated traffic.....	53
7.0	Summary and conclusion	59

1.0 INTRODUCTION

1.1.1 Conisbee has been commissioned by Stonebond Properties (Guildford) Limited and The Borrow Foundation to produce a Transport Assessment in support of a planning application for the full planning application for the demolition of existing buildings and the erection of 90 residential dwellings with upgraded access to Padnell Road, associated landscaping and other works. The development comprises 90 residential dwellings at land to the south of Padnell Road, Waterloooville, in the county of Hampshire.

1.1.2 The site location is shown in Figure 1.1 below.

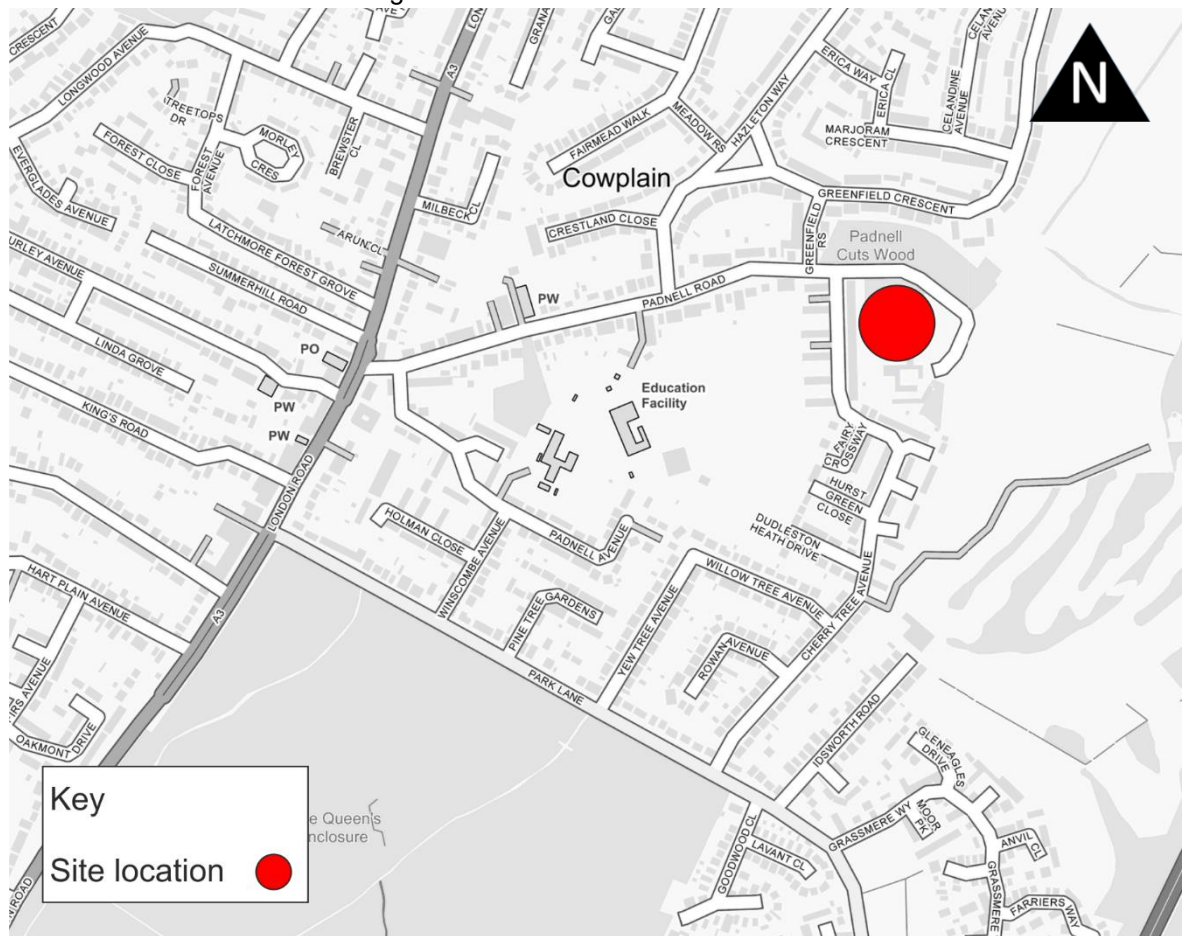


Figure 1.1 Site location

1.1.3 The Site Allocation for W126 (Padnell Grange) for approximately 84 dwellings in Havant Borough's Local Plan (Allocations) July 2014 requires development to be served via an access from Padnell Road. It acknowledges that the site has access to school provision, local shops and services, and bus routes within walking distance.

1.1.4 In Havant's Draft Building a Better Future Plan 2025, Allocation 19 Site reference: WA03 (Padnell Grange) states that the Havant Footpath 127 should be protected and enhanced and the footpath link to Cherry Tree Avenue should be retained.

1.1.5 The Red Line boundary for the development is shown in Figure 1.2 below.

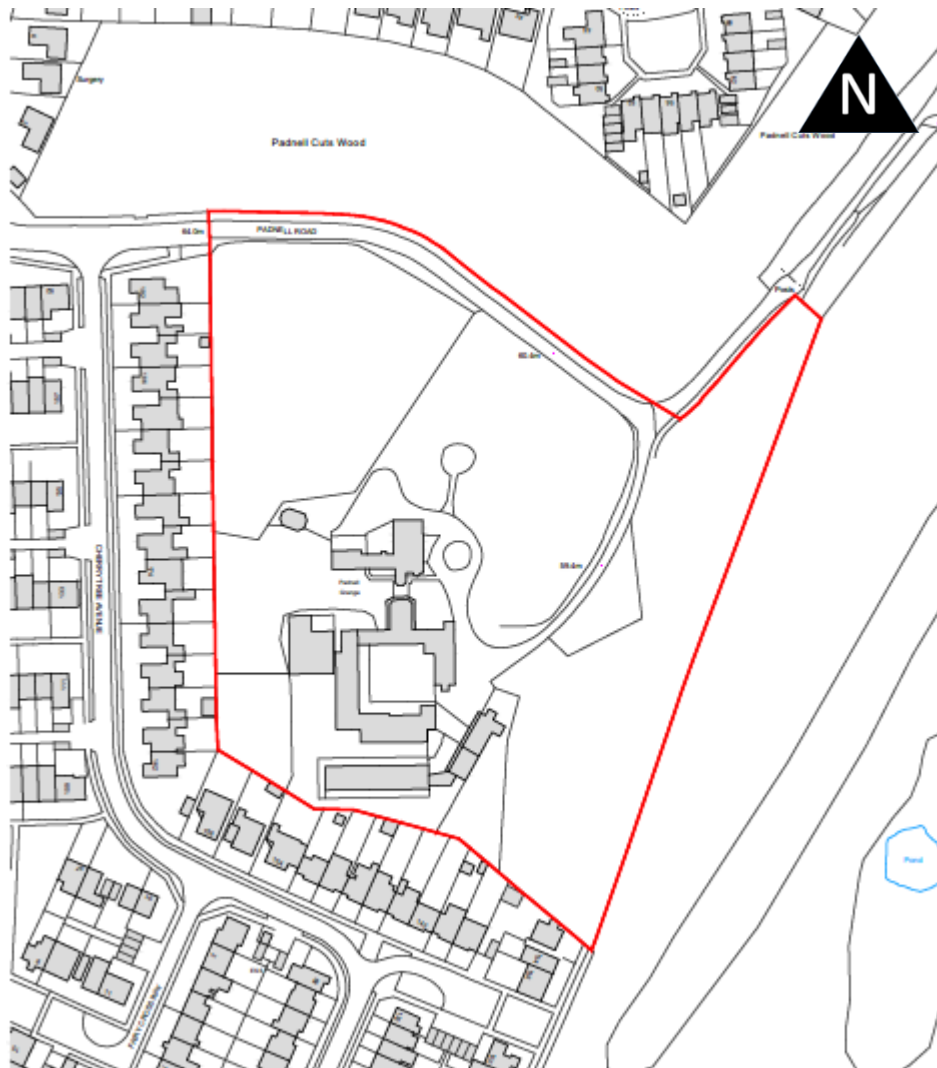


Figure 1.2 Red Line boundary plan

1.2 Planning history

- 1.2.1 A previous full planning application for Padnell Grange (APP/18/00244) was supported by a Transport Assessment and Draft Travel Plan. Hampshire Highways raised a number of transport-related issues. Highways requested a full assessment of pedestrian and cycle access, including links to Bridleway 22, Footpath 127, Cherry Tree Avenue, and the existing signed cycle route along Padnell Road. Highways also recommended reviewing bus stop facilities, rail access limitations, and sustainable access to key local destinations.
- 1.2.2 Specific concerns were raised regarding site access, including the need for detailed drawings showing the connection to Padnell Road. Trip generation and vehicle distribution required clarification, and junction modelling (particularly Padnell Road/A3 and Cherry Tree Avenue/Park Lane) needed agreement.

- 1.2.3 Overall, Hampshire Highways requested additional information on sustainable access, pedestrian/cycle infrastructure, bus provision, site access, trip generation and distribution, highway impact and internal layout before providing a formal recommendation.

1.3 Scope of the Transport Assessment

- 1.3.1 The purpose of this Transport Assessment is to consider the transport characteristics of the proposed development identify any impact on the surrounding transport network and set out any measures required to mitigate this impact.

- 1.3.2 This Assessment was subject to written pre-application scoping advice with Hampshire County Council (the Highway Authority), and a scoping note was submitted on 21st January 2026. The pre-app advice agreed the following key points (Refer to Appendix A for the Scoping Note and subsequent communication with the Highway Authority dated 25th March 2026):

- the site has previous planning history with unresolved highway matters, and earlier comments should inform any future transport assessment.
- the site is allocated (W126) with access from Padnell Road, and a transport assessment is required adopting a vision-led approach in line with the National Planning Policy Framework, prioritising sustainable travel.
- the site has reasonable access to local facilities, and the Transport Assessment needs to assess route quality through a walking, wheeling and cycling audit and to identify necessary improvements to pedestrian, cycle and PRow connections.
- pedestrian provision is generally good, and confirmation is required to demonstrate that on-carriageway cycling along Padnell Road and Cherry Tree Avenue is appropriate. Contributions to wider improvements, including routes identified in the Local Cycling and Walking Infrastructure Plan, are likely to be required.
- collision data, a stage 1 road safety audit, and detailed access design (including visibility, parking restrictions and swept paths) are required to demonstrate safe and suitable access.
- trip generation, distribution and junction impacts need to be robustly reassessed, with modelling of key junctions determined based on the outcome of the trip generation and distribution.
- the transport assessment needs to demonstrate compliance with policy and that the development can be accommodated safely on the network.
- a travel plan is not required given the scale of development falls below the threshold for the provision of a travel plan, as per Hampshire's guidance (100+ dwellings) and confirmed in correspondence.

1.4 Structure of the report

1.4.1 Following this introductory chapter, the report is structured as follows:

- Section 2 sets out the relevant transport policy, including the parking standards;
- Section 3 describes the travel characteristics, sustainability of the site and access to facilities, and a review of personal injury collision data;
- Section 4 details the development proposals and sets out the proposed access arrangements, access by large vehicles and car parking provision;
- Section 5 presents the travel characteristics of the development by mode;
- Section 6 sets out the impact of development generated traffic; and,
- Section 7 sets out the conclusions of the report.

2.0 POLICY CONTEXT

2.1 Introduction

2.1.1 This section of the Transport Assessment sets out the current national, regional and local transport planning policy relevant to the proposed development.

2.1.2 Current transport policies at the national, regional and local level are built around the central themes of long-term sustainable development, sustained investment in transport and improved accessibility at all levels. These policies promote continued economic growth through the provision of an efficient and reliable transport system, a reduction in traffic congestion, improvements in highway safety, and enhancements to the accessibility of sustainable modes of travel.

2.2 National Policy

National Planning Policy Framework (NPPF) (December 2024)

2.2.1 At the heart of the NPPF is a presumption in favour of sustainable development. The document aims to achieve well-designed places, ensuring that developments function well and create places that are safe, inclusive and accessible.

2.2.2 It sets out the following specific advice with regards to parking: *'If setting local parking standards for residential and non-residential development, policies should take into account:*

- *The accessibility of the development;*
- *The type, mix and use of development;*
- *The availability of and opportunities for public transport;*
- *Local car ownership levels; and,*
- *The need to ensure an adequate provision of spaces for charging plug-in and other low emission vehicles.'*

2.2.3 Planning policies should provide an effective use of land in meeting the needs for houses and other uses, whilst safeguarding the environment and ensuring safe and healthy living conditions.

2.2.4 When assessing new developments, consideration for the following should be taken into account:

- A vision led approach to promoting sustainable transport modes is adopted, taking account of the type of development and its location;
- Safe and suitable access to the site can be achieved for all users; and,

- The design of streets, parking areas and other transport elements and the content of associated standards reflects current national guidance.

2.2.5 The NPPF states that development should only be refused on highway grounds if there would be an *'unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.'* Therefore, new applications should:

- Prioritise pedestrian and cycle movements (within the scheme and with neighbouring areas), and encourage the use of public transport by maximising the catchment area for public transport services and provision of appropriate facilities;
- Address the needs of people with disabilities and reduced mobility;
- Create safe, secure and attractive places that minimise the conflict between vehicles and vulnerable road users, and access by service and emergency vehicles; and,
- Enable charging of plug-in and ultra-low emission vehicles in safe, accessible and convenient locations.

2.2.6 The National Planning Policy Framework encourages significant development to be focussed on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. 'Living locally' and minimising the number and lengths of journeys by supporting a mix of uses across an area is promoted. Giving people the ability to access most of their needs within an easy walk or cycle of their home, with safe access to walking, cycling and public transport options requires facilities to be reached conveniently by active travel modes, which then means that key car-free journeys can be made.

2.2.7 Locating development near a local centre or local facilities reduces traffic and provides a safer environment for people and children. It also creates social, health, and environmental benefits.

2.2.8 The site's sustainability, including pedestrian, cycle and public transport infrastructure, is discussed in detail in Section 3.

2.2.9 The NPPF supports a vision-led approach to transport and trip generation by emphasising that development should be planned around sustainable transport outcomes rather than simply forecasting traffic and accommodating it. It states that transport issues should be considered from the earliest stages of plan-making and development proposals so that opportunities to promote walking, cycling and public transport are identified and pursued, and that significant development should be focused in locations which are or can be made sustainable through limiting the need to travel and offering a genuine choice of transport modes.

2.2.10 It also makes clear that development should not be refused on highway grounds unless there would be an unacceptable impact on highway safety or the residual cumulative impacts on the road network would be severe, reinforcing a shift away from predict-and-provide approaches. Instead, plans and decisions should prioritise active and sustainable travel, integrate land use and transport planning, and support patterns of movement that reduce reliance on the private car, which in turn underpins a more vision-led approach to how trips are generated and managed.

2.2.11 Paragraph 110 of the NPPF requires development to be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. The location of the scheme offers 'above average' scores for walking, cycling and public transport, thus offering a genuine choice of alternative transport modes. The development location is considered to be sustainable for the following reasons:

- **Existing residential area on the outskirts of established town** - The site lies within an established residential area with existing highway, pedestrian and cycle connections, enabling good integration with the surrounding transport network.
- **Walkable access to local services** - A range of day-to-day services including shops, schools, medical services and local facilities are located within walking and cycling distance in Waterloooville and Cowplain, encouraging trips by sustainable modes rather than private car.
- **Access to public transport** - The site is located within close proximity (approximately 350m from the site access) of bus stops on Padnell Road, providing access to regular bus services connecting Waterloooville with Havant, Portsmouth and surrounding settlements.
- **Access to the Public Right of Way (PRoW) network** - A Public Right of Way crosses the site, providing opportunities to enhance pedestrian permeability and link the proposed development with the surrounding walking network.

- **Provides access to open space and green areas** - the site is located adjacent to Padnell Cut Woods and is within close proximity to Cowplain Recreation Ground, Hazleton Common Nature Reserve, Wecock Recreation Ground and skate park and Jubilee Park.
- **Designed to be safe** - the layout is designed as a low speed and low traffic environment. Lighting and landscaped areas will enhance natural surveillance.
- **Provides pedestrian and cycle priority environment** - pedestrian routes have been integrated throughout the development layout to maximise the legibility of the routes through the site. The proposed pedestrian network connects to the Public Right of Way running through the site connecting to Padnell Cuts Wood.
- **Provides car and cycle parking in accordance with the standards** – this will ensure that the needs of the residents are met. Provision of cycle parking will encourage travel by sustainable modes and reduce the impact of the development in terms of traffic and air quality.

Draft National Planning Policy Framework (NPPF) December 2025 Connectivity Tool

2.2.12 The Connectivity Tool referenced in the Draft NPPF is a new national digital planning tool developed by the UK Department for Transport. It is designed to help assess how well-connected places are by sustainable transport. It is specifically referenced in the draft NPPF as a source of evidence when assessing and selecting sites for development.

2.2.13 The Tool calculates how well locations are connected to everyday services (jobs, shops, healthcare, schools, etc.) by walking, cycling and public transport and uses these parameters to create a Connectivity Score out of 100.

2.2.14 The overall connectivity score is disaggregated by transport mode to provide a clearer understanding of how the site performs across different forms of movement. Separate component scores are calculated for walking, cycling and public transport accessibility, with each mode assessed against defined distance thresholds and qualitative criteria before being combined to form the total connectivity score.

2.2.15 The overall Connectivity Score for the site is 58 to 63, representing an above average level of connectivity, and the individual mode scores are as follows:

- Public transport – 62 (above average)
- Walking – 64 (above average)
- Cycling – 68 (above average)

Travel Plans, Transport Assessments and Statements in decision taking (2014)

2.2.16 This advice, issued by the Department for Communities and Local Government, considers when Transport Assessments and Transport Statements are required, and what they should contain. Transport Assessments and Transport Statements are ways of assessing the potential transport impacts of developments and may propose mitigation measures where these are necessary to avoid unacceptable or 'severe' impacts. This advice states that an assessment can positively contribute to the following:

- Encouraging sustainable travel;
- Lessening traffic generation and its detrimental impacts;
- Reducing carbon emissions and climate impacts;
- Creating accessible, connected, inclusive communities;
- Improving health outcomes and quality of life;
- Improving road safety; and,
- Reducing the need for new developments to increase existing road capacity or provide new roads.

Manual for Streets (MfS) (March 2007)

2.2.17 Manual for Streets was published in 2007 by the Department of Communities and Local Government and Department of Transport, superseding advice in Design Bulletin 32 and People, Places, Streets and Movement. The aim of MfS is to encourage the creation of streets for all highway users, and discourage design aimed solely at meeting the needs of the motorist. The key recommendation is that increased consideration should be given to the 'place' function of streets, and this should be balanced with the 'movement' function. MfS provides guidance on how to balance the needs of motorists with those of cyclists, pedestrians and residents.

2.2.18 Good design is fundamental to achieving high-quality, attractive places that are socially, economically and environmentally sustainable. It can strengthen communities and make it easier and more appealing to choose sustainable modes of transport.

2.3 Regional policy

2.3.1 Hampshire County Council guidance sets thresholds for transport assessment and travel planning. Residential developments of 50 dwellings or more are typically required to provide a Transport Assessment, while Travel Plans are normally expected for schemes of 100 dwellings or more. Hampshire County Council also provides guidance on parking provision and the promotion of sustainable transport modes, including walking, cycling, and access to bus services. Electric vehicle charging infrastructure is required for car parking spaces, in line with county guidance, while cycle stores should be provided in accordance with national standards.

Hampshire County Council Local Transport Plan 4 – February 2024

2.3.2 The Hampshire Local Transport Plan (LTP) sets out the county's long-term transport strategy and the policies that guide how development should support sustainable travel, economic growth and environmental objectives. Hampshire County Council uses the LTP to guide decisions on transport infrastructure, development and investment across the county.

2.3.3 Guiding Principle 1 states that people should be given a choice of high-quality travel options and reduce dependency on the car by providing better walking, cycling and public transport choices, creating opportunities to 'live locally', own fewer cars and use them less.

2.3.4 In relation to this development, Guiding Principle 1 requires an increased emphasis on approaches that:

- *'Promote walking and cycling as the first choice for shorter journeys (for those who are able), including use of e-bikes and other legal forms of micro-mobility which can increase the range and opportunities for active travel;*
- *Make public transport more attractive, cheaper and accessible to more people, as the first choice for medium and longer journeys (as well as complementing walking and cycling options for shorter trips);*
- *Support 'shared mobility' solutions (e.g. electric vehicle car sharing clubs, bike/e-bike share schemes, lift share schemes, taxi sharing models, demand responsive transport), and mobility hubs which act as a focal point for public and shared transport, alongside other services (e.g. health clinics, local work hubs, parcel lockers);*
- *Enable people to access many of their daily needs within a 20-minute walk of their home, through the creation of 'liveable neighbourhoods';*
- *Seek to better manage travel demands, particularly on the busiest parts of the network at peak times;*

- *Seek integrated land use and transport planning to reduce the need to travel by car and enable more sustainable travel choices; and,*
- *Make best use of technology that helps us to manage our travel needs in smarter ways (e.g. use of online services and remote working, shared transport, digital apps for planning and paying for bundles of sustainable journeys known as Mobility as a Service (MaaS), and low emission vehicles).'*

2.4 Havant Local Cycling and Walking Infrastructure Plan (LCWIP) (2023)

2.4.1 Hampshire's Local Cycling and Walking Infrastructure Plans (LCWIPs) form part of the county's strategic approach to improving active travel, walking, wheeling and cycling, over the coming decade. These documents, prepared by Hampshire County Council with local partners, identify priority networks of cycle routes and 'core walking zones', assess existing infrastructure, and set out a programme of potential improvements to support investment and planning decisions. The LCWIPs sit under the broader Local Transport Plan 4 (LTP4) and are used to support transport policy, funding bids and developer contributions for schemes that can make walking and cycling safer and more attractive in towns and rural areas alike.

2.4.2 For the Havant Borough area, which includes Waterloo, the LCWIP highlights primary and secondary cycle routes linking key destinations such as schools, retail areas, community facilities and neighbouring towns, with further feeder routes identified for later phases. The Havant LCWIP provides an evidential basis for future improvements and supports funding bids and planning negotiations for active travel infrastructure. Developer contributions (e.g. through s106/CIL) are expected to help deliver or enhance these routes where new housing or employment growth generates additional local trips and highlights gaps in the walking/cycling network.

2.4.3 In the area of the development, Havant Borough Council identifies the following routes as Key Routes 2036:

- Route 1 Cowplain-Leigh Park – this route connects London Road National Cycle Network to Middle Park Way in the south-east
- Route 7 Denmead-Havant – this route connects Route 1 to Havant town centre, near the train station.

- 2.4.4 Havant LCWIP, Routes 1 and 7 together provide a potential route for connecting the site into the wider active travel network with Route 7 acting as a feeder, linking the site to both Waterlooville and Havant town centres and Havant train station. Route 1 connects to Route 7 for those heading to Havant. These routes support a continuous walking and cycling journey from the development to key services and public transport, aligning with the LCWIP objective of connecting new residential areas to centres and transport hubs through joined-up, higher-quality routes.

2.5 Hampshire Technical Guidance Notes

- 2.5.1 The Guidance Notes provide standards that inform the detailed design of streets that will be adopted. For layout-related matters within the technical guidance, the emphasis is on alignment design, cross-sections, visibility splays, pedestrian/cycle facilities and public transport infrastructure, which influence development layouts, junctions and walking/cycling routes. These technical notes guide dimensioning, geometry and safety.

2.6 Local policy

- 2.6.1 At the local level, Havant Borough Local Plan policies support safe and sustainable transport. Supplementary guidance further supports the provision of high-quality pedestrian and cycling links, integration with public transport, and measures to encourage sustainable travel.

Havant Borough Core Strategy – Local Development Framework (March 2011)

- 2.6.2 The Havant Borough Core Strategy sets out the planning framework for the community to 2026. This plan has sought to address local needs, especially for housing and economic development, with an emphasis on high quality design and stewardship of the borough's high quality natural and built environment.
- 2.6.3 Policy CS20 of the Havant Borough Local Plan (Core Strategy) sets out the borough's approach to transport and accessibility. The policy seeks to ensure that new development is located and designed to reduce the need to travel, promote sustainable transport modes such as walking, cycling and public transport, and ensure that safe and suitable access is provided for all users. Development proposals are required to demonstrate that they do not have an unacceptable impact on the operation or safety of the highway network and that appropriate mitigation measures are provided where necessary. The policy also supports improvements to transport infrastructure where required to accommodate development and enhance connectivity within the borough.

- 2.6.4 Policy CS16 requires development to achieve a high standard of design that responds positively to its surroundings and creates safe, functional and attractive places. In terms of layout, the policy seeks development that provides clear and legible street patterns, integrates well with the surrounding area, and ensures convenient and safe movement for pedestrians, cyclists and vehicles. The layout should create a high-quality public realm, incorporate appropriate landscaping and open space, and ensure that streets and spaces are well designed, accessible and overlooked to promote safety and a strong sense of place.
- 2.6.5 Policy CS17 seeks to direct the majority of new development to the borough's existing urban areas, where there is good access to services, facilities and public transport. The policy supports development that makes efficient use of land within established settlements and locations that are well connected to the existing transport network. In relation to this site, its location within the built-up area of Waterlooville means it is well placed to access local services, employment opportunities and public transport, making it a sustainable location for residential development.

2.7 Havant Development Management Policies

- 2.7.1 Policy DM11 seeks to promote more sustainable travel by ensuring that new development encourages walking, cycling and the use of public transport. Developments should be located and designed to provide convenient access to sustainable transport modes and should include appropriate infrastructure such as pedestrian routes and cycle parking. They should encourage lower vehicle speeds and have safe, permeable, inclusive layouts.
- 2.7.2 Policy DM12 requires development to assess and mitigate the transport impacts it generates. Proposals should demonstrate, through the provision of a Transport Assessment, that the local highway network can safely accommodate additional traffic and that any adverse impacts on highway safety, congestion or the operation of the transport network are addressed through appropriate mitigation where necessary.
- 2.7.3 Policy DM13 refers to the relevant parking standards for requirements for car and cycle parking within new development. The standards require parking provision to be appropriate to the type and location of development, ensuring sufficient parking is provided while also supporting sustainable travel choices, including the provision of secure and convenient cycle parking.

2.8 Havant Borough Design Guide SPD 2011

2.8.1 The Borough Design Guide Supplementary Planning Document (SPD) applies to all new development in the borough, including housing, and sets out design expectations and principles that developers should follow to achieve high quality, context-responsive layouts and buildings.

2.8.2 The Borough Design Guide SPD supplements Core Strategy policy (Policy CS16 High Quality Design) and provides more detailed guidance on good design for new residential developments. It includes sections on the seven key principles of good design, how to approach site layout and masterplanning, and specific guidance on residential design such as house spacing, overlooking and separation distances, amenity space, privacy, streetscape character, parking and access.

2.8.3 The guide sets out the following layout principles:

- People should have convenient access and be able to move through it, and connect to neighbouring areas, with ease.
- The layout should provide logical, safe and convenient routes.
- The design should encourage people to use sustainable modes.
- New developments should be located within a 20-minute walk of public transport and other local services.
- The car and highway should not dominate, and the public realm should feel welcoming and safe and encourage pedestrian and cyclist movement as well as opportunities for social interaction.

2.9 Summary

2.9.1 The proposed development of 90 dwellings at Padnell Grange is consistent with these policy requirements. The site is located within the built-up area of Waterlooville where it benefits from access to local services, public transport and existing walking and cycling routes, supporting the objectives of national policy to promote sustainable travel and reduce reliance on the private car.

2.9.2 The development provides access from Padnell Road and retains the existing public right of way through the site in accordance with the requirements of the allocation. This approach ensures compliance with the site-specific policy by maintaining connectivity and utilising the prescribed point of access.

- 2.9.3 Access to the site can be provided safely, adequate parking and cycle storage can be delivered in accordance with national and local guidance, and the development is well connected to existing walking, cycling, and public transport networks. The layout incorporates appropriate pedestrian connections, cycle provision and parking arrangements, ensuring that the development supports sustainable travel choices while meeting the requirements of relevant Havant Borough Local Plan policies relating to transport, accessibility and parking.
- 2.9.4 The scale of the scheme is such that it would not result in significant congestion or adverse impacts on nearby junctions. Overall, the proposed development demonstrates compliance with relevant transport policy at national, county, and local levels.
- 2.9.5 Therefore, it is considered that the proposed development is compliant with national, regional and local policy, as it:
- Promotes sustainable development with safe, inclusive, and accessible design for all users, including people with disabilities and reduced mobility.
 - Encourages walking, cycling, and public transport use, with access to services within a 20-minute walk including education, health, public transport, open space and neighbourhood centre.
 - Follows Manual for Streets guidance with regards layout, streets, parking, and public realm balancing layout, movement and place, and creating welcoming, safe, and attractive spaces.
 - Provides access to goods, services, employment, and connections across the borough, including east-west links through Havant.
 - Incorporates high-quality, context-sensitive principles in the design and layout including logical, safe routes, permeability, and connectivity to neighbouring areas.
 - Is designed so that cars do not dominate the public realm and streets, promoting social interaction, pedestrian safety, and cyclist movement.
 - Meets Havant Borough Design Guide SPD guidance on streetscape character, and overall residential layout.
 - Provides for EV charging in accessible, convenient locations.

3.0 EXISTING SITUATION

3.1 Introduction

3.1.1 This section summarises the existing transport network within the vicinity of the site, detailing the accessibility by walking, cycling, public transport and includes a description of the local highway network.

3.1.2 The proposed development is located off Padnell Road, in Waterloooville. The site is approximately 2.5km north of Waterloooville town centre. The proposed development is bounded by:

- Padnell Road to the north and east; and,
- Residential dwellings along Cherry Tree Avenue to the west and South.

3.1.3 The location of the development site, together with the local highway network, is shown in Figure 3.1 below.

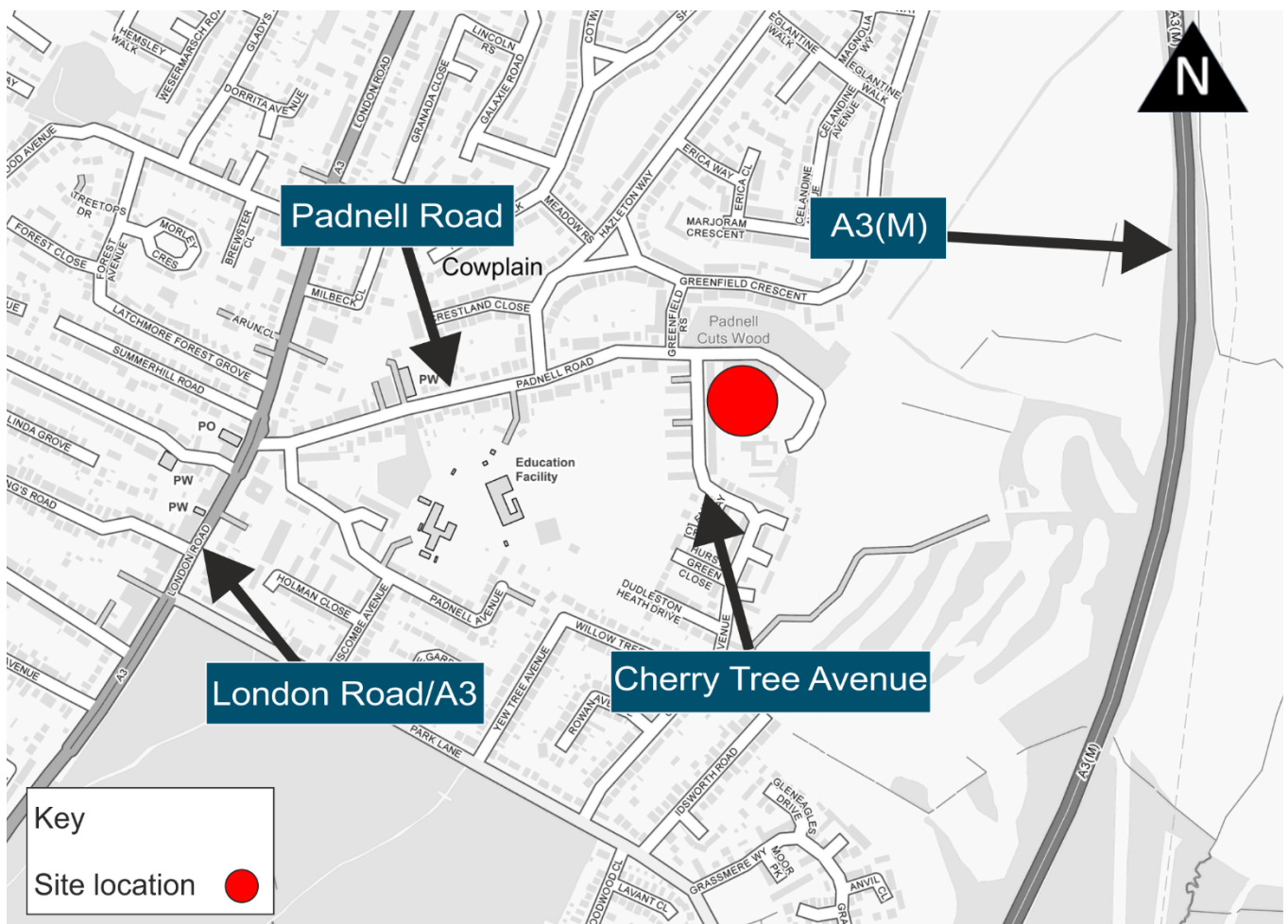


Figure 3.1 Local highway network

3.2 Travel characteristics

Travel to work

- 3.2.1 Travel to work data from the 2011 Census has been used to establish the mode of travel to work for existing residents in the area. It should be noted that although 2021 census data is available, the Office for National Statistics (ONS) has issued a warning that care should be taken when interpreting the results. This is because the 2021 Census was undertaken during the Covid-19 pandemic, when a large proportion of the population worked from home and people were discouraged from using public transport.
- 3.2.2 Census data is split into Output Areas, these are geographical areas which are consistent in population size. Between four to six Output Areas make up Lower Super Output Areas (LSOA), and between four to six LSOAs make up Middle Super Output Areas (MSOA).
- 3.2.3 Table 3.1 below shows the travel to work mode split for the Lower Super Output Area (LSOA Havant 020A) and the Middle Super Output Area (MSOA Havant 020) in which the site is located, as well as South Hampshire as a whole. It should be noted that this data excludes those that work from home and those not in employment.

Table 3.1 Mode split for journey to work based on 2011 Census data

Mode	Mode share (%)		
	LSOA 020A	MSOA 020	South Hampshire
Train and underground	1	2	3
Bus, minibus or coach	4	3	6
Taxi	0	0	1
Motorcycle/scooter/moped	1	1	1
Car or van (as driver)	81	82	64
Passenger in car or van	5	5	6
Cycle	2	2	5
Walk	6	5	13
Other	0	0	1
Total	100%		

- 3.2.4 It should be noted that Census Travel to Work data differs from the trip generation survey data, as the survey data records vehicle journeys for all purposes, not just work related.
- 3.2.5 It can be seen from the table above that 81% of existing residents that live within the LSOA (in which the site is located) travel to work by car (as driver), with a further 5% travelling as passenger. It can also be seen that 5% travel by public transport (bus and/or train) and 8% either walk or cycle to work.

Car ownership

- 3.2.6 2021 car ownership in the LSOA is 1.40 cars/vans per dwelling, which is lower than that in the MSOA (at 1.56), but slightly higher than the town of Havant (1.36).
- 3.2.7 Car ownership for private dwellings in this MSOA (owned or private rented) is 1.35 cars/vans per dwelling, whilst for affordable dwellings it is 0.78 cars/vans per dwelling.

3.3 Connectivity

- 3.3.1 The development site is within a 30-minute walking distance of Waterlooville, which is located 2.5km south of the site. Waterlooville is a well-served town in Hampshire, offering a wide range of local amenities and services, including shops, schools, healthcare facilities, leisure and community centres. It contains a pedestrianised shopping street with multiple national and independent retailers, cafes, food outlets, and community services. The town has good pedestrian and cycling infrastructure, public transport links with frequent bus services, and green open spaces that support active travel. Recent regeneration and public realm improvements have enhanced accessibility and created safer, more attractive streets.
- 3.3.2 Closer to the site (750m west of the site access), the London Road corridor near its junction with Padnell Road offers a range of everyday services and amenities within walking (10-minutes) and cycling distance (3-minutes), supporting sustainable travel choices and reducing the need for short car trips. The area includes a mix of convenience retail and other services, which provide local groceries and day-to-day essentials, enhancing accessibility for residents without requiring travel to larger centres.
- 3.3.3 London Road is also well connected by frequent bus routes to Waterlooville town centre and neighbouring urban centres, reinforcing sustainable transport accessibility and supporting reduced reliance on private cars.
- 3.3.4 The most likely destinations by sustainable transport modes, according to 2011 Travel to Work Census data, are set out as follows:
- Walk/cycle (8%) – Waterlooville and Havant
 - Train (1%) - London.
 - Bus (4%) – Waterlooville, Havant and Portsmouth
- 3.3.5 The site is accessible by walking, cycling and public transport, as described in the following paragraphs.

Walking

- 3.3.6 The key destinations for pedestrians are likely to be within Cowplain and Waterlooville to the town centre, public transport, education and health, as follows:

- Town centre – Waterloooville, located 2.5km south of the site access (30-minute walk).
- Local centre – London Road, located 750m west of the site access (10-minute walk).
- Public transport - bus stops on Padnell Road, located 350m west of the site access (4-minute walk).
- Education – Padnell Junior School, located 700m west of the site access (5-minute walk), Padnell Pre-School and Infant School, located 800m west of the site (7-minute walk), which can be accessed via the Junior School, and The Cowplain Secondary School, located 1.5km south-west of the site access (19-minute walk).
- Health – Oaks Healthcare, located 700m west of the site access (9-minute walk).

3.3.7 In the vicinity of the site, footways are provided along both sides of:

- Cherry Tree Avenue to Park Lane in the south, where there are footways along the northern side of the carriageway
- Padnell Road to London Road to the west.

3.3.8 There are a variety of retail, health, professional services and leisure services provided in the local centre on London Road, including:

- Coffee shops
- Optometrists and Opticians
- GP and pharmacy
- Restaurants/Takeaways
- Convenience store
- Hairdressers.

3.3.9 The Chartered Institution of Highways and Transportation (CIHT) guidelines '*Providing for Journeys on Foot*' indicates that the desirable walking distance for commuting and school journeys is 500m, the acceptable walking distance is 1km and 2km is the preferred maximum.

3.3.10 The CIHT guidelines indicate that the desirable walking distance for 'Elsewhere', including local amenities, is 400m, the acceptable walking distance is 800m and 1.2km is the preferred maximum.

3.3.11 A number of key facilities are located within 1.2km of the site, including:

- Nursery and Primary school
- Convenience store
- Places of Worship

- Café/Restaurants/takeaways
- Community centre
- Recreational green space

3.3.12 Havant, approximately 7.5km south of the site, is an established town centre with extensive retail, educational, healthcare, financial services, leisure and employment as well as train services.

3.3.13 All amenities within a 20-minute walk and 20-minute cycle of the site are shown in Figure 3.2 and Figure 3.3 respectively.

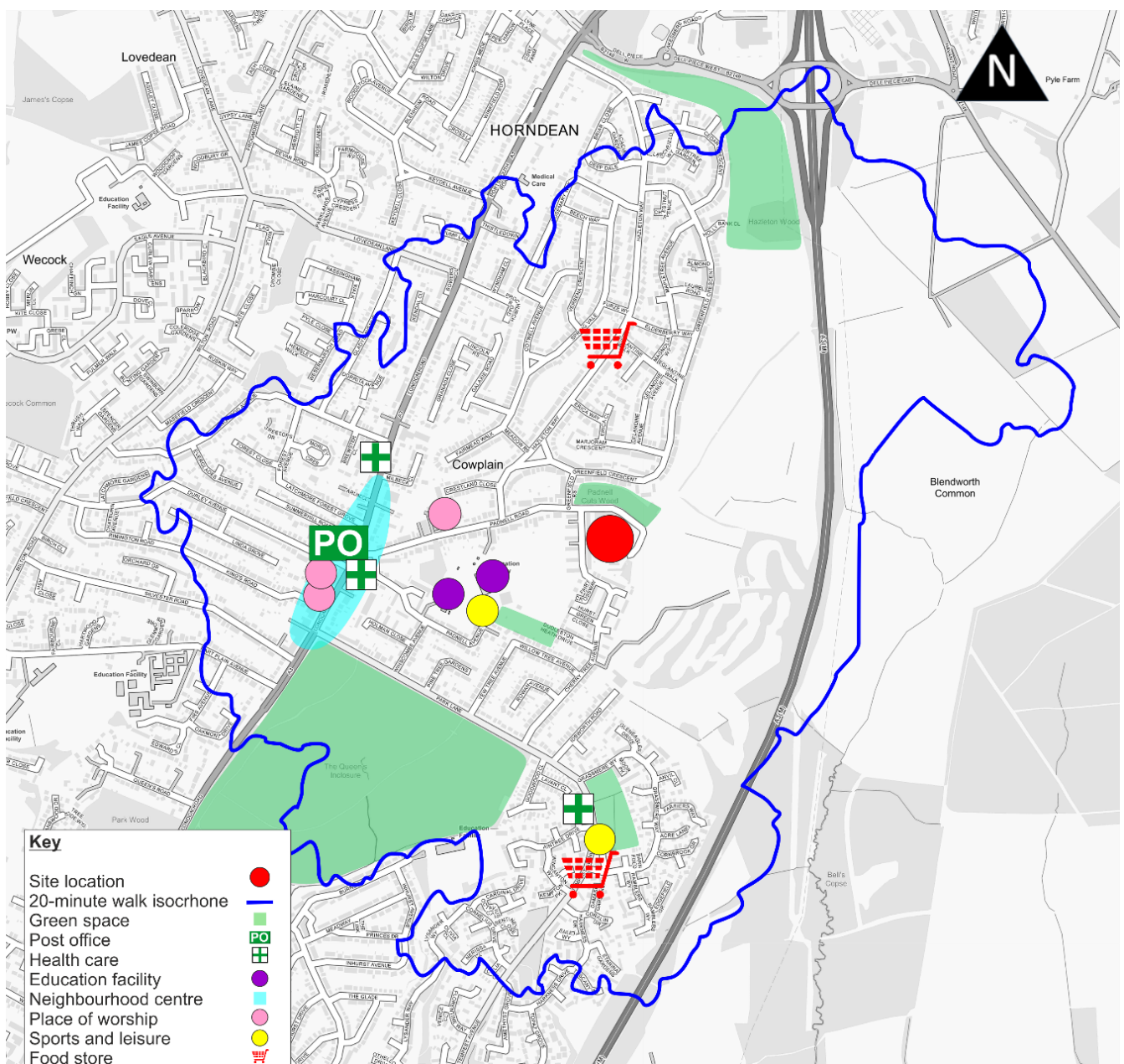


Figure 3.2 20-minute walk isochrone

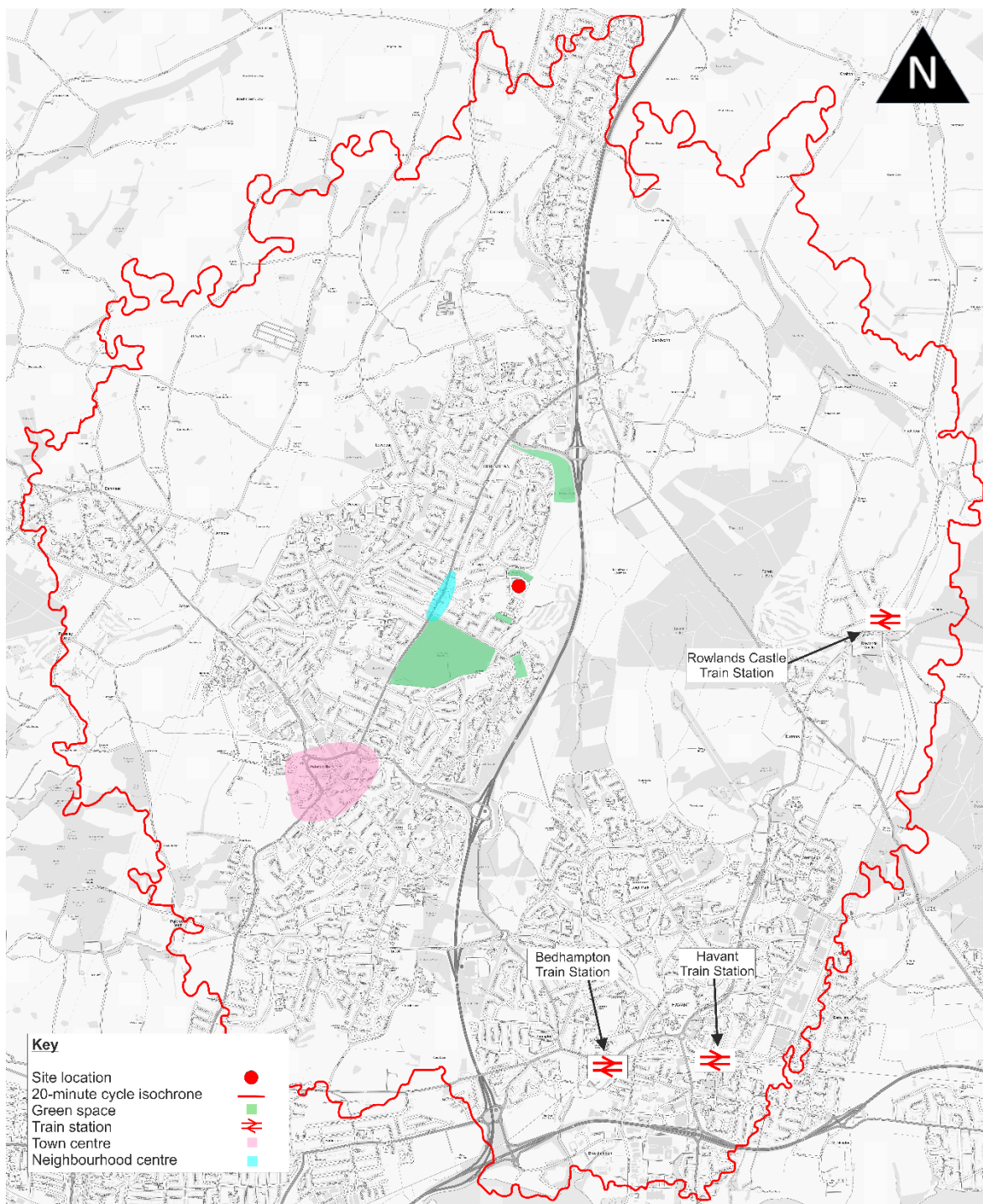


Figure 3.3 20-minute cycle isochrone

3.4 Key walking routes

3.4.1 The key walking routes shown in Figure 3.4 overleaf are described in Table 3.2 overleaf. A more detailed planning stage audit of walking and cycling routes to these key destinations is included in Appendix B.

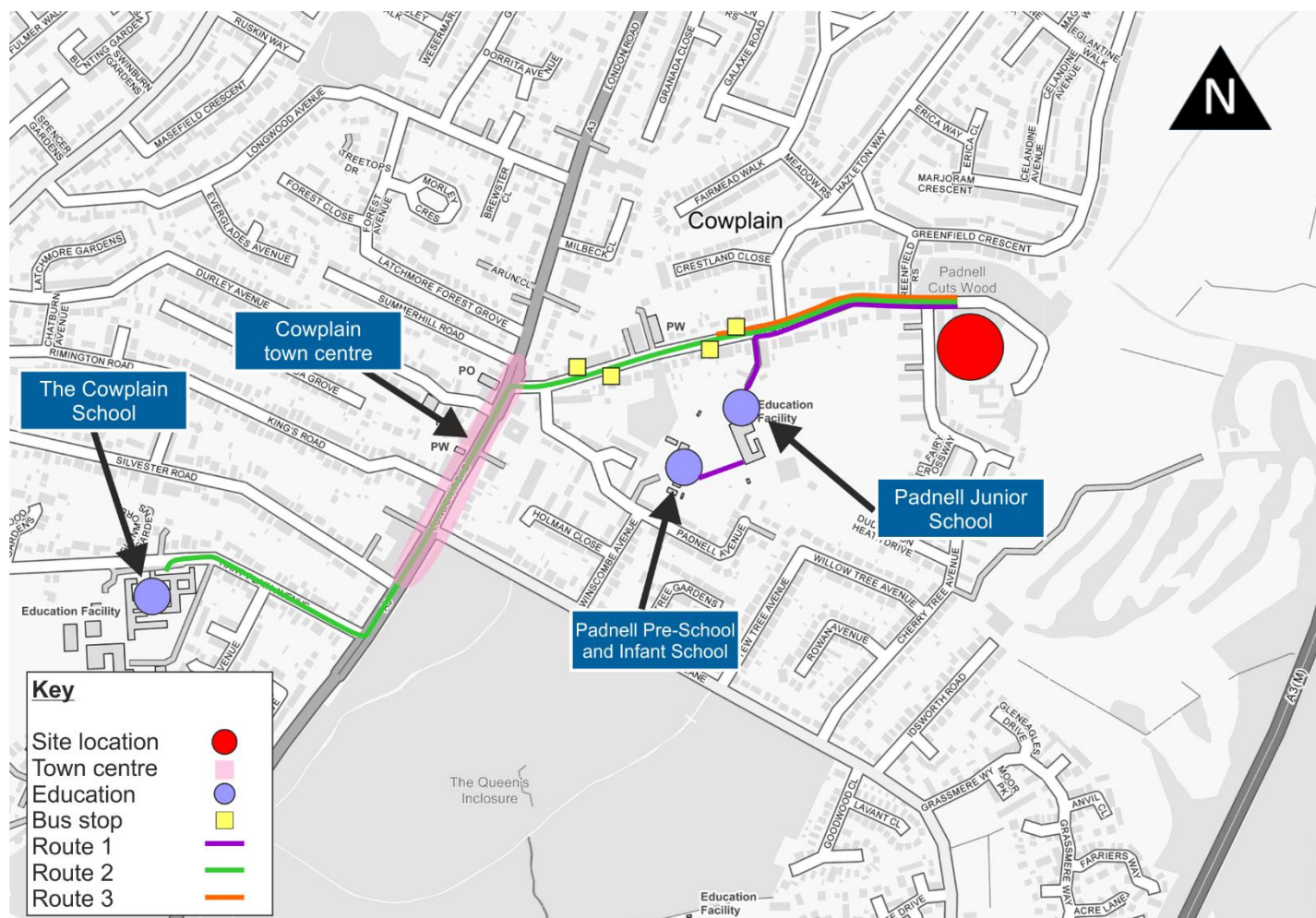


Figure 3.4 Key walking routes to day-to-day facilities

Table 3.2 Walking routes to key local facilities

Route	Destination	Purpose	Route description	Distance*
1	Padnell Junior School Padnell Pre-School Padnell Infant School	Education	The route follows Padnell Road along the west of the site, where there are footways along both side of the carriageway. Pedestrians will not need to cross the road to get to Padnell Junior School. Pedestrians will continue through the Junior School grounds for 100m to cut into the Infant School playground.	400m west 600m south-west
2	London Road local centre	Retail, leisure and employment	This route follows the route to the primary school and continues along Padnell Road to the A3/London Road. Pedestrian phases are included within the signalised junction and footways are provided on both sides of the carriageway.	750m west
	The Cowplain School	Education	Pedestrians will then continue along London Road, where they will need to	1.5km west

			cross to the other side of the carriageway. There are many pedestrian crossings along London Road. pedestrians will then turn into Hart Plain Avenue, where there are footways on either side of the carriageway. There is a formal dropped kerb crossing with tactile paving approximately 100m east of the school entrance that pedestrians will use.	
3	Padnell Road bus stop	Transport	This route follows the previous two routes, along Padnell Road. Pedestrians are able to cross the carriageway at dropped kerb crossings to access the eastbound bus stop.	350m west

** Distances measured to site access, add approximately 200m for centre of site*

Public Rights of Way (PRoW)

3.4.2 There are various PRoWs in the vicinity of the site, which can be used for recreational purposes. The PRoW network is illustrated in Figure 3.5 over the page and summarised below:

- PRoW 108/127/1, 108/127/3 & 108/127/2 Footpath – runs through the site, providing a north-south connection through the site from 108/22/1 Bridleway to Cherry Tree Avenue and on to Park Lane to the south of the site.
- PRoW 108/126/1 Footpath – to the south of Park Lane, provides a route through Forest of Bere and connects to footpaths which cross the A3(M).
- PRoW 108/22/1 Bridleway – to the north of the site connect to 119/24a/2, 119/24a/1 and 201/502/1 Bridleways, which provide access to Padnell Cuts Wood and on to Hazleton Common and Hazleton Woods as well as Dell Piece West/Dell Piece East/A3 roundabout further north.

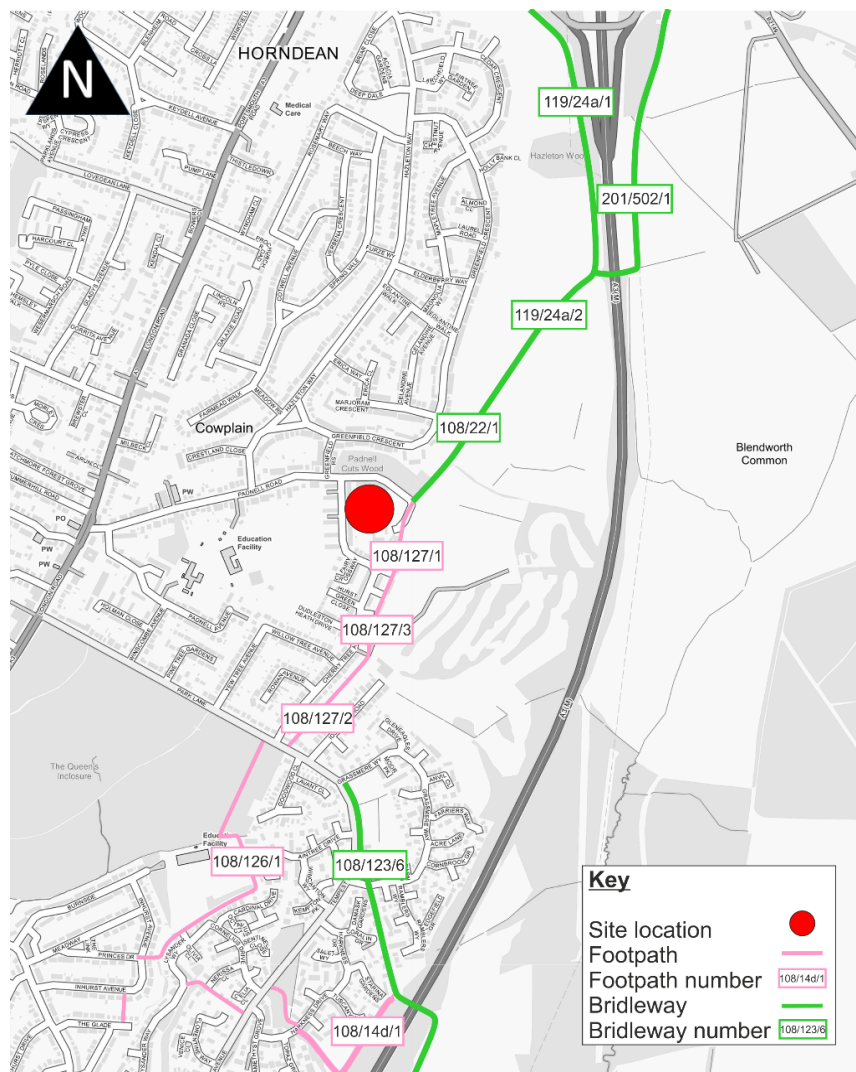


Figure 3.5 Public Rights of Way network in the vicinity of the site

Cycling

- 3.4.3 The nearest cycle route to the site is the Havant Borough Network (HBN), which is a 6.9km route, connecting Lovedean to the north of the site with Havant town centre to the south. This cycle route is located approximately 50m west of the site access along Padnell Road and runs on-carriageway along Padnell Road and Cherry tree Avenue connecting south to Park Lane and on to Havant. This route connects to National Cycle Network (NCN) route 222, which runs along A3/London Road. This is a 29km route travelling from Eastney in the south, to Petersfield in the north. The Havant Borough Cycle Network (HBCN) is a 62km route connecting the site to Havant town centre, Rowlands Castle and Fleet.

3.4.4 Given the 85th percentile speeds along Padnell Road and Cherry Tree Avenue are below the speed limit of 30mph, and the streets experience two-way daily flow of approximately 1,200 vehicles, both Padnell Road and Cherry Tree Avenue fall well within the thresholds identified in LTN 1/20 for acceptability for on-carriageway cycling. LTN 1/20 indicates that lightly trafficked roads with speeds around 30mph and daily flows under 2,000 vehicles per day are suitable for cyclists to use the carriageway without the need for formal segregation. The relatively low traffic volume, combined with speeds below the speed limit, demonstrate that the existing carriageway provides an acceptable level of comfort and safety for cycling, supporting its use as part of the sustainable access strategy for the site.

3.4.5 Figure 3.6 below shows the cycle routes in the surrounding area.

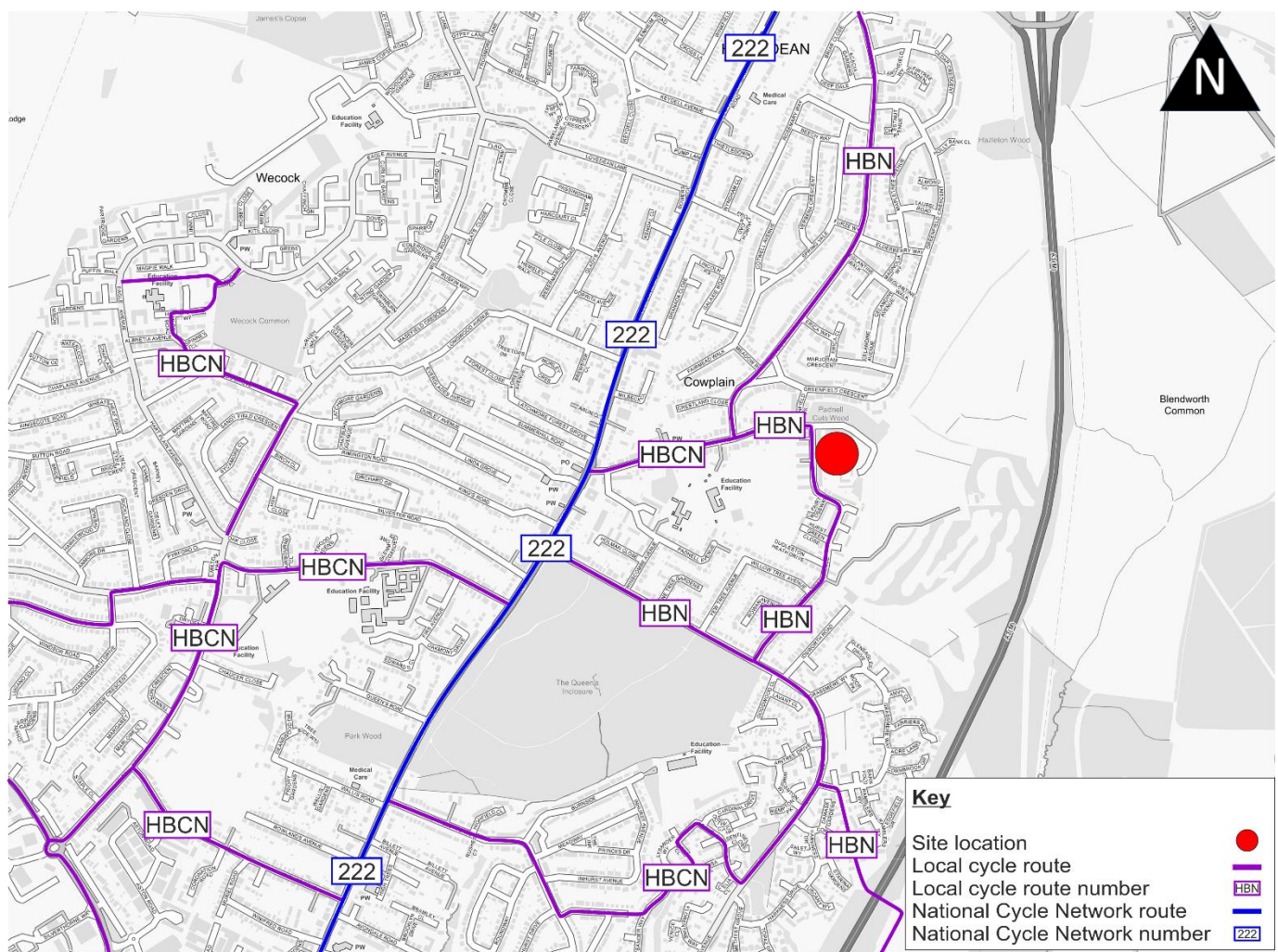


Figure 3.6 Cycle routes in the vicinity of the site

3.5 Accessibility by public transport

Bus services

3.5.1 The nearest bus stops to the site are the Hazleton Way Bus Stops located along Padnell Road, approximately 350m west from the site access. These bus stop have a pole and flag. The westbound stop has bus bay carriageway markings. Additionally, there are bus stops along London Road, approximately 750m west of the site. These bus stops benefit from shelters, seating, Real Time Information and raised bus boarder kerbs.

3.5.2 The summary of the routes served by these bus stops is shown below in Table 3.3.

Table 3.3 Bus services within the vicinity of the site

Route no.	Distance to bus stop (m) to site access	Route (and time to destinations)	Frequency (per hour)	First and last bus time
Hazleton Way (Padnell Road)				
37	350	Havant Bus Station (40 mins) to Petersfield Station (35 mins)	1	6:25am 7:10pm
37	400	Petersfield Station (35 mins) to Havant Bus Station (40 mins) via Cowplain (5 mins) and Horndean (5 mins)	1	6:50am 7:40pm
Opp. Cowplain shops (London Road)				
8 theSTAR	750	Clanfield (10 mins) – Portsmouth The Hard Interchange (40 mins)	4	4:30am 11:15pm
8 theSTAR	770	Portsmouth The Hard Interchange (40 mins) – Clanfield (10 mins) via Horndean (5 mins)	4	5:05am 12:20am

3.5.3 Waterlooville is accessible via both the Route 37 bus and the Route 8 theSTAR bus, with a journey time of five minutes.

3.5.4 Figure 3.7 overleaf shows the location of the bus stops along Padnell Road (350m from the site access, 5-minute walk), London Road (750m from the site access, 10-minute walk) and Park Lane.

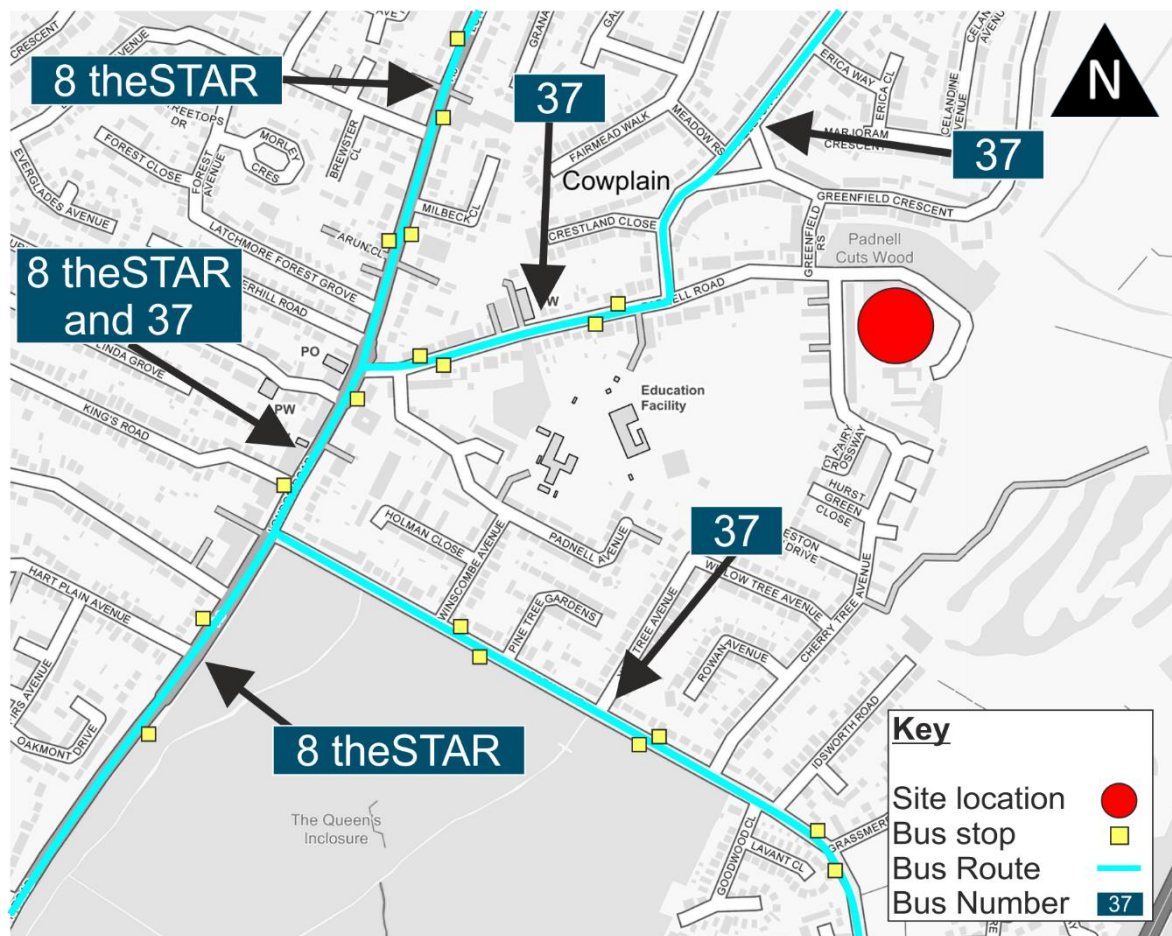


Figure 3.7 Location of bus stops

Rail services

3.5.5 Havant Train Station is located 8km south of the site (30-minute cycle) and is managed by South Western Railway. There are approximately 17 trains an hour, with the following services:

- Portsmouth Harbour – three journeys per hour, with a journey time of approximately 20 minutes
- Brighton – three journeys per hour, with a journey time of approximately 1-hour
- London Waterloo – five journeys per hour, with a journey time of approximately 1-hour 30 minutes
- London Victoria – two journeys per hour, with a journey time of approximately 2-hours
- Southampton Central – two journeys per hour, with a journey time of approximately 45 minutes

- Portsmouth and Southsea – two journeys per hour, with a journey time of approximately 15 minutes

3.5.6 There is a large station car park with 492 car parking spaces, as well as bicycle storage spaces. The station has step free access to all platforms, which may be accessed via ramps.

3.5.7 Havant Train Station can be accessed via the number 37 bus, from Padnell Road, with a journey time of approximately 55 minutes.

3.5.8 The route 37 bus service also provides access to Petersfield Train Station, located 17km north of the site, which provides frequent services to London Waterloo and Portsmouth Harbour. This route has a journey time of approximately 40 minutes.

3.6 Local highway network

3.6.1 A description of the local highway network in the vicinity of the site is outlined in Table 3.4 below and shown in Figure 3.1 overleaf.

Table 3.4 Local highway network

Description	
Cherry Tree Avenue	
Description	A single carriageway road fronting onto residential properties, with footways on both sides of the road.
Width	5.5-6m
Speed limit	30mph
Street lighting	Yes, along Cherry Tree Avenue, street lighting is provided on both sides of the carriageway.
Pedestrian facilities	No formal crossings, with informal dropped kerb crossings.
Cyclist facilities	On-carriageway signed cycle route.
Bus route	No
Character	Residential street.
On-street parking	The road is wide enough for parking along one side of the carriageway. There are double yellow lines along sections of the carriageway, including along the bends, and at the northern and southern access to the street.
Padnell Road	
Description	A single carriageway road fronting onto residential properties, with footways on both sides of the carriageway.
Width	6.5m
Speed limit	30mph
Street lighting	Provided on both sides of the carriageway.
Pedestrian facilities	Dropped kerb and tactile paving from the west to the private access to Padnell Junior School.
Bus route	Yes
Character	Residential street with open space to the east.

On-street parking

There are double yellow lines from the carriageway access onto London Road, to the access for Padnell Junior School. There are no parking restrictions along the carriageway from the school to the western end.

3.7 Collision data

3.7.1 Collision data has been obtained for the period 2020 to 2024 for the study area covering the key travelling routes. The number and severity of collisions is shown in Figure 3.8 below.

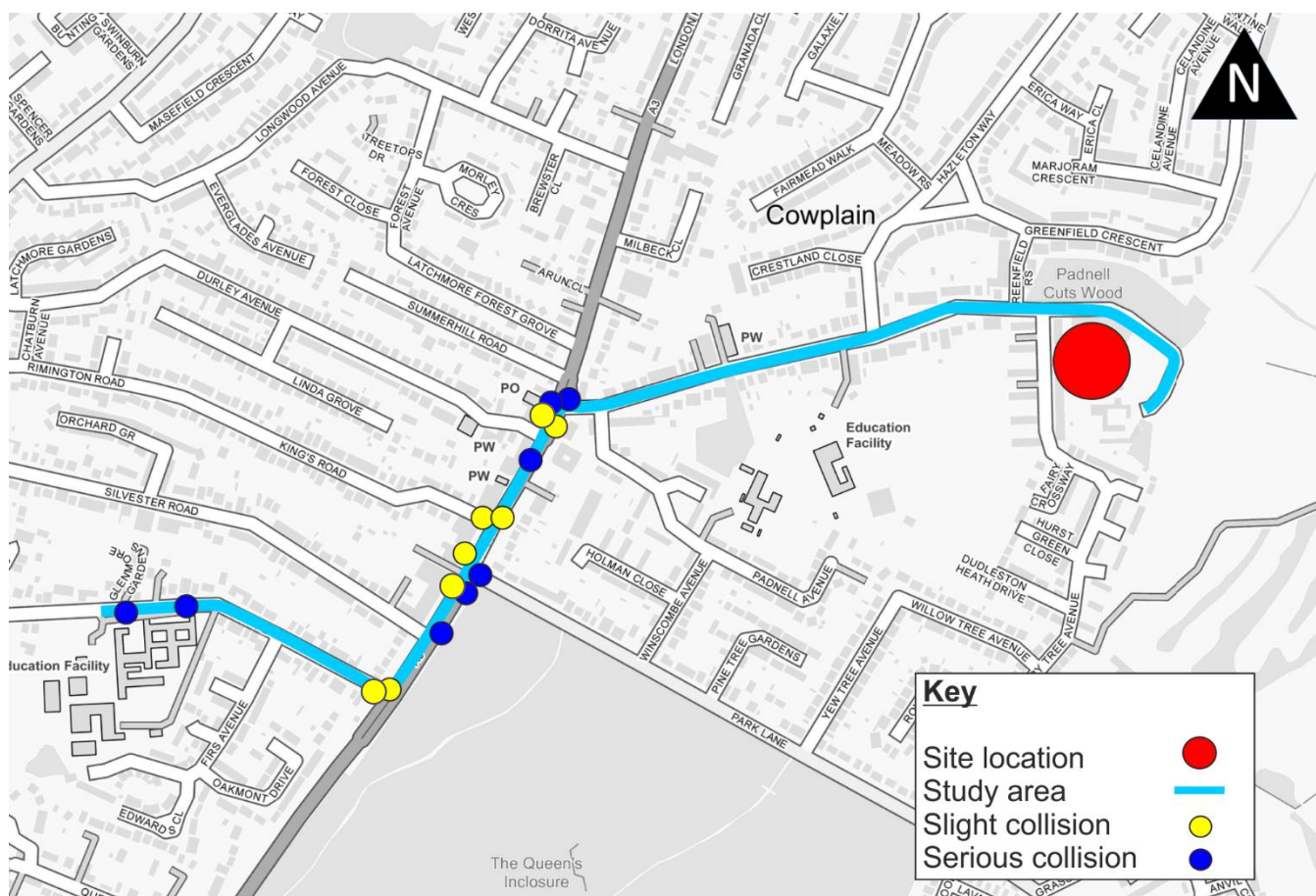


Figure 3.8 Personal injury collision data

3.7.2 It can be seen from Figure 3.8 above eight serious collisions and eight slight collisions occurred in the study area within the last five years (May 2020 to May 2025). No fatal collisions occurred in the study area within the last five years. There have been no collisions resulting in personal injury along Padnell Road or Cherry Tree Avenue in the most recent five years' collision data.

3.7.3 Six of the serious collisions occurred on London Road/A3 and two on Hart Plain Avenue, as described below:

London Road

- Serious collision (8pm 13th January 2024) – resulted in five vehicle occupant casualties (including three children) and no pedestrian casualties. The weather conditions were fine and dry, with street lights present. The collision occurred when a vehicle in the act of turning right struck another vehicle.
- Serious collision (10am 11th January 2024) – resulted in an adult pedestrian casualty. The weather conditions were fine and dry. The collision occurred when a pedestrian was hit when crossing at the pedestrian crossing facility, at the driver's nearside.
- Serious collision (5.42pm 10th June 2024) – resulted in one vehicle occupant casualty.
- Serious collision (10am 15th June 2023) – resulted in one vehicle occupant casualty.
- Serious collision (12.57pm 30th April 2023) – resulted in one motorcycle casualty. The weather conditions were fine and dry. The collision occurred when a vehicle in the act of turning right collided with a motorcycle.
- Serious collision (8:23pm 28th November 2023) – resulted in one vehicle occupant casualty.

Hart Plain Avenue

- Serious collision (8am 10th May 2024) – involving one child pedestrian casualty.
- Serious collision (8am 2nd July 2024) – involving one child cyclist casualty.

3.7.4 The proposed residential development is expected to generate a minimal increase in traffic, equating to approximately 14 two-way vehicle movements during the peak hour along London Road (A3) and a single additional movement along Hart Plain Avenue, passing the secondary school access. When considered in the context of the existing baseline conditions, particularly the high traffic flows already experienced on London Road (A3), this increase represents a very small proportional change in total traffic demand and would not be material in terms of its effect on network operation, driver behaviour, or road safety risk. The A3 is a strategic route designed to accommodate significant traffic volumes, and the marginal increase associated with the development would be well within its operational tolerance, with no meaningful change to vehicle speeds or junction performance expected.

3.7.5 The review of personal injury collision data over the most recent five-year period indicates that there have been eight serious collisions recorded along the key pedestrian routes associated with the development with six along London Road, including one involving a pedestrian and none involving cyclists, and two serious collisions along Hart Plain Avenue in the vicinity of the school access, involving one pedestrian and one cyclist.

- 3.7.6 There is no clustering of collisions along London Road and the collision records do not indicate that a minor increase in vehicular movements of the scale predicted would influence either the frequency or severity of collisions.
- 3.7.7 The negligible increase of a single additional vehicle movement per peak hour along Hart Plain Avenue would not materially affect conditions outside the school, including school-related drop-off and pick-up activity. The development-generated traffic would be imperceptible within this context and would not alter pedestrian-vehicle interactions or crossing opportunities in any meaningful way.
- 3.7.8 In summary, taking into account the scale of development traffic, the function and capacity of the surrounding highway network, and the absence of any collision trends that would be sensitive to such a minor uplift in flows, it is concluded that the proposals would not result in a material or severe impact on highway safety. The development would, therefore, be compliant with relevant planning policy and guidance, which seeks to ensure that residual cumulative impacts on the transport network are not severe.

3.8 Traffic surveys

- 3.8.1 In order to determine the impact of traffic on the surrounding highway network, in particular along Padnell Road and Cherry Tree Avenue, traffic surveys were carried out as follows:
- Automatic Traffic Counters (ATC) were laid along Padnell Road and Cherry Tree Avenue between 5th of February and 14th February 2026 to determine the 85th percentile speed of vehicles travelling along both roads, and the number of vehicle movements both the eastbound and westbound along Padnell Road and northbound and southbound along Cherry Tree Avenue. Refer to Appendix C for the traffic survey results.
- 3.8.2 Tables 3.5 below summarises the 85th percentile speed in which vehicles were travelling along Padnell Road, in the eastbound and westbound directions, and along Cherry Tree Avenue, in the northbound and southbound directions.

Table 3.5 Summary of ATC results - speed

Direction of travel	85 th speed percentile (mph)
Padnell Road	
Eastbound	25
Westbound	27
Cherry Tree Avenue	
Northbound	24
Southbound	26

3.8.3 Table 3.6 below summarises the vehicle movements in both directions of travel along Padnell Road and Cherry Tree Avenue, on the busiest weekday (Thursday 12th February 2026).

Table 3.6 Summary of ATC results – vehicle movements

Direction of travel	AM peak	PM peak	Daily weekday average
Padnell Road			
Eastbound	72	40	563
Westbound	81	50	626
Cherry Tree Avenue			
Northbound	68	39	562
Southbound	83	53	625

4.0 DEVELOPMENT PROPOSALS

4.1 Introduction

4.1.1 As outlined above, this Transport Assessment has been produced in support of a planning application for the development of up to 90 dwellings, split as follows:

- 7 x 1-bedroom flats
- 13 x 2-bedroom flats
- 13 x 2-bedroom houses
- 47 x 3-bedroom houses
- 10 x 4-bedroom houses

4.1.2 As part of the 90 residential dwellings, 27 will be affordable (30%) and 63 will be private (70%). The affordable provision will be secured by s106 agreement.

4.1.3 The proposed development will provide associated car parking and cycle parking in accordance with the adopted Havant County Council Standards. Vehicle parking will be provided as a mix of allocated and unallocated parking, as set out later in this section.

4.1.4 The proposed site layout is illustrated in Figure 4.1 overleaf.



Figure 4.1 Site layout

4.2 Access

Vehicle access

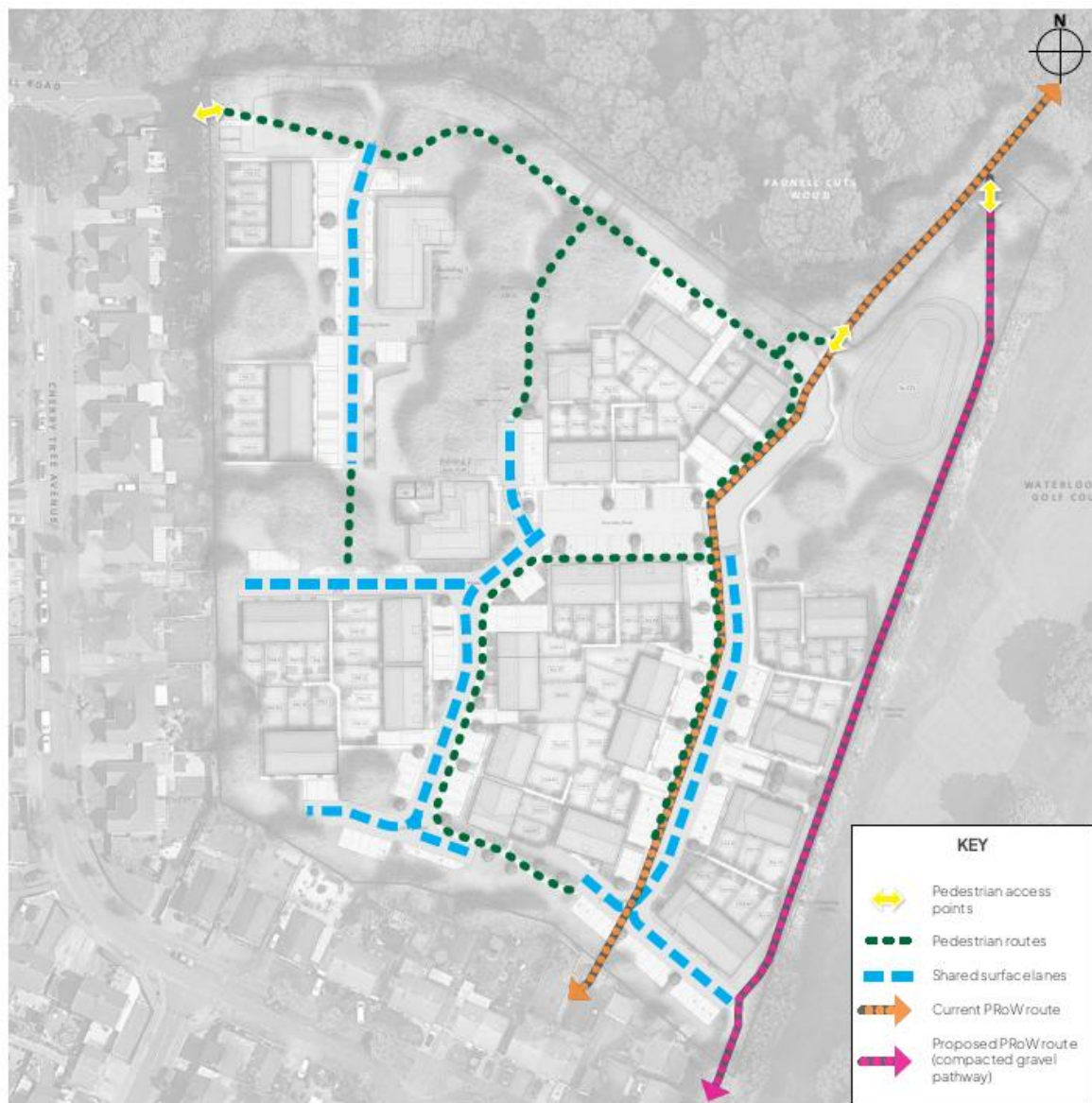
- 4.2.1 The proposed site access is designed as a continuation of Padnell Road, extending into the development in a straight alignment with a carriageway width of approximately 7m at the access. Padnell Road is adopted highway up to the site entrance. Given this alignment and priority, there is no requirement for junction visibility splay, and forward visibility is ample for the existing 85th percentile speeds recorded on Padnell Road as well as the 20mph design speed within the site. The access arrangements together with visibility splays at the access, the Padnell Road/Cherry Tree Avenue junction and from the driveway of 192 Padnell Road are included in Appendix D, together with geometries.
- 4.2.2 Within the site, approximately 17m west of the access, the carriageway narrows to a 1-way working arrangement, giving priority to vehicles leaving the development. This ensures that vehicles entering the development give-way and reduce their speed accordingly. This narrows to a width of 3.7 m, designed to encourage drivers to reduce speed as they move further into the site, without impeding access by large vehicles. Past the narrowing, the carriageway width is 5.5m as required for a secondary street.
- 4.2.3 A footway is provided on the south side of the access to serve the residential development, with no residential accesses on the north side, ensuring safe pedestrian provision and connectivity to the site. The access arrangement provides sufficient width for vehicles, including service and refuse vehicles, while incorporating measures to manage vehicle speeds and maintain a safe environment for all users.
- 4.2.4 Vehicle swept path analysis to demonstrate that large vehicles can manoeuvre at the access is included in Appendix E, with swept path analysis at the junction of Padnell Road/Cherry Tree Avenue.
- 4.2.5 The access has been subject to a Stage 1 Road Safety Audit (refer to Appendix F) and amended to incorporate the findings of the Audit, with the key recommendations summarised below. All recommendations have been accepted with the Designers' response set out below:
- Amend the give way priority to allow exiting vehicles to have priority and undertake swept path analysis to demonstrate that large vehicles can manoeuvre at the 1-way narrowing – the priority system has been amended and analysis has been carried out and the access arrangement is suitable for large vehicles (included in Appendix E).

- Forward visibility is required at the access to ensure that mature trees do not obstruct visibility – forward visibility splays have been checked and the trees do not affect visibility (included in Appendix D).
- Swept path analysis is required to demonstrate that large vehicles can manoeuvre into the route to plots 1-19 – this analysis has been carried out and the access arrangement is suitable for large vehicles (included in Appendix E).
- Parking restrictions be provided at the junction of Padnell Road/Cherry Tree Avenue – the access arrangement have been revised to incorporate this (included in Appendix D).
- Re-lay carriageway on approach to access – this will be addressed in the detailed design.
- Cut back vegetation over-hanging footway – this is the responsibility of the Highway Authority.
- Ensure parking does not obstruct the footway - this is the responsibility of the Highway Authority.

Pedestrian access

4.2.6 As part of the development, it is proposed to provide a network of pedestrian routes within the site and connecting to the surrounding area, as follows (refer to Figure 4.2):

- Pedestrian access to Padnell Road to the north-west with a 1.8m footway along the southern side of the access connecting to the existing footway network, with a realignment of the existing provision to ensure connectivity with the internal layout.
- Connecting to the PRow within the site and to Padnell Cuts Wood to the north.
- Connecting to the footpaths to the south at the Golf Course and passing 134/136 Cherry Tree Avenue.



Proposed pedestrian and cyclist movement plan

Figure 4.2 Pedestrian and cyclist movement

4.3 Internal Layout

4.3.1 Streets fulfil a complex variety of functions to meet living and movement needs and well-designed streets play a crucial role in the delivery of sustainable communities.

- 4.3.2 Policy encourages designers to prioritise walking, cycling, public transport and motor traffic, in that order, in residential developments. The aim is to change the way streets are used; to improve the quality of life in residential areas by making them places for people not just movement and traffic. This seeks to balance the place and movement functions of a development and change the way streets operate to promote quality of life and neighbourliness. A well-designed layout will encourage people to use the whole street, with motorists feeling like a guest and driving accordingly. Generally, residential developments of this size will experience relatively low levels of vehicle movements with approximately 48 movements in each peak hour and approximately 20-30 per off-peak daytime hour. Therefore, it is appropriate to balance the objectives of place, movement, access and parking, avoiding the dominance of the car.
- 4.3.3 In Hampshire, layout and street design for new residential developments is informed by county-specific technical guidance and wider transport principles that seek to prioritise walking, cycling and safety while managing traffic. Hampshire's design approach encourages development layouts that respond to local context, prioritise people over vehicles, and support active travel and place quality. This includes designing streets that are safe, attractive and accessible for all users, in line with Manual for Streets and Healthy Streets principles.
- 4.3.4 The layout, shown in Figure 4.1 above, is designed to promote this by:
- **Street layout and quality** - including shorter, curved and irregular streets to contribute to variety, a sense of place and avoid higher speeds, whilst still providing direct routes and dispersing traffic. The layout balances transport function with quality of environment, ensuring streets are people-friendly and encourage walking and cycling as natural choices.
 - **Permeability** - clear, direct pedestrian and cycle connections are provided through the site to key destinations and existing networks to encourage active travel and reduce reliance on car trips. This provides a choice of routes for pedestrians, which allows safe and easy navigation.
 - **Continuous pedestrian provision** - footways and cycle routes are continuous, well-lit and accessible to serve all potential users and support inclusive movement throughout the development.
 - **Traffic calming** - streets are designed with traffic calming measures and appropriate geometry to maintain low vehicle speeds, improving safety and comfort for vulnerable users. The layout includes horizontal and vertical speed reducing features to encourage motorists to travel at lower traffic speeds and give informal priority to other users within a site-wide design speed of 20mph.

- **Shared surfaces** - providing shared surfaces on the more lightly trafficked streets with the wider needs of residents in mind. A raised kerb gives a message to all users that a driver has priority between the kerbs whereas a shared surface encourages a range of activities to take place in streets.

4.4 Street hierarchy

- 4.4.1 The development is structured around a system that follows principles set out in the Hampshire Highways Technical Guidance Notes. The hierarchy of streets appropriate for the size of development is aimed at creating more people-focused streets, improving pedestrian movement and reducing the dominance of the car. This enables all users to share the space rather than follow the clearly defined rules implied by more conventional designs.
- 4.4.2 The development as a whole is likely to generate approximately 48 vehicle movements in each peak hour. These vehicle movements, other than the access route, will be dispersed across the street network. During the day, hourly flows are likely to be half this, with approximately 20-30 vehicles per hour dispersed across the development.
- 4.4.3 All streets within the development will have a design speed of 20mph and a sense of pedestrian priority is created where traffic flows and speeds are likely to be particularly low. The following street types will be used across the development:
- Secondary
 - Tertiary
 - Parking court
- 4.4.4 Given the low traffic flows and speeds anticipated within the development, the internal streets will provide on carriageway cycle provision. LTN1/20 guidance indicates that lightly trafficked residential streets with speeds below 30mph can safely accommodate cyclists on the carriageway, providing a low-stress environment suitable for all ages and abilities. This approach allows efficient use of space while maintaining safe and convenient cycling connections throughout the site and to external routes.
- 4.4.5 The proposed development layout has been designed to integrate with the existing PRow network, providing direct and convenient connections for pedestrians as follows:
- To the north for cyclists and equestrians - the site will link to Bridleway 108/22/1 through Padnell Cutts Wood, ensuring continuity with the wider off-road network
 - To the south for pedestrians - the internal layout will connect to the informal footpath running adjacent to Waterlooville Golf Course and past 134/136 Cherry Tree Avenue.

4.4.6 These connections will be incorporated with appropriate signage, surfacing and safe connection points from the internal street network, supporting sustainable travel and enhancing accessibility for future residents.

4.4.7 Table 4.1 outlines the key characteristics of each street type.

Table 4.1 Proposed development – street types

Street type	Proposed development
Secondary	Quieter residential streets
	Provides direct access to residential dwellings
	5.5m carriageway for principal street through site
	5m carriageway for more minor secondary route leading to Apartment Building 2
Footway provision on secondary routes	Cycling on-carriageway acceptable
	Design speed 20mph
	1 x 1.8m* footway (on the access street on the northern side of the development as dwellings on one side only)
	3m provision on western side of north-south street reducing to 1.2m at the northern end (on both sides)
Tertiary	1.2m footways on both sides of carriageway on minor secondary route leading to Apartment Building 2
	Serves up to 25 dwellings
	Provides direct access to residential dwellings
	4.8m shared surface
Parking court	Cycling on-carriageway acceptable
	Design speed 20mph
	Serves parking spaces for Apartment Building 2 only
	3.7m shared surface

* As set out in Hampshire TG10 footway width may be reduced to 1.8m or 1.5m in limited circumstances.

4.4.8 These principles help ensure that the layout of the development minimises the traffic impact on the local network, fosters safe and convenient active travel, and aligns with both county highway standards and broader transport planning goals in Hampshire.

4.4.9 It should be noted that due to the tree cover and use of permeable paving the internal streets will not be offered for adoption.

4.5 Parking

4.5.1 In accordance with Havant Parking Supplementary Planning Document (2019), unallocated parking is required as follows:

- 1-bedroom unit – minimum 0.9 spaces
- 2-bedroom unit – minimum 1.3 spaces
- 3-bedroom unit – minimum 1.9 spaces
- 4+ bedroom unit – minimum 2.4 spaces

4.5.2 Allocated parking is required as follows:

- 1-bedroom unit – minimum 1 space
- 2-bedroom unit – minimum 2 spaces
- 3-bedroom unit – minimum 2 spaces
- 4-bedroom unit – minimum 3 spaces

4.5.3 Table 4.2 below sets out the parking provision, with 26 dwellings having allocated parking and 64 having unallocated.

Table 4.2 Car parking provision

Dwelling type	No. of dwellings	No. of spaces		Visitor
		Allocated parking	Unallocated parking	
1-bed unit	7	2	4.5	31
2-bed unit	26	5	29.9	
3-bed unit	47	30	60.8	
4-bed unit	10	12	9.6	
Total provision	90	49	104.8	

4.5.4 The location of unallocated, allocated and visitor spaces on-site, and which dwellings the allocated spaces correspond to is shown in Appendix G.

4.5.5 The total parking provision for the development exceeds the likely demand based on local car ownership patterns. Census data for the area indicates an average of approximately 1.4 cars per household (for all types, tenures and sizes of dwelling), which for a development of 90 dwellings would generate an estimated demand of around 126 parking spaces. The proposed layout provides a total of 153 allocated and unallocated spaces, and an additional 31 visitor spaces. Even excluding the visitor provision, this equates to an average of 1.7 spaces per dwelling, comfortably exceeding the expected demand based on Census car ownership data. This level of provision is, therefore, considered sufficient to meet the parking requirements of the development and to accommodate any occasional overspill, without resulting in on-street parking pressure on surrounding roads.

4.5.6 The overall parking provision for the development has been provided in accordance with the parking standards for all dwelling types.

- 4.5.7 The only exception is that six of the 10 4-bedroom houses are provided with two allocated parking spaces instead of the requirement for three and one of the 2-bedroom affordable flat has one allocated space instead of the required two. Car ownership data within this area indicates that the incidence of households owning three or more vehicles is low, reflecting the established travel patterns and characteristics of the surrounding residents. Car ownership data also indicates that car ownership for affordable homes is 0.78 per dwelling.
- 4.5.8 Furthermore, the development includes unallocated spaces and visitor parking that provide additional capacity to accommodate any occasional overspill. Given the low likelihood of multiple car ownership at these dwellings and the availability of unallocated parking capacity, it is considered that the reduced provision will not lead to parking stress or have a material impact on the surrounding highway network. This approach ensures that the parking layout remains practical, efficient, and aligned with sustainable transport objectives by avoiding over-provision of spaces that could otherwise encourage unnecessary car use.
- 4.5.9 Electric vehicle charging will be provided in accordance with Part S of the Building Regulations.

Cycle parking provision

- 4.5.10 Cycle parking will be provided within the curtilage of each dwelling or in communal storage areas for the apartment blocks, in accordance with the Havant Parking Standards. The parking requirements, in accordance with the adopted standards, are as follows:
- 1-bed unit – 1 space per unit
 - 2+ bed unit – 2 spaces per unit
- 4.5.11 An additional 20% of the long-term cycle parking standards must be provided as short-stay cycle parking.
- 4.5.12 In accordance with Havant Parking Standards, a total of 173 long-stay cycle parking spaces will be provided within the curtilage of individual dwellings and in communal stores for the apartment buildings (with an internal store for Apartment Building 1 with 19 spaces and an ancillary building for Apartment Building 2 with 14 spaces). Additional short-stay visitor parking will be provided in front of Apartment Buildings 1 and 2.

4.6 Delivery and servicing

Refuse

- 4.6.1 Residential refuse will be collected on-street (from within the development), with residents placing their refuse kerbside on the allotted collection day. The internal road layout has been designed to accommodate the swept path of a large 11.2m refuse vehicle.

- 4.6.2 Refuse collection points will be provided within the recommended walk distance for both residents and refuse operatives. The maximum distance that residents will have to carry refuse to a bin store is no more than 30m. Collection points are accessible for collection and within a distance of 30m for refuse operatives, in accordance with Havant Borough Council's Supplementary Planning Document 2011.

Fire access

- 4.6.3 Fire access to the development will be gained via the proposed access onto Padnell Road and a 7.7m fire tender will be able to manoeuvre through the site safely and access each property.

Servicing and deliveries

- 4.6.4 Deliveries will be undertaken from the internal street network, which incorporates turning heads to enable larger vehicles to enter/exit the site in a forward gear.
- 4.6.5 It is anticipated that the maximum size of vehicle that would be reasonably expected to deliver to any residential dwelling will be a 10m rigid vehicle. However, in practice, it is more likely that the maximum size of vehicle will be an 8m rigid vehicle, with transit sized vehicles being much more commonly used. Refer to Section 5 for anticipated number of delivery trips.
- 4.6.6 Vehicle swept path analysis for large vehicles manoeuvring around the layout is included in Appendix H.

5.0 TRAVEL CHARACTERISTICS

5.1 Introduction

5.1.1 In order to assess the impact of the proposed development of 90 residential dwellings on the existing transport network surrounding the site, it is necessary to estimate the number of person trips that are likely to be generated by the proposed development. The development will provide 30% affordable housing, secured via a s106 agreement.

5.1.2 The Highway Authority has requested that trip generation for the development is based on private housing rates only, despite the scheme comprising 30% affordable dwellings, which are typically associated with lower car ownership and reduced trip generation. This approach has been adopted within the assessment and is considered to represent a robust, worst-case scenario. As a result, the forecast traffic impacts are likely to be overstated, and in practice the actual level of trip generation, and, therefore, the impact on the surrounding highway network, is expected to be lower than that presented below.

5.2 Trip generation –private housing

5.2.1 The TRICS (v.8.25.11) trip generation database has been reviewed to predict the likely level of trips generated by the proposed development. Sites were selected on the basis of the following criteria:

- Land use: Residential; private housing
- Survey type: Multi-modal
- Survey days: Monday to Friday
- Size of selected sites: 50-200 dwellings
- Type of location: Edge of town, suburban area
- Locations: All locations apart from Ireland and London.

5.2.2 Ten sites have been selected, and the average AM, PM and daily trips generated by the proposed development of 90 dwellings is summarised in Table 5.1 below, and presented in full in Appendix I.

Table 5.1 Trip generation: Private housing (90 dwellings)

Time period	Arrival trip rate	No. of arrivals	Departure trip rate	No. of departures	Total trip rate	Total movements
Total						
8am-9am	0.207	19	0.825	74	1.032	93
5pm-6pm	0.622	56	0.277	25	0.899	81
7am-7pm	3.850	347	3.875	349	7.725	695
Pedestrians						
8am-9am	0.048	4	0.156	14	0.204	18
5pm-6pm	0.073	7	0.061	5	0.134	12
7am-7pm	0.673	61	0.716	64	1.389	125
Cyclists						
8am-9am	0.001	0	0.014	1	0.015	1
5pm-6pm	0.007	1	0.001	0	0.008	1
7am-7pm	0.046	4	0.045	4	0.091	8
Public transport users						
8am-9am	0.001	0	0.062	6	0.063	6
5pm-6pm	0.041	4	0.002	0	0.043	4
7am-7pm	0.163	15	0.177	16	0.340	31
Vehicles						
8am-9am	0.133	12	0.384	35	0.517	47
5pm-6pm	0.371	33	0.164	15	0.535	48
7am-7pm	2.202	198	2.169	195	4.371	393

5.3 Potential impact

- 5.3.1 Walking and car trips are likely to be the most popular modes of travel, with walking representing 18% of daily trips and vehicles representing 57% of daily trips.

Walking

- 5.3.2 As outlined above, the proposed development is likely to generate up to 18 pedestrian movements (two-way) in the AM peak and 12 in the PM peak. In addition, it is estimated that six public transport trips in the AM peak and four in the PM peak will be generated, with residents accessing public transport by walking. This increase in pedestrian trips can be accommodated on the existing pedestrian network with the majority of trips heading west along Padnell Road to the schools, health centre, London Road local centre or Waterlooville and for leisure purposes.

Cycling

- 5.3.3 From Table 5.1 above, it is estimated that the proposed development could generate up to eight cycle movements throughout the day. It is likely that any cycling trips will be spread across a number of local routes, largely heading north to the town centre. This increase in cycling trips can be accommodated on the existing cycling network.

Public transport

- 5.3.4 As set out above, the proposed development could generate up to six public transport movements in the AM peak and four in the PM peak with the majority heading to local bus stops along Padnell Road and London Road. Based on the volume of trips identified above, it is considered that the proposed development will have a minimal impact on the existing public transport services, and that the proposed development can be accommodated within the existing public transport services without impacting service capacity.

Vehicles

- 5.3.5 It can be seen from the table above that the proposed development could generate up to 393 vehicle movements (two-way) throughout the day, with up to 47 vehicle movements in the AM peak and 48 vehicle movements in the PM peak. These vehicle trips include all residents, visitors and deliveries by vehicle to the development. The assignment and distribution of these vehicle trips is considered in Section 5.4 below and the impact on the surrounding highway network has been assessed, and set out in Section 6.

Servicing trip generation

- 5.3.6 Delivery vehicles are included within the predicted vehicle movements, set out in Table 5.1. The likely number of deliveries is based on a survey undertaken at a residential development in high density urban area of more than 300 dwellings (in July 2020). The surveys were undertaken during a period when restrictions in relation to Covid-19 were still in place, with the number of deliveries likely to be higher than usual. This corresponded with increased proportion of people either working from home or being furloughed, and when the shops and restaurants were not fully open, therefore, resulting in higher number of food and other deliveries.
- 5.3.7 The survey included deliveries (by LGVs, HGVs, motorbikes and cars) as well as maintenance and servicing vehicles. The data shows that 85% of deliveries were undertaken by LGV vehicles (small vans less than 3.5t) and 15% by OGV and HGV vehicles (3.5t or more). The busiest time for deliveries was between 10am and 3pm and after 7pm, which is outside the AM and PM peak hours. The survey results are set out in Table 5.2 below.

Table 5.2 Predicted delivery trips for the development

Time period	Total trip rate	Total no. of trips per day
LGVs		
8am-9am	0.000	0
5pm-6pm	0.003	0
7am-10pm	0.0737	7
OGVs		

8am-9am	0.000	0
5pm-6pm	0.003	0
7am-10pm	0.017	2
Motorbikes		
8am-9am	0.000	0
5pm-6pm	0.000	0
7am-10pm	0.007	1
Cars		
8am-9am	0.000	0
5pm-6pm	0.000	0
7am-10pm	0.01	1
Total		
8am-9am	0.000	0
5pm-6pm	0.006	1
7am-10pm	0.1077	10

5.3.8 It can be seen that the proposed development could generate approximately 10 deliveries per day (20 vehicle movements) with the majority being by cars or small vans. It is anticipated that deliveries will be undertaken on-street, from the internal site layout.

5.4 Assignment and distribution of development generated trips

Non-car trips

5.4.1 The assignment and distribution of non-car trips is illustrated in Figure 5.1 and has been informed by a combination of National Travel Survey data (in relation to journey purpose), Census data (for commuting patterns), and professional judgement. The distribution identifies trips by mode (walking, cycling and public transport), alongside likely destinations and purposes for both the AM and PM peak periods. The following assumptions have been applied:

- walking trips in the AM peak are assumed to comprise approximately 50% education trips, 25% commuting trips and 25% leisure trips, with destinations assigned accordingly
- walking trips in the PM peak are assumed to be more evenly distributed, comprising approximately 25% commuting, 25% education, 25% leisure and 25% shopping trips
- public transport trips during both peak periods are assumed to be primarily commuting-related, reflecting typical peak hour travel patterns
- cycling trips in the peak periods are assumed to be predominantly for commuting purposes, with destinations focused on nearby town centres and the nearest railway station.

5.4.2 These assumptions are considered to provide a reasonable and proportionate basis for distributing non-car trips from the site in the absence of site-specific survey data.

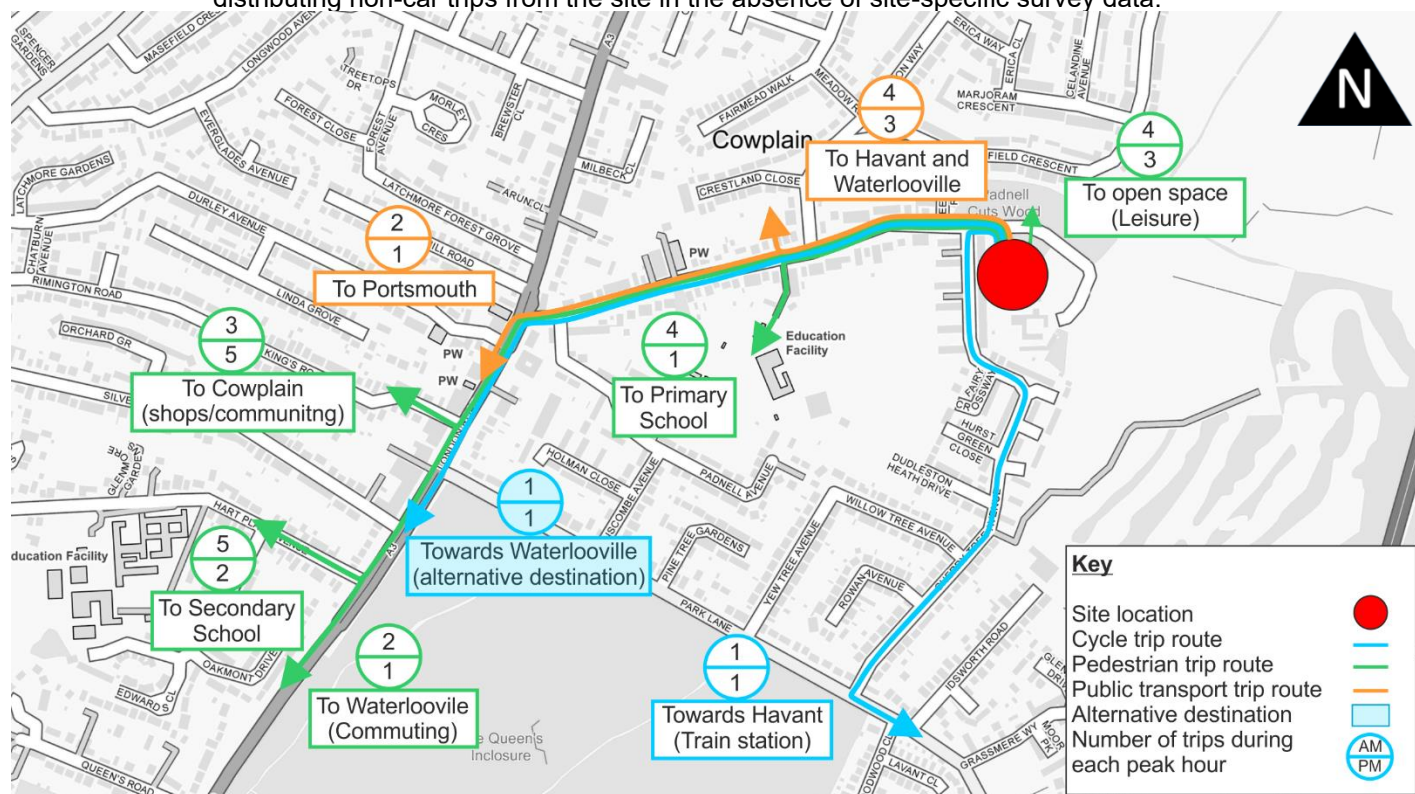


Figure 5.1 Distribution and assignment of non-car trips during the peak hours

Vehicle trips

5.4.3 The distribution of development generated traffic has been based on the Journey to Work Statistics from the 2011 Census for Havant 020 Middle Super Output Areas (MSOA). The distribution and assignment were agreed with the Highway Authority as part of the pre-application consultation.

5.4.4 As stated in Chapter 3 above, the Office for National Statistics (ONS) has issued a warning that care should be taken when interpreting the 2021 Census data results, as the Census was undertaken during the Covid-19 pandemic, when a large proportion of the population worked from home and people were discouraged from using public transport. Therefore, for the purpose of this analysis, it is considered that the 2011 Census provides the most robust data available.

5.4.5 The most popular destinations for commuting to work by car (as driver) are as follows:

- Havant – 38%
- Portsmouth – 27%
- East Hampshire – 12%
- Fareham – 7%

- Winchester – 6%
- Chichester – 4%
- Eastleigh – 2%
- Gosport – 1%
- Basingstoke and Deane – 1%
- Southampton – 1%
- Arun and Waverly – 1%

5.4.6 Each destination has then been assigned a route, based on Google Maps and the most direct and appropriate direction of travel. The distribution of development generated traffic flows during the AM and PM peak period is presented in full in Appendix J and summarised in Figure 5.2 and Table 5.3 below.

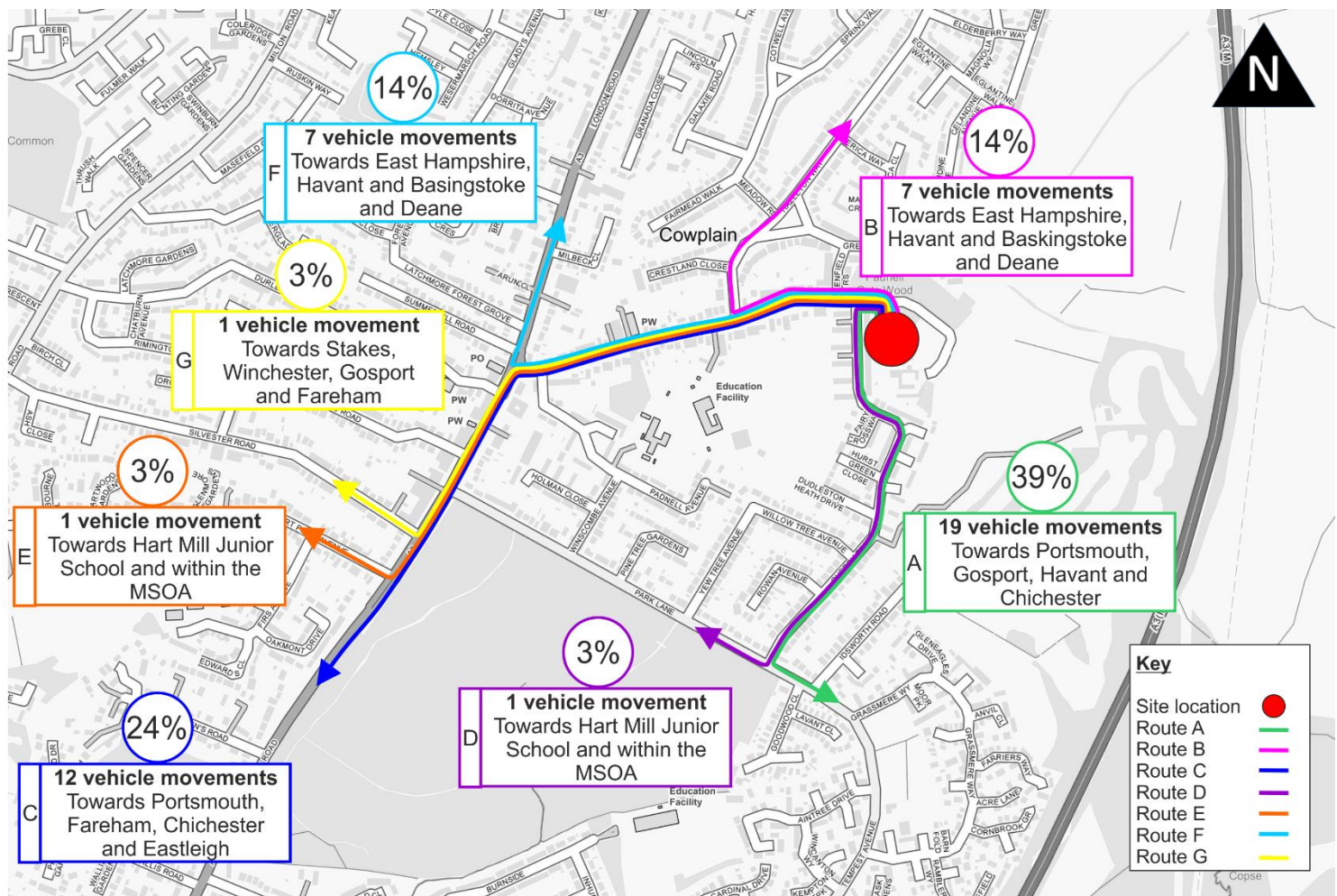


Figure 5.2 Distribution and assignment of car trips during the peak hours

Table 5.3 Vehicle destinations and routes

Destination	% of traffic	Route
Portsmouth, Gosport, Havant and Chichester	39	A – South along Cherry Tree Ave and along Tempest Ave
Anchorage Park, East Hampshire, Havant and Basingstoke and Deane	14	B – North along Hazleton Way
Portsmouth, Fareham, Solent Business Park, Chichester, Stakes, Gosport and Eastleigh	24	C – West along Padnell Rd and then south along London Rd
Within the MSOA and to Hart Plain Junior School	3	D – South along Cherry Tree Ave and then west along Park Lane
Within the MSOA and to Hart Plain Junior School	3	E – South along London Rd and then west along Hart Plain Ave
Anchorage Park, East Hampshire, Havant and Basingstoke and Deane	14	F – West along Padnell Rd and then north along London Rd
Southwick Estate Solar Park, Solent Business Park, Stakes, Gosport, Arun and Eastleigh	3	G – West along Padnell Rd and then west along Silvester Rd

5.4.7 For the purpose of this assessment, it is assumed that all trips generated by the development in the peak periods are journey to work trips. However, it is likely that some trips in the peak periods will be for other purposes, including education, shopping and leisure and these trips are likely to be more local.

6.0 IMPACT OF DEVELOPMENT GENERATED TRAFFIC

6.1 Introduction

- 6.1.1 The proposed development is forecast to generate approximately 47 two-way vehicle movements in the AM peak hour, and 48 vehicle movements in the PM peak hour. Traffic associated with the development is expected to distribute along Padnell Road and Cherry Tree Avenue, resulting in flows dispersing across the local highway network.

6.2 Impact on Padnell Road

- 6.2.1 The proposed development is forecast to generate approximately 28 two-way vehicle movements along Padnell Road during the peak hours. Of these, it is anticipated that approximately 21 vehicles will travel east towards London Road, with the remaining seven vehicles turning north at Hazleton Way.
- 6.2.2 Existing traffic flows on Padnell Road are relatively low, with background peak hour traffic in the order of approximately 100-150 vehicles. While the development traffic, therefore, represents a discernible proportional increase, in absolute terms the increase equates to approximately one additional vehicle movement every three minutes west of Hazleton Way and fewer than one every two minutes east of Hazleton Way. As such, the overall change in traffic conditions along the route would be modest and unlikely to materially alter the character or operation of the road.
- 6.2.3 Padnell Road is a local residential street with a carriageway width of approximately 6.5m, which is sufficient to accommodate two-way traffic movements. The route also benefits from footways on both sides of the carriageway and operates within a residential environment where traffic speeds are relatively low. Recorded 85th percentile speeds of approximately 25mph eastbound and 27mph westbound indicate that vehicles already travel at speeds consistent with the residential character of the road and forward visibility for these speeds is comfortably achievable along the route.

6.2.4 Unrestricted on-street parking is permitted along sections of Padnell Road, with some limited school drop-off and pick-up parking time restrictions along sections near the school. Parking on-street currently takes place; however, observations indicate that on-street parking demand is low, with minimal on-street parking west of Hazleton Way and moderate on-street immediately to the east of Hazleton Way and around the junction with Cherry Tree Avenue. There are significant gaps in parking provision along the street and including at junctions and dropped kerbs, which assist with maintaining passing opportunities for opposing vehicles, where required. Overall, this does not result in a high degree of parking stress across the entire street, although there is a localised demand for parking at the eastern end. The additional traffic associated with the development would, therefore, be readily accommodated within the available carriageway width and existing road environment.

6.2.5 The road also accommodates a local bus service, demonstrating that the carriageway is capable of accommodating occasional larger vehicles within the existing layout. However, the majority of traffic using Padnell Road is typical residential traffic, predominantly consisting of private cars rather than large commercial vehicles. The additional development traffic would, therefore, be consistent with the existing vehicle composition and use of the road.

6.3 Impact on Cherry Tree Avenue

6.3.1 The proposed development is forecast to generate approximately 20 two-way vehicle movements along Cherry Tree Avenue during the peak hours. Existing traffic flows on the road are relatively low, with background peak hour flows of approximately 100-150 vehicles. While the development traffic represents a proportionate increase relative to existing flows, in absolute terms this equates to only a small number of additional vehicles over the peak hour, with an additional vehicle movement every three minutes, resulting in minimal impact on the operational performance of the road.

6.3.2 Cherry Tree Avenue is a residential street with a carriageway width of approximately 6m, sufficient to accommodate two-way traffic. Recorded 85th percentile speeds are approximately 24mph northbound and 26mph southbound, consistent with the residential character of the road. Forward visibility around the two bends along the route is adequate for these speeds, and parking restrictions have been implemented around both bends to maintain safety and ensure vehicles can pass freely.

6.3.3 On-street parking occurs primarily along the northern section of the road, approximately 130m south of the junction with Padnell Road, although along the street it is generally moderate. Parking demand is low along the remainder of the carriageway, including around the bends, allowing for safe passing and maintaining carriageway capacity. The road also benefits from footways on both sides, providing safe pedestrian provision. Traffic along Cherry Tree Avenue is predominantly residential in nature, consisting mainly of private cars rather than larger vehicles, and the additional development traffic would be of a similar composition.

6.4 Impact on junction of Padnell Road/Cherry Tree Avenue

6.4.1 The Padnell Road/Cherry Tree Avenue junction currently experiences constrained vehicle manoeuvring due to on-street parking on all approaches, which was highlighted at the public consultation and referred to by the Highway Authority as a concern. Vehicles emerging from Padnell Road often need to position themselves partially on the opposing side of the carriageway to turn into Cherry Tree Avenue, potentially conflicting with vehicles overtaking parked cars on Cherry Tree Avenue. While no personal injury collisions have been recorded, likely due to low traffic speeds, the situation represents an existing operational constraint. The proposed development is expected to generate a modest increase in traffic of around 48 vehicles during peak hours and introduce an effective additional movement arm at the junction, given the current low use of Padnell Grange by vehicles.

6.4.2 To address this and improve safety, formal parking restrictions are proposed around the junction, in line with the Highway Code requirement to prohibit parking at and within 10m of junctions. Site observations indicate that typically eight vehicles currently park within this area, which could accommodate up to 14 cars. Introducing restrictions will alleviate the existing parking-related constraint, improve visibility and manoeuvring for all users and ensure safe and suitable access to the site.

6.4.3 While these parked vehicles will be displaced, site observations show sufficient alternative parking capacity within 200m, particularly along Padnell Road, meaning the measures both mitigate the current safety concern and support the operational requirements of the new development.

6.4.4 Appendix D shows the proposed parking restrictions at this junction, together with vehicle swept path manoeuvring and visibility splays, which can be easily achieved over highway land.

- 6.4.5 As requested by the Highway Authority, junction capacity analysis has been carried out at this junction. Base traffic flows are based on the traffic surveys conducted along Padnell Road. Future traffic flows have been calculated by adding traffic growth, as set out below, and development generated traffic. Refer to Appendix K for the traffic flow diagrams.
- 6.4.6 In order to obtain the future traffic flows (i.e. with no development traffic) in 2031, the surveyed traffic flows (2026) have been factored using locally adjusted National Transport Model (NTM) growth factors. The following growth factors were used, which are based on TEMPro version 7.2 middle supper output area, are summarised in Table 6.1 below.

Table 6.1 TEMPro: 7.2

Growth years		Growth factors	
From	To	AM Peak	PM Peak
2026	2031	1.0248	1.0252

- 6.4.7 It should be noted that the above growth factors include committed development within the local area, as the factors are based on the most recent planning data contained in the Local Plan.
- 6.4.8 The Highway Authority recommended that the impact of three committed developments be considered (Land at Cowplain School, Land South of Five Heads Road and East of Catherington Lane and Land North of Chalk Hill Road). Given the location of these developments relative to the site and the local highway network, it is considered that only a negligible proportion of traffic associated with these developments would route through this junction. As such, future year traffic flows at this location are appropriately represented through the application of background growth only, together with the addition of development-generated traffic.

Junction capacity analysis

- 6.4.9 The operation of the proposed access has been assessed for both the AM and PM peak periods, using the TRL program Junctions 9 PICADY. The results of the analysis are summarised in Table 6.2 below with the ratio of flow to capacity (RFC) and queue in passenger car units (PCU). It is presented in full in Appendix L.

Table 6.2 Capacity analysis of Padnell Rd/Cherry Tree Avenue junction (2031)

	Base + development			
	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Padnell Road (w)	0	0	0	0
Padnell Road (e)	0.14	<1	0.08	<1
Cherry Tree Avenue	0.15	<1	0.11	<1

6.4.10 It can be seen from the table above that the priority junction has sufficient capacity to accommodate the proposed development with a maximum RFC of 0.15 and a queue of less than one vehicle in the AM and PM peak periods.

6.5 Impact on wider highway network

6.5.1 On this basis of the above traffic flows, the number of development-related vehicles passing through any individual junction on the wider surrounding highway network will be below 30 vehicles in each peak hour. This level of additional traffic is generally considered to be below the threshold at which detailed junction capacity modelling would typically be required, as the increase in traffic would not materially affect the operational performance of a junction. It should be noted that the Highway Authority has requested that trip generation be based on private dwellings only rather than a mixed private/affordable rate, even though the scheme includes 30% affordable housing. This provides a robust, likely worst-case scenario, meaning that in practice the impact on these junctions will be even lower.

6.5.2 In particular, the signalised junction of Padnell Road/London Road and the priority junction of Cherry Tree Avenue/Park Lane would experience the following number of additional vehicle movements in each peak hour:

- Padnell Road/London Road – 21 vehicles
- Cherry Tree Avenue/Park Lane - 20 vehicles

6.5.3 The scale of the forecast increase would represent a negligible change in traffic flows relative to existing background traffic levels and is, therefore, unlikely to result in any discernible change in junction capacity, delay or queueing.

6.5.4 Accordingly, given the modest scale of the development traffic and its distribution across the network, it is considered proportionate that detailed junction capacity modelling has not been undertaken as part of this Transport Assessment.

6.5.5 The site is allocated for approximately 84 dwellings, and the proposed development of 90 dwellings represents only a marginal increase. In transport terms, this difference is minimal and would not result in a material change in trip generation or traffic impact. The additional six dwellings would generate only a small number of extra vehicle movements, which would be imperceptible in the context of existing background flows and would not alter the conclusions of the Transport Assessment in respect of highway capacity, operation or safety.

6.6 Summary of impact

6.6.1 Taking these factors together, although the development traffic represents a proportionate increase relative to the low existing flows on Padnell Road and Cherry Tree Avenue, the absolute increase in vehicle movements will be modest and well within the capacity of the existing highway. Consequently, the additional traffic would be readily accommodated without materially affecting safety, capacity, or the character of these streets. As a result, the impact of the proposed development on the operation and character of the surrounding highway network, including Padnell Road, Cherry Tree Avenue and junctions on the wider highway network is expected to be low.

6.7 Mitigation measures

6.7.1 On-site mitigation measures, including provision of cycle parking, EV charging for car parking, pedestrian routes and connections to the surrounding pedestrian network, and reduced car dominance through shared surfaces will be included as part of the proposed development to enhance sustainable travel opportunities from the site.

6.7.2 In addition, it is proposed to introduce parking restrictions in the form of double yellow lines at and within 10 metres of the Padnell Road/Cherry Tree Avenue junction. These measures are intended to reinforce the requirements of the Highway Code, ensuring that parking is restricted in the vicinity of the junction to maintain adequate visibility, improve turning movements, and support the safe and efficient operation of the existing highway network as well as accommodating the additional traffic flow associated with the development.

7.0 SUMMARY AND CONCLUSION

- 7.1.1 The proposed development at Padnell Grange comprises 90 dwellings within the built-up area of Waterlooville. The site is located in a sustainable location with good access to local services, schools, and public transport, in line with national, regional, and local policy objectives for reducing reliance on private car travel and promoting sustainable modes.

7.2 Sustainability of site's location

- 7.2.1 The site at Padnell Grange is in a sustainable location within Waterlooville, providing easy access to a range of local services, shops, schools, and employment opportunities. It is well served by existing public transport, with bus routes along Padnell Road and nearby London Road, enabling convenient connections to the wider area without reliance on the private vehicles. Pedestrian and cycle links are available to surrounding residential areas and local facilities, supporting active travel for everyday journeys. The location also benefits from proximity to existing community infrastructure and the local highway network, allowing safe and direct access while minimising travel distances. Overall, the site's position ensures that future residents can meet many of their daily needs sustainably, consistent with national, county, and borough policies promoting reduced car dependency and greater use of walking, cycling, and public transport.

7.3 Access

- 7.3.1 The site can be accessed by all modes directly from Padnell Road via a new access designed in a straight alignment, providing safe and suitable access for all vehicles, including service and refuse vehicles. Forward visibility along the access is ample for the recorded speeds on Padnell Road and the 20mph design speed within the site. Immediately inside the access, a short one-way narrowing prioritises exiting vehicles, to encourage reduced speeds. A footway is provided on the south side to serve the residential development.

7.4 Internal layout

- 7.4.1 The internal layout of the development has been designed in accordance with Hampshire County Council and Havant Borough Council guidance, providing safe, legible streets with appropriate pedestrian and cycle connectivity throughout the site. The layout also provides adequate access for refuse, emergency, and service vehicles in accordance with Building Regulations and Hampshire guidance.

7.5 Parking provision

7.5.1 Parking has been provided with 153 allocated and unallocated spaces and 31 visitor spaces, exceeding the expected demand based on local census data, which indicates an average car ownership of 1.4 per household. The minor shortfall of one parking space for six of the 10 4-bedroom dwellings and one 2-bedroom affordable flat is considered acceptable, as unallocated and visitor spaces provide additional capacity, and local evidence indicates low incidence of households owning three or more cars and car ownership for affordable homes is below 1 car per dwelling.

7.5.2 The development layout includes secure and convenient cycle parking for all dwellings, further encouraging cycling as a practical mode of travel.

7.6 Travel characteristics

7.6.1 The key destinations for pedestrians are likely to be within Cowplain and Waterloo to the town centre, public transport, education and health, and for leisure purposes.

7.6.2 Traffic generated by the development is forecast to be low, with approximately 48 additional vehicle movements during each peak hour. Distribution along Padnell Road and Cherry Tree Avenue is such that no junction on the wider network is expected to experience an increase above 30 vehicles per hour. Existing carriageway widths, low background traffic flows, forward visibility, and modest speeds mean that the additional traffic would have a negligible impact on safety or capacity.

7.6.3 The site is allocated for approximately 84 dwellings, and the proposed development of 90 dwellings represents only a marginal increase. In transport terms, this difference is minimal and would not result in a material change in trip generation or traffic impact. The additional six dwellings would generate only a small number of extra vehicle movements, which would be imperceptible in the context of existing background flows and would not alter the conclusions of the Transport Assessment in respect of highway capacity, operation or safety.

7.7 Policy context

7.7.1 The proposed residential development at Padnell Grange is guided by national, county, and local planning policies that promote sustainable transport, safe access, and appropriate parking provision. At the national level, the National Planning Policy Framework (2021) emphasises the need for developments to prioritise sustainable travel, ensure safe and suitable access for all users, and avoid significant congestion on the surrounding highway network. Paragraphs 110 to 112 specifically encourage development to promote walking, cycling, and public transport, while paragraph 111 advises that a transport assessment should be undertaken where developments are likely to have a significant transport impact. Guidance from the Department for Transport, including Local Transport Note 1/20 (Cycle Infrastructure Design), provides best practice for cycle parking provision, accessibility, and integration with residential developments.

7.7.2 The development is consistent with the objectives of national policy, Hampshire Local Transport Plan policies, and Havant Borough Local Plan policies CS16, CS17 and CS20 and DM11, DM12 and DM13. It promotes sustainable travel, provides safe and suitable access, mitigates traffic impacts, and ensures that adequate parking and servicing arrangements are provided. The site layout and design are considered to support walking, cycling, and public transport use for all users, while accommodating vehicle access safely and efficiently, demonstrating compliance with relevant transport policies and guidance.

7.7.3 In conclusion, it is considered that the proposed development is compliant with national, regional and local policy. It is considered that it will not have a significant impact on the transport network and can be accommodated within the existing transport network. National Planning Policy Framework states in Paragraph 116 that:

'Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe taking into account all reasonable future scenarios.'

7.7.4 It is considered that the proposed development does not have an unacceptable impact on the surrounding transport network, and the residual cumulative impacts can be accommodated and are not severe.

