A Development Proposal by

Heaver Homes Ltd

In respect of

Land between the A27 and the West Coastway Railway Line, Broadbridge

Transport Appraisal Technical Note

February 2019

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1 INTRODUCTION

1.1 Transport Planning Associates (TPA) has been commissioned by Heaver Homes Limited ("The Promoter") on behalf of the Heaver family ("The Landowners"), to prepare a Transport Appraisal for Land between the A27 and the West Coastway Railway Line in Broadbridge, North Bosham, referred to hereafter as 'the Site'.

1.2 The Transport Appraisal provides a review of local transport matters and considers a range of transport infrastructure measures required to deliver a large scale residential led mixed use development proposal, to support the future allocation of the site.

1.3 This report has been prepared for the joint benefit of King & Co, Heaver Homes Limited and the Heaver family and the contents should not be relied upon by others without the express written authority of TPA. If any unauthorised third party makes use of this report they do so at their own risk and TPA owe them no duty of care or skill.

1.4 The Site is currently Greenfield agricultural land and it is bounded to the north by the A27, to the east by agricultural land to the west of Fishbourne, to the south by the West Coastway Railway Line and the northern village boundary of Broadbridge / North Bosham and to the west by Newells Lane. The Site is bisected by Ratham Lane (B2146), with Mudberry Farm and associated farm buildings located on the western parcel and various isolated farm buildings on the eastern parcel.

1.5 The indicative development proposal considers the delivery of up to 3,000 homes, including affordable housing; local centre food and non-food retail uses, B8 employment uses, a 2 form entry primary school, open space; new site wide infrastructure works, including associated works to the highway; accesses and associated infrastructure.

1.6 This Technical Note provides an overview of the transport planning policies which are relevant to the Site, it examines existing levels of accessibility of the Site by all modes of transport and identifies the proposed means of access. A forecast of vehicular trips which could reasonably be expected to be generated by the development is provided and has been used to provide an initial assessment of potential highway impact.

Report Structure

1.7 The remainder of this report is structured as follows:

- Chapter 2: *Planning Policy*;
- Chapter 3: *Existing Situation*;
- Chapter 4: *Development Proposal*;
- Chapter 5: *Trip Generation & Traffic Distribution*; and
- Chapter 6: *Conclusions.*

2 PLANNING POLICY

2.1 This section of the Transport Assessment sets out the national and local planning policies that are considered relevant to the proposed development insofar that they concern transport matters.

National Planning Policy Framework (2018)

2.2 The National Planning Policy Framework (NPPF) sets out the Government's policy which informs local authorities and developers regarding future development.

2.3 The NPPF sets out sustainability as one of its core principles:

> ***"Plans and decisions should apply a presumption in favour of sustainable development.***
>
> ***For plan-making this means that:***
>
> ***a) plans should positively seek opportunities to meet the development needs of their area, and be sufficiently flexible to adapt to rapid change;***
>
> ***b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas[5] , unless:***
>
> ***i. the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area[6] ; or***
>
> ***ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.***
>
> ***For decision-taking this means:***
>
> ***c) approving development proposals that accord with an up-to-date development plan without delay; or***
>
> d) ***where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date[7] , granting permission unless:***
>
> i. ***the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed[6] ; or***

ii. ***any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole."*** (Paragraph 11)

2.4 When referring to the need for supporting information in relation to transport, the NPPF states:

> ***"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:***
>
> ***a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;***
>
> ***b) safe and suitable access to the site can be achieved for all users; and***
>
> ***c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*** (Paragraph 108)

2.5 Specifically, within paragraph 109, the NPPF states in the context of decision making that:

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

2.6 The NPPF outlines that local authorities should seek to provide infrastructure necessary to support sustainable economic growth. In respect of planning decisions, key considerations are ensuring that opportunities for travel by sustainable modes are taken up, safe and suitable access to the site can be achieved and measures to cater for the residual impacts can be undertaken, in order to limit the significant impacts of development.

2.7 In order to assist in achieving this, developments should seek to accommodate efficient delivery of goods and supplies, give priority to non-car modes of transport, create layouts which minimise conflict between traffic and cyclists or pedestrians, incorporate facilities for ultra-low emission vehicles and consider the needs of disabled people.

Planning Practice Guidance (Updated 2015)

2.8 The Planning Practice Guide (PPG) gives further information on how national policy is to be interpreted and applied locally and underlines the support for sustainable development required by the NPPF.

2.9 In relation to transport matters, PPG provides guidance to developers and local planning authorities on Travel Plans, Transport Assessments and Statements in decision taking. The guidance states that key issues to consider at the start of preparing a Transport Assessment may include:

- the planning context of the development proposal;
- appropriate study parameters (i.e. area, scope and duration of study);
- assessment of public transport capacity, walking/ cycling capacity and road network capacity;
- road trip generation and trip distribution methodologies and/ or assumptions about the development proposal;
- measures to promote sustainable travel;
- safety implications of development; and
- mitigation measures (where applicable) – including scope and implementation strategy.

2.10 The PPG also provides information regarding the importance of transport implications of development proposals and the decision making.

Circular 02/2013 'The Strategic Road Network and the Delivery of Sustainable Development

2.11 Local planning authorities should refer to the Department for Transport's Circular which gives details on how Highways England will fulfil its remit to be a delivery partner for sustainable economic growth whilst maintaining, managing and operating a safe and efficient strategic road network.

2.12 The Circular states that development proposals are likely to be acceptable if:

> ***"they can be accommodated within the existing capacity of a section (link or junction) of the strategic road network, or they do not increase demand for use of a section that is already operating at over-capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed."*** (Paragraph 9)

Chichester District Council Local Plan: Key Policies 2014-2029

2.13 Chichester District Council Local Plan: Key Policies sets out a policy framework and a long-term strategy to manage development, protect the environment, deliver infrastructure and promote sustainable communities within the district.

2.14 Policy 7 relates to the masterplanning of strategic developments and in transport terms includes the following transport related aspirations for Masterplans:

6 Reduce the need for car use and encourage sustainable modes of travel, including provision for public transport, cycle routes, footpaths and bridleways;
7 Create a network of permeable and interconnected streets and public spaces; and
8 Include measures to mitigate the impacts of the proposed development on the strategic and local road network.

2.15 Policy 8 relates to transport and accessibility and states:

> ***"The Council will work with West Sussex County Council, other transport and service providers and developers to improve accessibility to key services and facilities and to provide an improved and better integrated transport network.***
>
> ***This will include:***
>
> - ***Ensuring that new development is well located and designed to minimise the need for travel, encourages the use of sustainable modes of travel as an alternative to the private car, and provides or contributes towards necessary transport infrastructure, including through travel plans;***
> - ***Working with relevant providers to improve accessibility to key services and facilities and to ensure that new facilities are readily accessible by sustainable modes of travel; and***
> - ***Planning to achieve timely delivery of transport infrastructure needed to support new housing, employment and other development identified in this Plan.***
>
> ***Integrated transport measures will be developed to mitigate the impact of planned development on the highways network, promote more sustainable travel patterns and encourage increased use of sustainable modes of travel, such as public transport, cycling and walking. This will include:***
>
> - ***A coordinated package of improvements to junctions on the A27 Chichester Bypass, that will increase road capacity, reduce traffic congestion, improve safety, and improve access to Chichester city from surrounding areas;***
> - ***Targeted investment to improve local transport infrastructure, focusing on delivery of improved and better integrated bus and train services, and improved pedestrian and cycling networks; and***
> - ***Measures to promote behavioural change in travel choices, such as easy-to-use journey planning tools, skills training and promotional activities. Travel plans will be developed as a means of coordinating these measures.***
>
> ***Funding from the Community Infrastructure Levy (CIL) will be used to help deliver these transport measures, supplemented by other available sources where available. New development may also be required to deliver or contribute towards specific transport improvements directly related to the development (see Policy 7).***
>
> ***Planned transport measures will involve consultation with all interested parties, including local residents and businesses."***

West Sussex Local Transport Plan 2011-26 (LPT3)

2.16 The West Sussex Transport Plan 2011-26 (LTP3) sets the strategy for guiding future investment in highways and transport infrastructure. It also sets a framework for considering transport infrastructure requirements associated with future development across the county.

2.17 The Plan includes four strategies that guide the approach to maintaining, managing and investing in transport and for meeting main objective of improving the quality of life for West Sussex residents:

- ***promoting economic growth;***
- ***tackling climate change;***
- ***providing access to services, employment and housing; and***
- ***improving safety, security and health.***

2.18 The first part of the document sets out the council's vision and long-term strategy and part two sets out the implementation plan with key issues and aims for improvements to the transport network across West Sussex.

2.19 Of particular relevance to the development proposal are a number of items within the implementation plan for the district of Chichester, which are:

- ***All new development should be designed to promote 'local living', which encourages sustainable travel behaviour by locating shops, jobs and homes close together.***
- ***All new development should provide secure cycle parking to meet the needs of the development and be within close proximity to public transport.***
- ***Parking provision at new residential development should provide enough spaces to accommodate the expected number of vehicles at the site or provide measures such as car clubs which reduce the number of vehicles to match the space available.***
- ***Safeguard against new development overloading the highway network. Making the best use of the existing road network and improving the way in which the network is managed to reduce current levels of congestion, for example through the use and introduction of intelligent transport systems and encouraging more use of public transport.***
- ***Working with our rail partners to investigate ways that will reduce the delays caused by level crossings.***

Local Parking Guidance

2.20 West Sussex County Council and Chichester District Council both provide advice and guidance on local parking standards and development related requirements. This includes a downloadable parking calculator from West Sussex that can be used to determine the quantum and mix of parking spaces required for new developments.

2.21 As details of the Site Masterplan evolve the calculator would be used to ascertain the parking requires across the development proposal.

3 EXISTING SITUATION

3.1 This section of the Technical Note identifies the Site in the context of existing opportunities for pedestrians, cyclists and passenger transport users and outlines the local services and facilities available in the vicinity of the Site. It also describes the strategic and local highway network in the vicinity of the Site

The Site

3.2 The Site is approximately 159 hectares in size and is located to the north of the village of Bosham and is currently Greenfield agricultural land.

3.3 The Site is bounded to the north by the A27, to the east by agricultural land to the west of Fishbourne, to the south by the West Coastway Railway Line and the northern village boundary of Broadbridge / North Bosham and to the west by Newells Lane.

3.4 The Site is bisected by Ratham Lane (B2146), with Mudberry Farm and associated farm buildings located on the western parcel and various isolated farm buildings on the eastern parcel.

3.5 A site location plan is presented in **Appendix A**.

Pedestrian Access

3.6 Despite the large scale nature of the site pedestrian access is currently very limited due to the rural nature of the roads around the site, which are not supported by footways and severance caused by the West Coastway Railway Line.

3.7 Pedestrian access within the North Bosham and Broadbridge area is of a higher standard with pedestrian footways providing links between local services, the Bosham Railway Station and residential areas.

Public Rights of Way

3.8 There is a Bridleway that crosses the eastern part of the Site. The Bridleway starts at the end of Brooks Lane with a non-vehicular level crossing of the West Coastway Railway Line before heading north-northeast along a farm track to the southern edge of the A27, at which point it has an east-west alignment along a farm track to Ratham Lane (B2146).

3.9 Current protection measures for the level crossing consist of signage to warn pedestrians and whistle boards provided on the rail approach in one direction and train horn audible warnings between 07:00 to 23:00.

Cycle Access

3.10 Direct cycle access to the site is limited to using the network of quiet local roads and tracks that border and cross the Site.

3.11 To the south of the site the A259 benefits from a section of shared-use footway / cycleway, which forms an off-carriageway section of the Dover to St Austell National Cycle Route 2.

3.12 The National Cycle Route extends east through the centre of Bosham and continues to provide a link toward the centre of Chichester, with both on-carriageway and off-carriageway sections. The off-carriageway section of the route extends west the junction of Main Road with Drift Lane, where it moves on to the carriageway and provides access toward Havant.

Public Transport

Bus

3.13 There are two existing bus services, Service 56 and Service 700, which serve the north Bosham and Broadbridge area with bus stops located within an acceptable walking distance of the southern area of the site.

3.14 A summary of these bus services together with an indication of the main frequency of services through the day is presented in Table 3.1.

Table 3.1 Summary of Local Bus Services

Service No.	Route	Main frequency		
		Monday – Friday	**Saturday**	**Sunday**
56	Bosham - Chichester	Every 90 minutes	Every 90 minutes	No service
700	Portsmouth – Havant – Chichester – Bognor Regis – Flansham Park	20 to 30 minute frequency	3 per hour	2 per hour

3.15 As can be seen from Table 3.1, the local area benefits from regular bus services throughout the week.

Rail

3.16 Bosham Railway Station is located centrally to the Site. The station forms part of the West Coastway Railway Line and is operated by Southern Railway.

3.17 Bosham Railway Station provides access between Portsmouth and Southsea and Littlehampton railway stations. Services to Portsmouth and Southsea operate hourly, with journey times of 31 minutes, calling at stations such as Emsworth, Havant and Fratton. Services to Littlehampton also operate hourly, with journey times of 24 minutes, calling at stations such as Barham and Chichester.

3.18 The West Coast Railway Line is also used for freight trains, which brings the total number of trains using the line to over 200 per day.

Local Facilities

3.19 The village of Bosham has a number of key local facilities and services, with a wider range of services provided within Chichester.

3.20 Table 3.2 summarises a number of local services and facilities within Bosham and where they are located.

Table 3.2 Summary of Local Services and Facilities

Local Service	Location
Bosham Holy Trinity Church	The Vicarage, Bosham Lane, Bosham. PO18 8HX
Bosham Railway Station	Ratham Lane, Bosham. PO18 8AF
Bosham Post Office	Delling Lane, Bosham. PO18 8NN
Bosham Primary School	School Lane, Bosham. PO18 8NY
Co-operative Food	4 Station Road, Bosham. PO18 8NG
Co-operative Bosham	Delling Lane, Bosham. PO18 8NN
The Bosham Surgery	Broadbridge Business Centre, Delling Lane, Bosham. PO18 8NF
The White Swan PH	Station Rd, Bosham. PO18 8NG

3.21 As demonstrated in Table 3.2, a range of local facilities and services are available within Bosham.

Local Travel Patterns

3.22 To understand the travel patterns of existing residents within Bosham, travel to work data from the 2011 Census has been obtained. Data from output layer E02006560: Chichester

009 was used to identify the modal share characteristics for journeys to work from the local area. Data has also been obtained for England to enable a comparison of local travel characteristics with national travel characteristics.

3.23 A summary of the modal share results for each output area is presented in Table 3.3.

Table 3.3 Travel Patterns Based on 2011 Census Data

Method of travel to work	Output area	
	Bosham	**England**
Bus, minibus or coach	1.8%	7.9%
Driving a car or van	64.0%	60.2%
Passenger in a car or van	4.0%	5.3%
Bicycle	6.3%	3.1%
On foot	16.4%	11.3%
Other	7.5% (5.9% by Train)	12.2%

3.24 The results presented in Table 3.3 show that journeys by car represent the highest percentage of journeys to work from within the local area. Journeys on foot account for a significant percentage of journeys, indicating employment opportunities are provided locally. Journeys by other modes represent more marginal proportions.

3.25 In comparison with the travel characteristics for England, a greater proportion of residents drive to work, which is assumed to be due to the semi-rural nature of the area. It is also important to note that journeys on foot and by bicycle are above the nation average.

3.26 Census data has also been obtained to establish car ownership levels for households within Bosham, the Chichester district and England, as presented in Table 3.4.

Table 3.4 Car ownership based on 2011 Census data

Car ownership per household	Output Area		
	Bosham	Chichester	England
No cars or vans	11%	16%	26%
1 car or van	44%	42%	42%
2 car or vans	34%	31%	25%
3 cars or vans	8%	8%	5%
4 or more cars or vans	3%	3%	2%

3.27 The results presented above show that a high proportion of households in the area own at least one vehicle, which is consistent with regional levels and higher than national figures. The percentage of households who do not own a vehicle is less than half of the national figure.

Highway Network

Strategic

3.28 The A27 Trunk Road forms the northern boundary of the site. The A27 forms part of the strategic highway network under the control of Highways England and runs from near Salisbury in Wiltshire to near Eastbourne in East Sussex, passing through Hampshire and West Sussex.

3.29 Locally the road runs east from Portsmouth to Havant and then on to Warblington, Emsworth and Chichester and is generally of dual carriageway standard. East of Warblington the road has no junctions until Chichester.

3.30 A proposed major improvement scheme for the A27 around Chichester has been proposed but these improvement works are currently on hold.

Local

3.31 The two principle roads of the local highway network are the A259 and the B2146. The A259 is a south coast road that passes through Hampshire, West Sussex, East Sussex and Kent, whilst the B2146 runs from the A259 in Bosham to Petersfield via a number of local villages.

3.32 Locally the A259 runs east from Havant and Emsworth via Bosham to Chichester. The road, which bisects Bosham from north Bosham and Broadbridge provides a key route to local destinations as well as an alternative route to the A27.

3.33 The junction of the A259 and the B2146 is a six-arm roundabout that in addition to these primary roads also provides access to other areas of Bosham and Broadbridge.

3.34 The B2146 has a level crossing just north of Bosham and with over 200 trains using the track each day there are frequent level crossing closures. The current crossing protection arrangements consist of half barrier equipment, road traffic light signals, an audible alarm and signage.

Existing Traffic Flows

3.35 To understand the operational character of the highway network in the vicinity of the Site, traffic count data for the A27, the A259 and the B2146 has been found from publically available sources. Table 3.5 presents the local traffic flow information.

Table 3.5 Traffic Flow Information

Road	Year & Location	Daily Flow
A27	2017 – LA Boundary (477500:107107)	53,739 (5.3% HGV)
A259	2017 - Broad Road (479500:105300)	11,646 (1.5% HGV)
B2146	2015 - Bosham Level Crossing	2,052

3.36 Site observations of the A259 and B2146 roundabout are that the roundabout suffers peak period congestion and queuing problems, which are not helped by elements of the roundabout not being design standard compliant. Further network capacity problems are also reported at the Bosham Level crossing during peak periods.

Local Accident Data

3.37 Information on road traffic collisions which have occurred in the vicinity of the site has been obtained from CrashMap. The collision information obtained from CrashMap is presented within **Appendix B**.

3.38 Within the wider area of the site 50 accidents have occurred over the most recently available 5 year period, including 1 fatal accident on the A27. Given the extent of the accident study area and the time period involved the levels of accidents does not suggest a significant accident problem.

3.39 The largest concentration of accidents is at the A259 and B2146 roundabout where there has been 4 (1 serious and 3 slight) accidents in the period under review.

4 DEVELOPMENT PROPOSAL

4.1 This section of the Transport Appraisal sets out the key principles of the development proposal.

Development Proposal

4.2 The indicative development proposal considers the delivery of up to 3,000 homes, including affordable housing; local centre food and non-food retail uses, B8 employment uses, a 2 form entry primary school, open space; new site wide infrastructure works, including associated works to the highway; accesses and associated infrastructure.

4.3 The indicative Masterplan for the development proposal is presented in **Appendix C**.

4.4 The scale of the development proposal and the associated level of trips by all modes of travel will be significant and warrant a significant level of new infrastructure to ensure the site is not only accessible by all modes of travel but also that the existing infrastructure is not adversely affected to a significant level, which is in keeping with national and local planning policy.

4.5 Details of expected levels of trips is provided in Chapter 5, with the remainder of this chapter providing details of the expected level of localised infrastructure improvements necessary to ensure a policy compliant development proposal, from a transport perspective.

Vehicular Access

4.6 A new link road through the western part of the site is proposed with new junctions formed to the A27, the A259 and the B2146. A key feature of this new road will be a bridge crossing of the West Coastway Railway Line.

4.7 Access to the eastern part of the site is proposed via a new link between the B2146 and Clay Lane, which is west of Fishbourne and provides a link between the B2146 and Fishbourne.

4.8 The junction with the A259 is proposed to be an at-grade roundabout whilst the suggested junction with the A27 and the B2146 is proposed to form part of a new grade separated junction.

4.9 The main spine roads through both parts of the site are expected to be 6.5m wide carriageways with design features to control vehicles speeds whilst still accommodating public transport services.

4.10 The delivery of a new grade separated crossing of the West Coastway Railway Line will create the opportunity to close the existing Bosham Level Crossing, with the closure of as many level crossings as possible being an aspiration of Network Rail.

4.11 The main access junctions will be designed with reference to national guidance contained within the Design Manual for Roads and Bridges (DMRB) and the internal road network will be designed in accordance with recommendations set out in the Manual for Streets, which is in accordance with highway authority requirements for such matters.

4.12 Drawings detailing the proposed access arrangements for the Site are provided in **Appendix D**.

Pedestrian and Cycle Access

4.13 To support journeys by foot and cycle a network of pedestrian and cycle infrastructure is expected to form part of the detailed development proposal. This provision is expected to start with a 2m footway to one side of the main spine roads and 3m shared footway / cycleway to the other side of the main spine roads.

4.14 Secondary and tertiary roads across the Site are expected to be supported by 2m footways and a network of on- and off-carriageway cycle routes, providing links to existing infrastructure away from the site and key local services.

Public Transport

4.15 The design of the spine road to be of a sufficient width will also be supported by bus stops being conveniently located along the road to allow the potential diversion of existing services and the provision of new services routes that include stops through the Site.

4.16 The close proximity of Bosham Railway Station to the Site will be utilised with well-defined routes and any necessary infrastructure improvements, ie cycle parking facilities.

5 TRIP GENERATION & TRAFFIC DISTRIBUTION

Traffic Generation

5.1 This chapter of the report outlines the forecast trip generation that may be generated by the proposed site.

5.2 The TRICS database has been interrogated under lane use code 03 – Residential, sub-category A – Houses privately owned, to derive vehicle trip rates for a number of sites.

5.3 The following selection criteria has been applied:

- Vehicle surveys;
- Sites located in Greater London and Ireland omitted;
- Weekday surveys only; and
- Sites with dwelling numbers between 400 and 4000.

5.4 The TRICS output report is contained in **Appendix E**.

5.5 Table 5.1 presents the TRICS trip rates during the morning and evening peak hour periods and across the 12 hour period of 07:00-19:00. The trip rates have been multiplied by the maximum of 3000 dwellings that may be developed on the site.

Table 5.1 TRICS vehicle trip rate and forecast trip generation

	Morning peak (0800-0900)		**Evening peak (1700-1800)**		**12 hour (0700-1900)**	
	Arrive	**Depart**	**Arrive**	**Depart**	**Arrive**	**Depart**
TRICS trip rate per dwelling	0.129	0.423	0.327	0.165	2.285	2.404
Total vehicle trips	387	1,269	981	495	6,855	7,212

5.6 The results presented in Table 5.1 indicate that 1,656 two-way vehicle trips are anticipated during the morning peak and it is likely that 1,476 two-way vehicle trips will occur during the evening peak hour. Across the 12 hour period, a total of 14,067 two-way vehicle trips are likely to occur.

5.7 The trip rate calculated in Table 5.1 are considered to represent the total trips that may be generated by the proposed site, including the non-residential land uses. The likelihood is that given the non-residential land uses provided on site, a high proportion of trips will be linked between land uses and therefore will not occur by private car.

Trip Distribution

5.8 In order to provide an initial indication of the likely residential vehicular trip distribution, workplace origin and destination data from the 2011 Census has been used. This data incorporates the location of usual residence and place of work by method of travel.

5.9 To provide a proxy by which to assess the distribution of future residential trips, the 'Chichester 007' super output area has been used. This area includes the site and a number of nearby villages to the north.

5.10 Journeys for car drivers from this output area to all local authority districts have been assessed. In addition, journeys to the Chichester local authority district has been disseminated into smaller output areas to identify local workplace destinations in more detail.

5.11 A summary of the distribution of vehicle trips to the main local authority districts is presented in Table 5.2.

Table 5.2 Distribution of Journey to Work Trips from Census – Chichester 007

Destination	Total Drivers	Distribution
Chichester	849	43.6%
Havant	318	16.3%
Portsmouth	266	13.7%
East Hampshire	100	5.1%
Arun	91	4.7%
Fareham	59	3.0%
Other	265	13.6%

5.12 The results indicate that Chichester (43.6%) accounts for the greatest percentage of journeys to work from the 'Chichester 007' output area. The Havant district accounts for a

significant proportion of trips (16.3%), whilst a smaller percentage travel to Portsmouth (13.7%) and East Hampshire (5.1%).

5.13 The likely vehicular routes from the application site to each district and smaller local output areas have been assigned to assess the likely distribution of trips across the highway network. A summary of the route assignment analysis is presented in Table 5.3, whilst further detail on the assessment is provided in **Appendix F**.

5.14 Trips to surrounding areas have been distributed via the A27 and the A259, with 70% of westbound traffic and 80% of eastbound traffic distributed along the A27.

Table 5.3 Distribution of Trips across Main Routes

Main Routes	Distribution	Daily Two-Way Trips
A27 Eastbound	25.7%	3,615
A27 Westbound	39.3%	5,528
A259 Eastbound	10.2%	1,435
A259 Westbound	13.8%	1,941
B2146 Northbound	11.0%	1,547

5.15 The data presented in Table 5.3 indicates that the majority of journeys from the application site will be routed via the A27 westbound. This mainly accounts for those travelling to Havant and Portsmouth areas.

Highway Impact

5.16 With consideration of the predicted daily traffic flows presented in Table 6.2 against background traffic information, as presented in Table 3.5, it is predicted that the existing highway infrastructure has sufficient residual capacity to accommodate the additional traffic flows without any significant adverse impact.

6 CONCLUSIONS

6.1 Transport Planning Associates (TPA) has been commissioned by Heaver Homes Limited ("The Promoter") on behalf of the Heaver family ("The Landowners"), to prepare a Transport Appraisal for Land between the A27 and the West Coastway Railway Line in Broadbridge, North Bosham.

6.2 The Site is currently Greenfield agricultural land and it is bounded to the north by the A27, to the east by agricultural land to the west of Fishbourne, to the south by the West Coastway Railway Line and the northern village boundary of North Bosham / Broadbridge and to the west by Newells Lane. The Site is bisected by Ratham Lane (B2146), with Mudberry Farm and associated farm buildings located on the western parcel and various isolated farm buildings on the eastern parcel.

6.3 The indicative development proposal considers the delivery of up to 3,000 homes, including affordable housing; local centre food and non-food retail uses, B8 employment uses, a 2 form entry primary school, open space; new site wide infrastructure works, including associated works to the highway; accesses and associated infrastructure.

6.4 A review of national and regional planning policy for transport matters has been undertaken and the development proposal is considered to be policy compliant, in so far as transport matters are concerned and with the package of proposed transport infrastructure measures being considered.

6.5 An audit has been carried out of existing levels of accessibility at the site by all modes of transport and concludes that there is a reasonable access to a range of services and facilities within appropriate walking or cycling distance from the site.

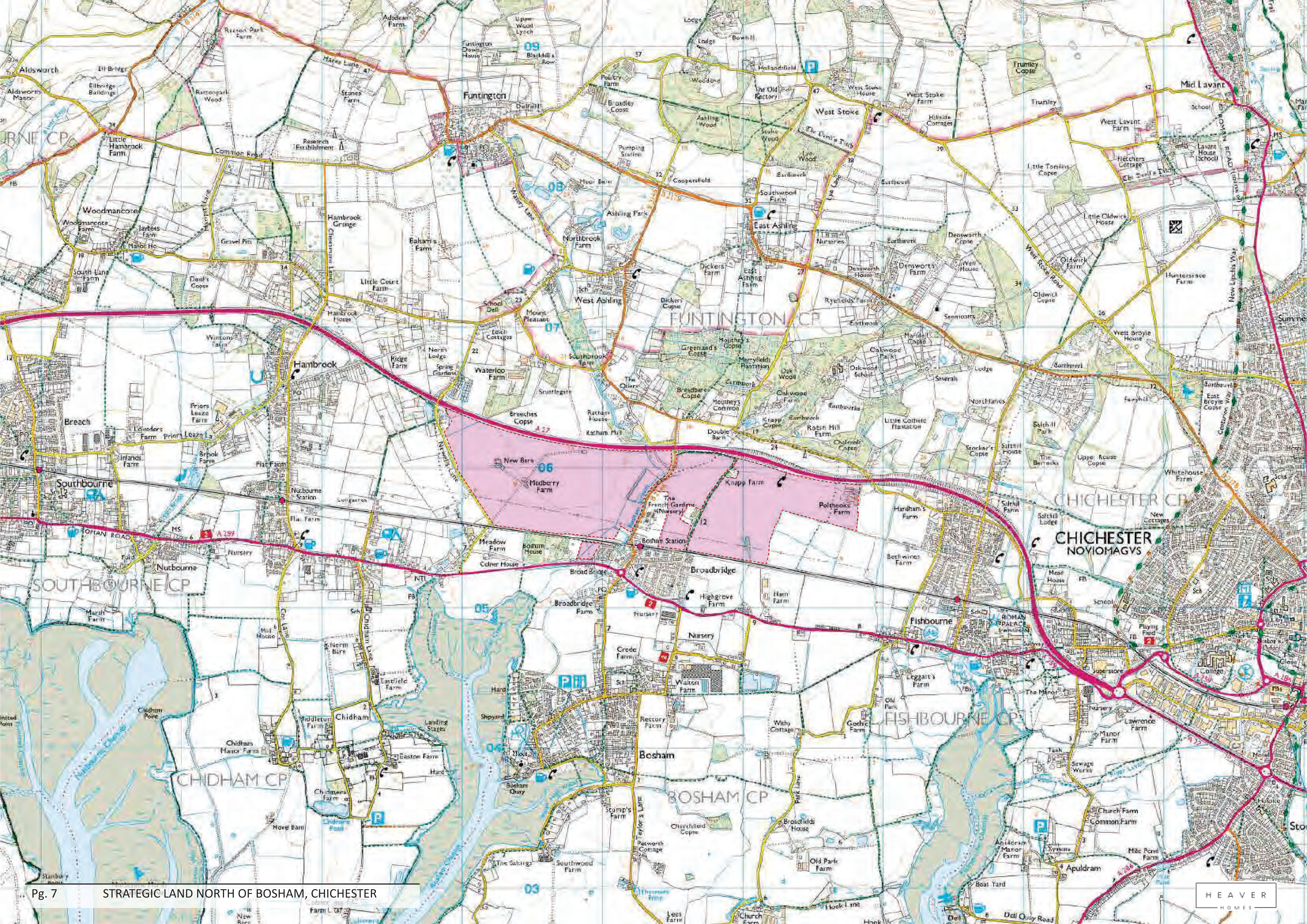
6.6 A new spine road will provided access between the site and both the strategic ad local highway network, with all roads and junctions being designed with reference to appropriate design guidance.

6.7 A site wide package of transport infrastructure will be delivered as part of the development proposal to ensure the site is highly accessible by a range of transport modes.

6.8 An estimate of the quantum of vehicular trips that may be associated with the proposed development has been made and it has been determined that the development will have a negligible impact on the operation of the surrounding network.

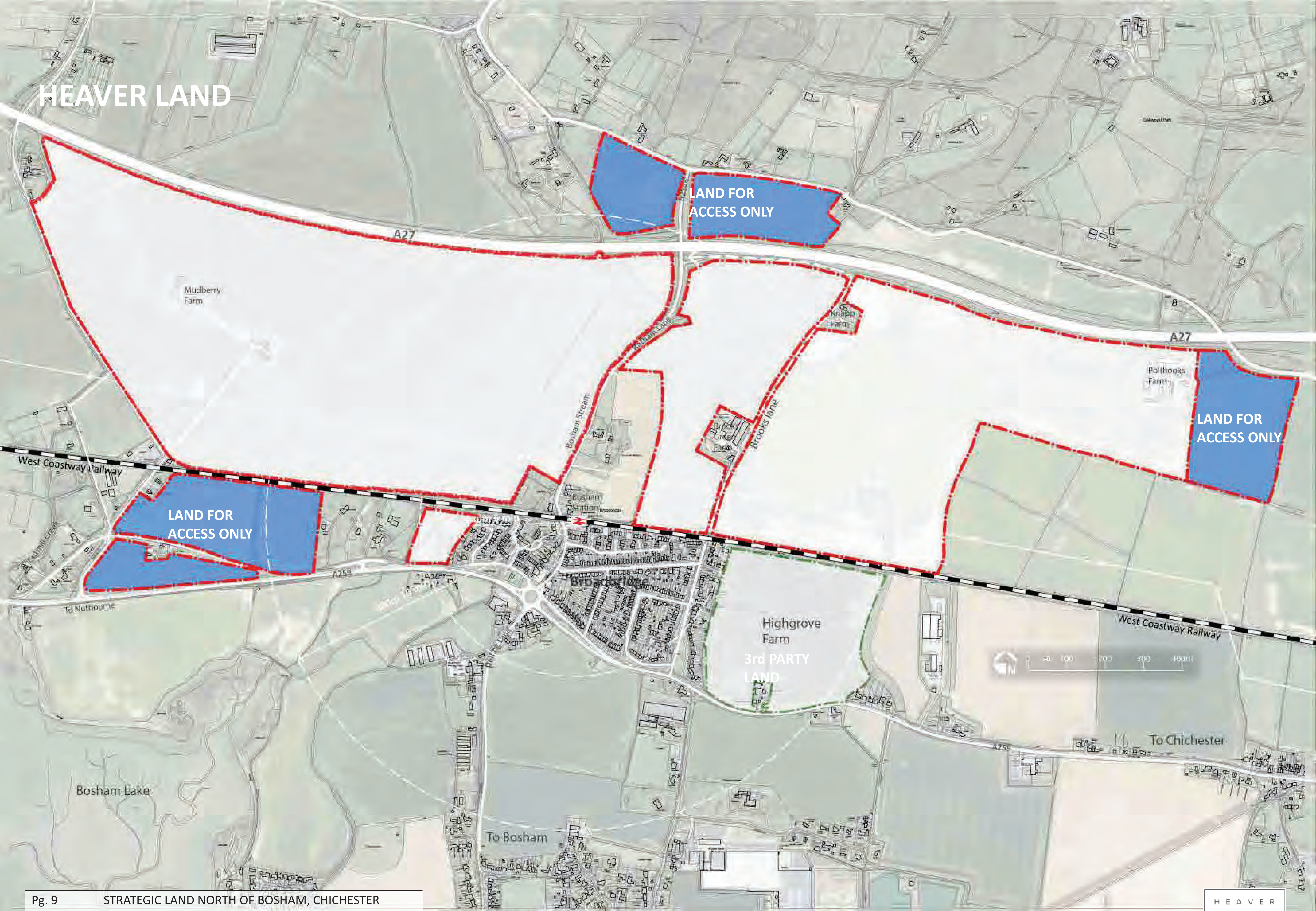
6.9 It is concluded that there are no reasons on highways or transport grounds to refuse planning permission for development at this location.

APPENDIX A



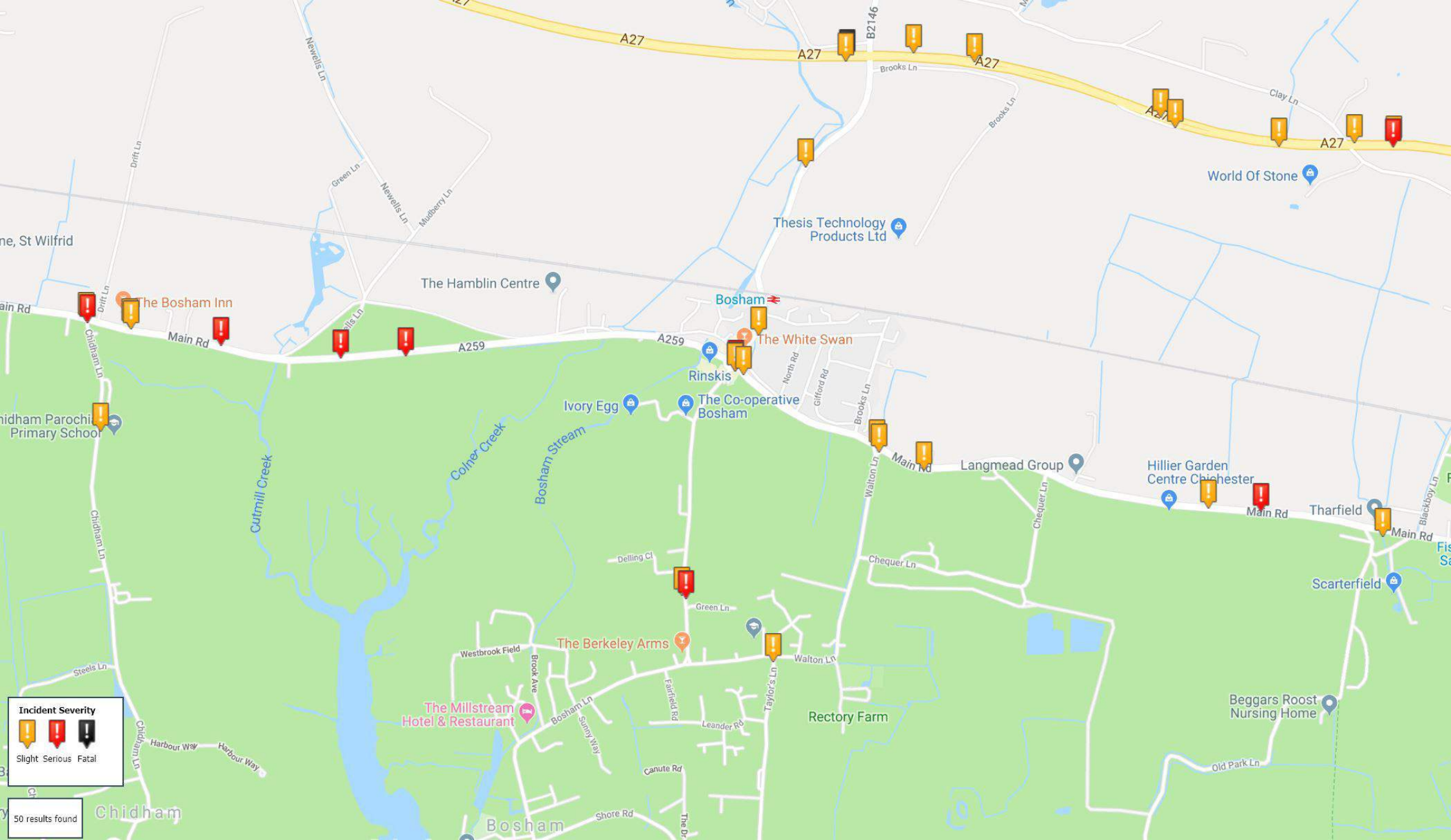
HEAVER HOMES

HEAVER LAND

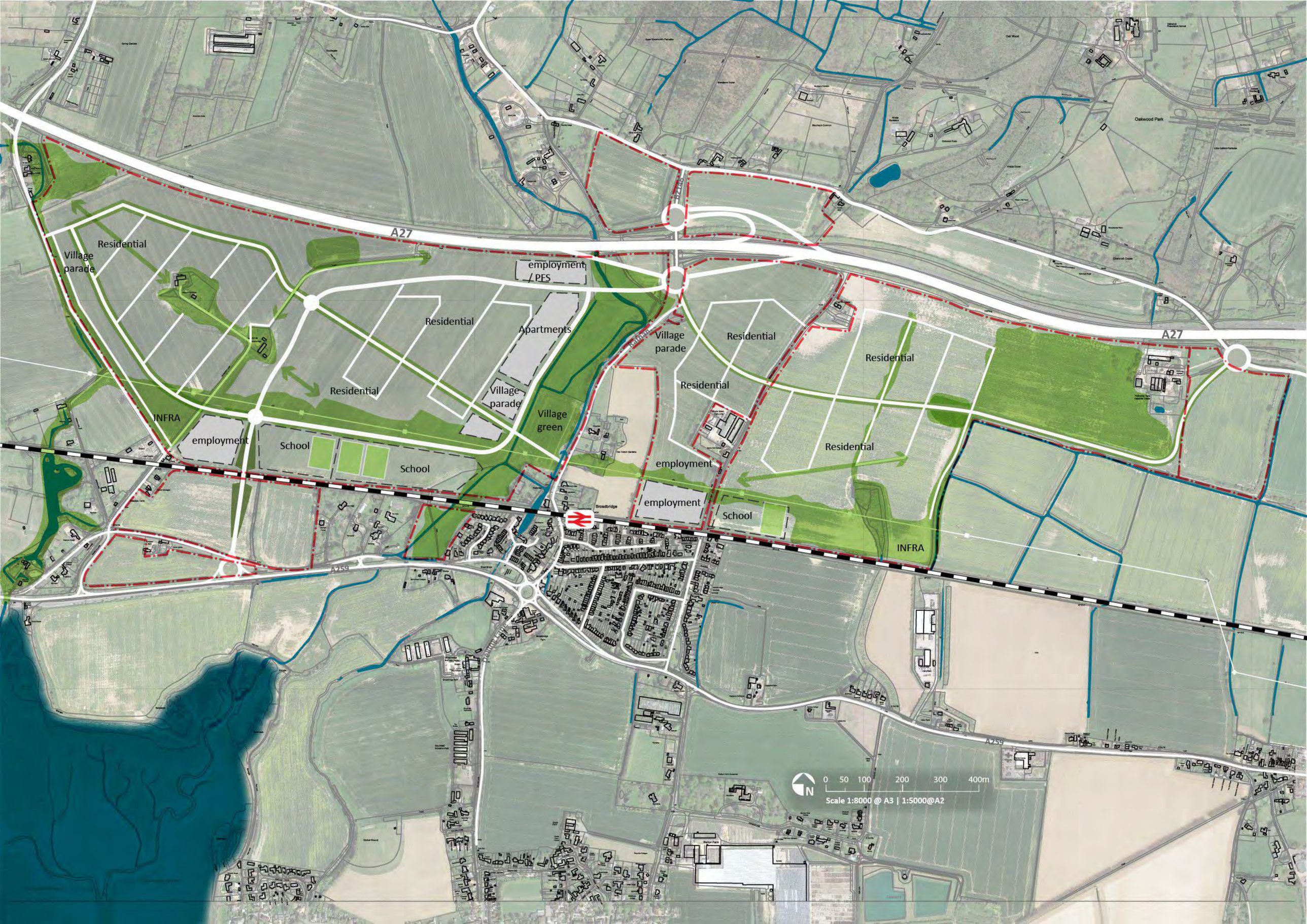


HEAVER HOMES

APPENDIX B

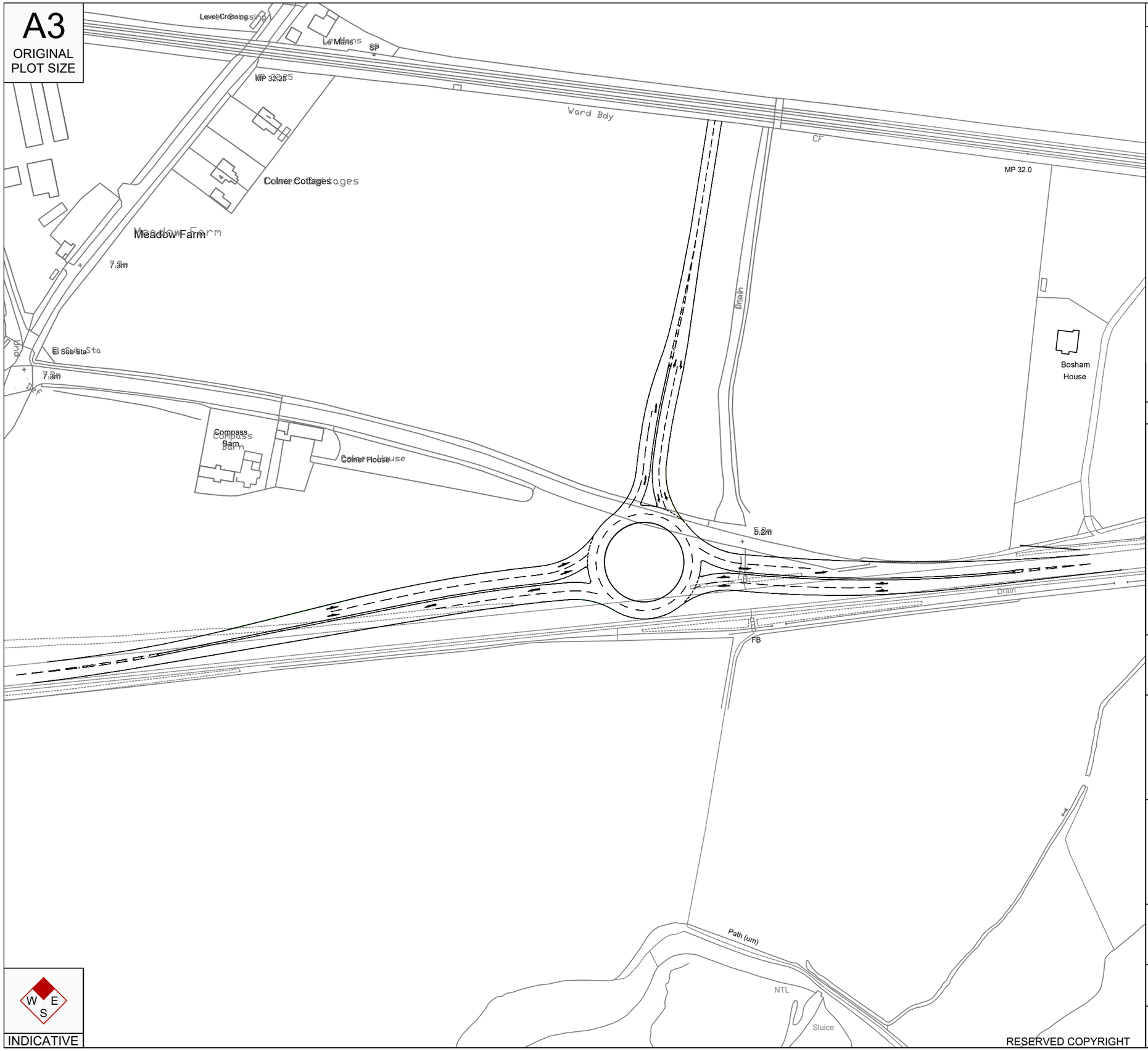

A27
B2146
Brooks Ln
Clay Ln
World Of Stone
Thesis Technology Products Ltd
The Hamblin Centre
The Bosham Inn
Bosham
The White Swan
Rinskis
Ivory Egg
The Co-operative Bosham
A259
Main Rd
Drift Ln
Newells Ln
Green Ln
Mudberry Ln
Chidham Ln
Cutmill Creek
Colner Creek
Bosham Stream
North Rd
Gifford Rd
Walton Ln
Langmead Group
Hillier Garden Centre Chichester
Tharfield
Chequer Ln
Blackboy Ln
Scarterfield
Delling Cl
Green Ln
The Berkeley Arms
Westbrook Field
Brook Ave
Walton Ln
Steels Ln
Harbour Way
The Millstream Hotel & Restaurant
Bosham Ln
Sunny Way
Fairfield Rd
Leander Rd
Taylor's Ln
Rectory Farm
Beggars Roost Nursing Home
Old Park Ln
Canute Rd
Shore Rd
Chidham
Bosham
Incident Severity
Slight Serious Fatal
50 results found

APPENDIX C


A27
Residential
Village parade
employment / PFS
Residential
Apartments
Residential
Village parade
Village green
INFRA
employment
School
School
A259
Village parade
Residential
Residential
Residential
employment
employment
School
Residential
INFRA
A27
A259
0 50 100 200 300 400m
Scale 1:8000 @ A3 | 1:5000@A2

APPENDIX D

A3
ORIGINAL
PLOT SIZE



INDICATIVE

NOTES:

Rev	Date	Details	Drawn by	Checked by	Approved by
-	-	-	-	-	-

Bristol
Cambridge
London
Manchester
Oxford
Welwyn Garden City

Transport Planning Associates

Sheraton House
Castle Park
Cambridge
CB3 0AX
01223 370135
www.tpa.uk.com

CLIENT:
King & Co

PROJECT:
Mudberry Farm
Bosham

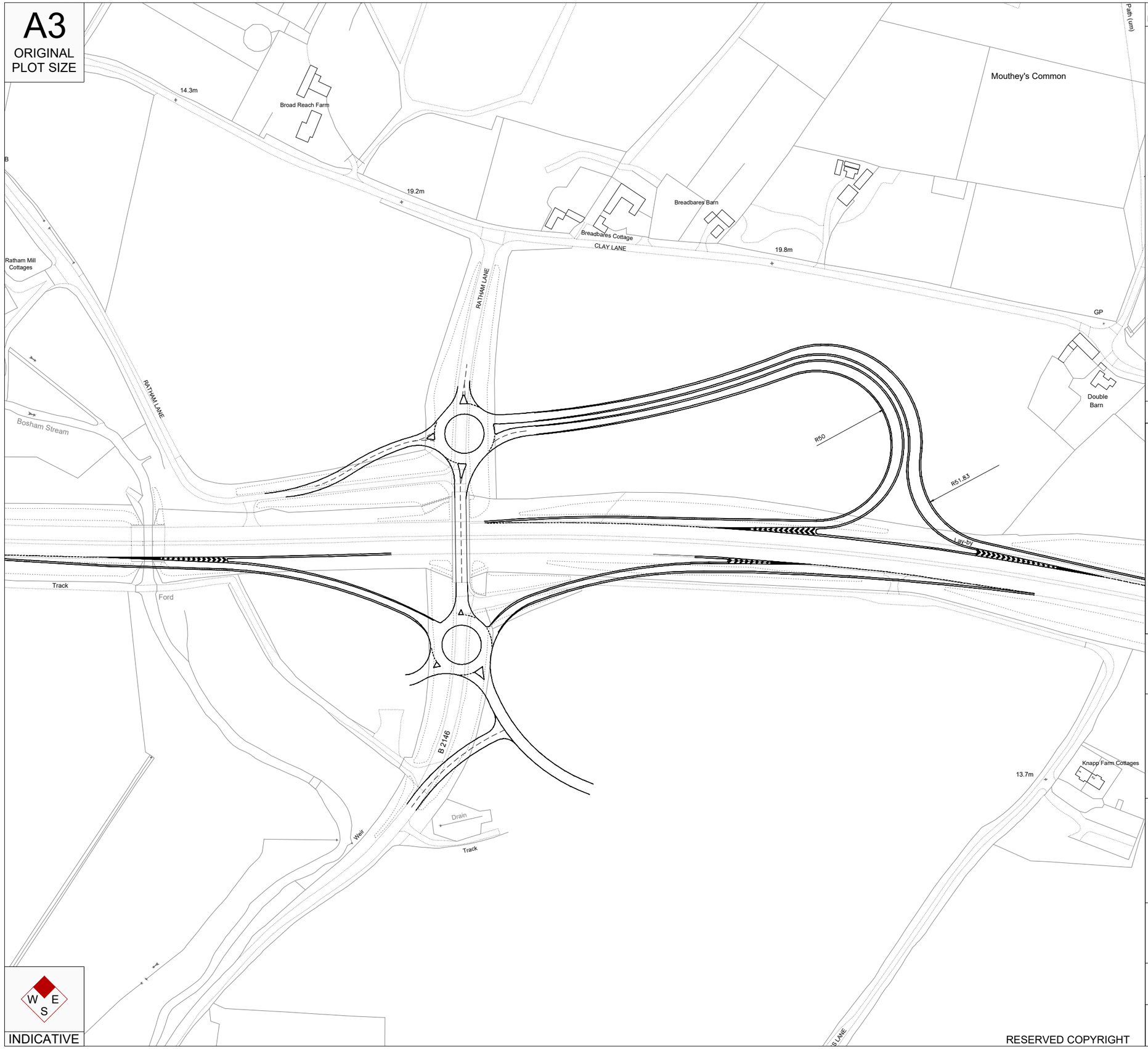
TITLE:
Proposed A259 Roundabout & Site Access
-

STATUS:
FEASIBILITY

SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:2000	06.02.19	SL	JH	JH

JOB NO:	DRAWING NO:	REVISION:
1812-22	SK01	-

A3
ORIGINAL
PLOT SIZE



INDICATIVE

NOTES:

Rev	Date	Details	Drawn by	Checked by	Approved by
-	-	-	-	-	-

Bristol
Cambridge
London
Manchester
Oxford
Welwyn Garden City

Transport Planning Associates

Sheraton House
Castle Park
Cambridge
CB3 0AX
01223 370135
www.tpa.uk.com

CLIENT:
King & Co

PROJECT:
Mudberry Farm
Bosham

TITLE:
Proposed Site Access and A27(T) / B2146 (Ratham La) Junction

STATUS:
FEASIBILITY

SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:2500	06.02.19	RC	JH	JH

JOB NO:	DRAWING NO:	REVISION:
1812-22	SK02	-

APPENDIX E

Calculation Reference: AUDIT-219603-190131-0136

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	WS	WEST SUSSEX	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE	NORTH EAST LINCOLNSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 432 to 805 (units:)
Range Selected by User: 400 to 4334 (units:)

Parking Spaces Range: Selected: 12 to 1726 Actual: 12 to 1726

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 02/03/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Thursday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

50,001 to 75,000	1 days
75,001 to 100,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	NE-03-A-02 HANOVER WALK SCUNTHORPE	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	Edge of Town No Sub Category Total Number of dwellings:	432	
	Survey date: MONDAY	*12/05/14*	*Survey Type: MANUAL*
2	WS-03-A-06 ELLIS ROAD WEST HORSHAM S BROADBRIDGE HEATH	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total Number of dwellings:	805	
	Survey date: THURSDAY	*02/03/17*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.076	2	619	0.310	2	619	0.386
08:00 - 09:00	2	619	0.129	2	619	0.423	2	619	0.552
09:00 - 10:00	2	619	0.154	2	619	0.164	2	619	0.318
10:00 - 11:00	2	619	0.119	2	619	0.148	2	619	0.267
11:00 - 12:00	2	619	0.136	2	619	0.146	2	619	0.282
12:00 - 13:00	2	619	0.147	2	619	0.154	2	619	0.301
13:00 - 14:00	2	619	0.140	2	619	0.157	2	619	0.297
14:00 - 15:00	2	619	0.153	2	619	0.190	2	619	0.343
15:00 - 16:00	2	619	0.272	2	619	0.188	2	619	0.460
16:00 - 17:00	2	619	0.276	2	619	0.167	2	619	0.443
17:00 - 18:00	2	619	0.327	2	619	0.165	2	619	0.492
18:00 - 19:00	2	619	0.356	2	619	0.192	2	619	0.548
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.285			2.404			4.689

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	432 - 805 (units:)
Survey date date range:	01/01/00 - 02/03/17
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.000	2	619	0.000	2	619	0.000
08:00 - 09:00	2	619	0.000	2	619	0.000	2	619	0.000
09:00 - 10:00	2	619	0.001	2	619	0.001	2	619	0.002
10:00 - 11:00	2	619	0.003	2	619	0.004	2	619	0.007
11:00 - 12:00	2	619	0.000	2	619	0.000	2	619	0.000
12:00 - 13:00	2	619	0.001	2	619	0.002	2	619	0.003
13:00 - 14:00	2	619	0.000	2	619	0.000	2	619	0.000
14:00 - 15:00	2	619	0.002	2	619	0.001	2	619	0.003
15:00 - 16:00	2	619	0.002	2	619	0.002	2	619	0.004
16:00 - 17:00	2	619	0.002	2	619	0.002	2	619	0.004
17:00 - 18:00	2	619	0.000	2	619	0.000	2	619	0.000
18:00 - 19:00	2	619	0.001	2	619	0.000	2	619	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.012			0.024

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.000	2	619	0.000	2	619	0.000
08:00 - 09:00	2	619	0.000	2	619	0.000	2	619	0.000
09:00 - 10:00	2	619	0.002	2	619	0.002	2	619	0.004
10:00 - 11:00	2	619	0.002	2	619	0.003	2	619	0.005
11:00 - 12:00	2	619	0.002	2	619	0.002	2	619	0.004
12:00 - 13:00	2	619	0.000	2	619	0.000	2	619	0.000
13:00 - 14:00	2	619	0.001	2	619	0.001	2	619	0.002
14:00 - 15:00	2	619	0.001	2	619	0.001	2	619	0.002
15:00 - 16:00	2	619	0.000	2	619	0.000	2	619	0.000
16:00 - 17:00	2	619	0.002	2	619	0.000	2	619	0.002
17:00 - 18:00	2	619	0.000	2	619	0.000	2	619	0.000
18:00 - 19:00	2	619	0.000	2	619	0.000	2	619	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.009			0.019

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.001	2	619	0.001	2	619	0.002
08:00 - 09:00	2	619	0.001	2	619	0.001	2	619	0.002
09:00 - 10:00	2	619	0.000	2	619	0.000	2	619	0.000
10:00 - 11:00	2	619	0.000	2	619	0.000	2	619	0.000
11:00 - 12:00	2	619	0.000	2	619	0.000	2	619	0.000
12:00 - 13:00	2	619	0.000	2	619	0.000	2	619	0.000
13:00 - 14:00	2	619	0.000	2	619	0.000	2	619	0.000
14:00 - 15:00	2	619	0.000	2	619	0.000	2	619	0.000
15:00 - 16:00	2	619	0.001	2	619	0.001	2	619	0.002
16:00 - 17:00	2	619	0.001	2	619	0.001	2	619	0.002
17:00 - 18:00	2	619	0.000	2	619	0.000	2	619	0.000
18:00 - 19:00	2	619	0.000	2	619	0.000	2	619	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.004			0.008

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.004	2	619	0.007	2	619	0.011
08:00 - 09:00	2	619	0.001	2	619	0.006	2	619	0.007
09:00 - 10:00	2	619	0.001	2	619	0.002	2	619	0.003
10:00 - 11:00	2	619	0.000	2	619	0.001	2	619	0.001
11:00 - 12:00	2	619	0.002	2	619	0.002	2	619	0.004
12:00 - 13:00	2	619	0.001	2	619	0.003	2	619	0.004
13:00 - 14:00	2	619	0.003	2	619	0.006	2	619	0.009
14:00 - 15:00	2	619	0.002	2	619	0.002	2	619	0.004
15:00 - 16:00	2	619	0.002	2	619	0.004	2	619	0.006
16:00 - 17:00	2	619	0.008	2	619	0.010	2	619	0.018
17:00 - 18:00	2	619	0.011	2	619	0.012	2	619	0.023
18:00 - 19:00	2	619	0.006	2	619	0.003	2	619	0.009
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.041			0.058			0.099

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
CARS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.046	2	619	0.217	2	619	0.263
08:00 - 09:00	2	619	0.089	2	619	0.280	2	619	0.369
09:00 - 10:00	2	619	0.091	2	619	0.108	2	619	0.199
10:00 - 11:00	2	619	0.065	2	619	0.076	2	619	0.141
11:00 - 12:00	2	619	0.079	2	619	0.087	2	619	0.166
12:00 - 13:00	2	619	0.082	2	619	0.086	2	619	0.168
13:00 - 14:00	2	619	0.086	2	619	0.089	2	619	0.175
14:00 - 15:00	2	619	0.078	2	619	0.099	2	619	0.177
15:00 - 16:00	2	619	0.153	2	619	0.093	2	619	0.246
16:00 - 17:00	2	619	0.161	2	619	0.095	2	619	0.256
17:00 - 18:00	2	619	0.221	2	619	0.103	2	619	0.324
18:00 - 19:00	2	619	0.244	2	619	0.115	2	619	0.359
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.395			1.448			2.843

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
LGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.017	2	619	0.026	2	619	0.043
08:00 - 09:00	2	619	0.020	2	619	0.021	2	619	0.041
09:00 - 10:00	2	619	0.023	2	619	0.018	2	619	0.041
10:00 - 11:00	2	619	0.016	2	619	0.022	2	619	0.038
11:00 - 12:00	2	619	0.021	2	619	0.023	2	619	0.044
12:00 - 13:00	2	619	0.015	2	619	0.019	2	619	0.034
13:00 - 14:00	2	619	0.018	2	619	0.024	2	619	0.042
14:00 - 15:00	2	619	0.017	2	619	0.027	2	619	0.044
15:00 - 16:00	2	619	0.028	2	619	0.022	2	619	0.050
16:00 - 17:00	2	619	0.015	2	619	0.013	2	619	0.028
17:00 - 18:00	2	619	0.023	2	619	0.008	2	619	0.031
18:00 - 19:00	2	619	0.019	2	619	0.013	2	619	0.032
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.232			0.236			0.468

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	619	0.000	2	619	0.004	2	619	0.004
08:00 - 09:00	2	619	0.000	2	619	0.002	2	619	0.002
09:00 - 10:00	2	619	0.000	2	619	0.000	2	619	0.000
10:00 - 11:00	2	619	0.000	2	619	0.001	2	619	0.001
11:00 - 12:00	2	619	0.000	2	619	0.000	2	619	0.000
12:00 - 13:00	2	619	0.001	2	619	0.001	2	619	0.002
13:00 - 14:00	2	619	0.000	2	619	0.000	2	619	0.000
14:00 - 15:00	2	619	0.002	2	619	0.000	2	619	0.002
15:00 - 16:00	2	619	0.002	2	619	0.001	2	619	0.003
16:00 - 17:00	2	619	0.002	2	619	0.000	2	619	0.002
17:00 - 18:00	2	619	0.004	2	619	0.002	2	619	0.006
18:00 - 19:00	2	619	0.001	2	619	0.002	2	619	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.013			0.025

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

APPENDIX F

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

population	All usual residents aged 16 and over in employment the week before the census
units	Persons
date	2011
usual residence	E02006567 : Chichester 007 (2011 super output area - middle layer)

place of work	Driving a car or van
Chichester	849
E02006570 : Chichester 010	192
E02006567 : Chichester 007	182
E02006568 : Chichester 008	140
E02006569 : Chichester 009	90
E02006566 : Chichester 006	57
E02006571 : Chichester 011	56
E02006572 : Chichester 012	44
E02006573 : Chichester 013	22
E02006564 : Chichester 004	18
E02006563 : Chichester 003	15
E02006565 : Chichester 005	15
E02006574 : Chichester 014	15
E02006561 : Chichester 001	3
E02006562 : Chichester 002	0
Havant	318
Portsmouth	266
East Hampshire	100
Arun	91
Fareham	59
Winchester	50
Eastleigh	21
Southampton	18
Horsham	18
Guildford	17
Gosport	15
Crawley	14
Worthing	10
Test Valley	9
Waverley	9
Hart	7
Wiltshire	7
New Forest	6
Rushmoor	6
Surrey Heath	6
Hillingdon	5
Basingstoke and Deane	5
Adur	5
Westminster,City of London	4
West Berkshire	4
Lewes	4
Mole Valley	4
Lambeth	3
Merton	3
Bracknell Forest	3
Wokingham	3
Elmbridge	3
Spelthorne	3
Mid Sussex	3
Carlisle	2
Barnet	2
Hammersmith and Fulham	2
Hounslow	2
Wandsworth	2
Brighton and Hove	2
Reigate and Banstead	2
Woking	2
East Devon	2
County Durham	1
Halton	1
South Ribble	1
Manchester	1
Sefton	1
Craven	1
Harrogate	1
Nottingham	1
Northampton	1
Mansfield	1
Telford and Wrekin	1
Stoke-on-Trent	1
Shropshire	1
Walsall	1
Central Bedfordshire	1
Three Rivers	1
St Edmundsbury	1
Brent	1
Croydon	1
Ealing	1
Greenwich	1
Harrow	1
Kensington and Chelsea	1
Richmond upon Thames	1
Sutton	1
Medway	1
Slough	1
Milton Keynes	1
Aylesbury Vale	1
Wycombe	1
Wealden	1
Sevenoaks	1
Swale	1
Tunbridge Wells	1
West Oxfordshire	1
North Somerset	1
Bournemouth	1
Poole	1
Christchurch	1
North Dorset	1
Purbeck	1
Cardiff	1

place of work	Driving a car or van	%	Route No.
Havant	318	16.3%	1 or 2
Portsmouth	266	13.7%	1 or 2
E02006570 : Chichester 010	192	9.9%	3 or 4
E02006567 : Chichester 007	182	9.3%	5
E02006568 : Chichester 008	140	7.2%	3 or 4
East Hampshire	100	5.1%	1
Arun	91	4.7%	3
E02006569 : Chichester 009	90	4.6%	2
Fareham	59	3.0%	1
E02006566 : Chichester 006	57	2.9%	4
E02006571 : Chichester 011	56	2.9%	4
Winchester	50	2.6%	1
E02006572 : Chichester 012	44	2.3%	3 or 4
E02006573 : Chichester 013	22	1.1%	3 or 4
Eastleigh	21	1.1%	1
E02006564 : Chichester 004	18	0.9%	5
Southampton	18	0.9%	1
Horsham	18	0.9%	3
Guildford	17	0.9%	1
E02006563 : Chichester 003	15	0.8%	5
E02006565 : Chichester 005	15	0.8%	3
E02006574 : Chichester 014	15	0.8%	3 or 4
Gosport	15	0.8%	1 or 2
Crawley	14	0.7%	3
Worthing	10	0.5%	3
Test Valley	9	0.5%	1
Waverley	9	0.5%	1
Hart	7	0.4%	1
Wiltshire	7	0.4%	1
New Forest	6	0.3%	1
Rushmoor	6	0.3%	1
Surrey Heath	6	0.3%	1
Hillingdon	5	0.3%	1
Basingstoke and Deane	5	0.3%	1
Adur	5	0.3%	3
Westminster,City of London	4	0.2%	1
West Berkshire	4	0.2%	1
Lewes	4	0.2%	3
Mole Valley	4	0.2%	3
E02006561 : Chichester 001	3	0.2%	4
Lambeth	3	0.2%	3
Merton	3	0.2%	3
Bracknell Forest	3	0.2%	1
Wokingham	3	0.2%	1
Elmbridge	3	0.2%	1
Spelthorne	3	0.2%	1
Mid Sussex	3	0.2%	3

1,948

Carlisle	2
Barnet	2
Hammersmith and Fulham	2
Hounslow	2
Wandsworth	2
Brighton and Hove	2
Reigate and Banstead	2
Woking	2
East Devon	2
County Durham	1
Halton	1
South Ribble	1
Manchester	1
Sefton	1
Craven	1
Harrogate	1
Nottingham	1
Northampton	1
Mansfield	1
Telford and Wrekin	1
Stoke-on-Trent	1
Shropshire	1
Walsall	1
Central Bedfordshire	1
Three Rivers	1
St Edmundsbury	1
Brent	1
Croydon	1
Ealing	1
Greenwich	1
Harrow	1
Kensington and Chelsea	1
Richmond upon Thames	1
Sutton	1
Medway	1
Slough	1
Milton Keynes	1
Aylesbury Vale	1
Wycombe	1
Wealden	1
Sevenoaks	1
Swale	1
Tunbridge Wells	1
West Oxfordshire	1
North Somerset	1
Bournemouth	1
Poole	1
Christchurch	1
North Dorset	1
Purbeck	1
Cardiff	1
E02006562 : Chichester 002	0

Total	2,008
Removed	60
%	3.0%

Route No.	Route	%
1 or 2		30.7%
3 or 4		21.2%
1 or 2		30.7%
1	0.7	21.5%
2	0.3	9.2%
3 or 4		21.2%
3	0.8	17.0%
4	0.2	4.2%

Route

Route No.	Route	%
1	A27 Westb	39.3%
2	A259 West	13.8%
3	A27 Eastbc	25.7%
4	A259 Eastb	10.2%
5	B2146 Nor	11.0%
Total		100.0%

Route No.	Route	%
1	A27 Westb	17.7%
2	A259 West	4.6%
3	A27 Eastbc	8.7%
4	A259 Eastb	6.0%
5	B2146 Nor	11.0%