vectos.

REPORT

SW Attwood

Land of Highfield Road, Sheppey

01/12/2020

Transport Statement

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1 Introduction

1.1 Vectos have been appointed by SW Attwood to provide transport and highways advice to support a proposed residential development at Highfield Road, Halfway, on the Isle of Sheppey (the 'site').

1.2 Development proposals consist of the conversion of the site to provide 19 residential dwellings. The existing site currently provides vacant grassland south of the Halfway settlement area.

1.3 This Transport Statement sets out the existing transport network in the vicinity of the site, including facilities available for travel by non-car modes. Consideration has also been given to relevant transport and land use planning policy.

1.4 Details of the development proposals and access arrangements are set out. Details of the anticipated trip generation are also set out together with a consideration of the impact of vehicle trips generated on the local highway network which confirm that the Proposed Development can be satisfactorily accommodated.

1.5 The remainder of the report is set out as follows:

- Section 2 - Existing Situation
- Section 3 - Development Proposals
- Section 4 - Policy Context
- Section 5 - Multi Modal Trip Generation and Distribution
- Section 6 - Summary and Conclusion

2 Existing Situation

2.1 This section of the report establishes the existing conditions in relation to local highway network, public transport, walking and cycling.

Site Location

2.2 The Site is situated to the west of Minster to the south of Sheerness and to the east of Queenborough in a suburb called Halfway. The Site is bounded by an underground reservoir to the west, Oasis academy to the east, agricultural land to the south and existing properties on Highfield Road to the North.

2.3 The centre of Minster is located approximately 2.6 km to the east and the centre of Sheerness is located approximately 2.8km to the north-west of the development. The Site is located within the administrative area of Swale Borough Council (SBC) who is the local planning authority. Kent County Council are the highway authority. The Site location is presented in Figure 2.1.

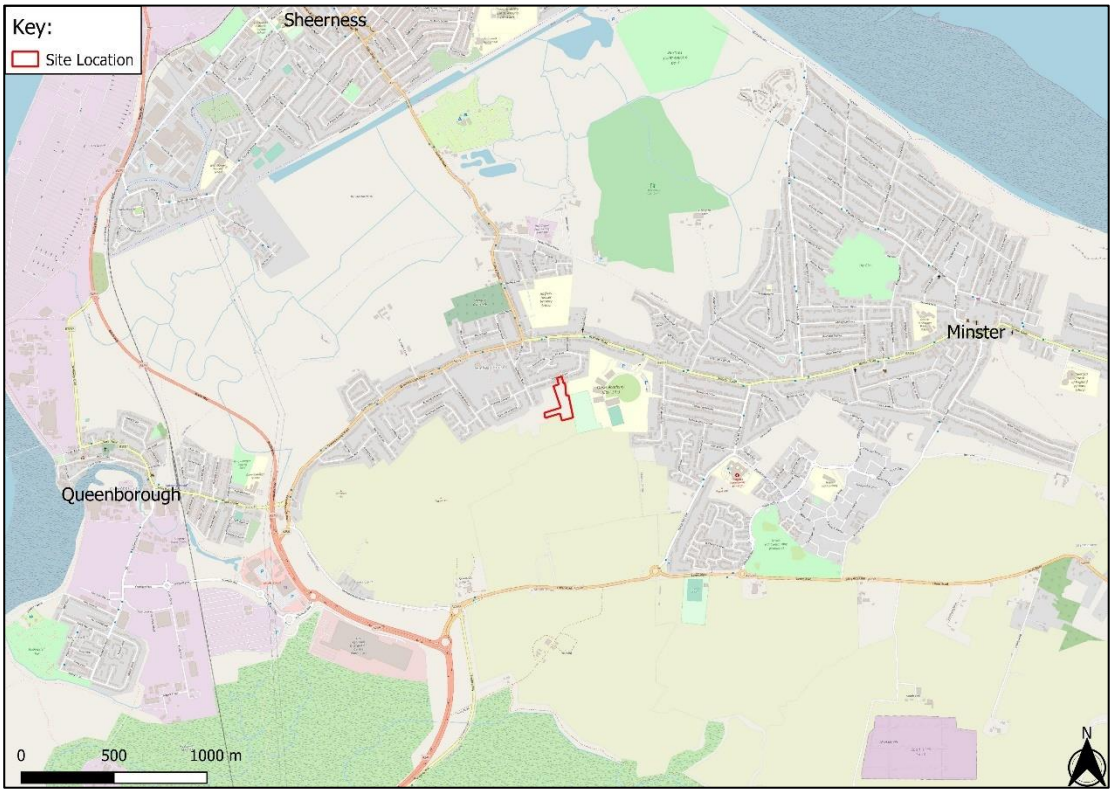


Figure 2.1 – Site Location

2.4 The site currently functions as a vacant area of grassland directly south of the Halfway settlement area.

Local Highway Network

2.5 The following section describes the main roads surrounding the site that will be used for access.

2.6 Highfield Road westbound bears west before linking with Southdown Road. Southdown Road northbound then links with B2008 Queenborough Road which westbound links with the A249 which then links to the M2. The M2 is a strategic motorway that links all the way to Faversham to the east and the M25 / London to the west.

2.7 Highfield Road eastbound connects with Admirals Walk which westbound connects with Banner Way which then links with B2008 Minster Road. Westbound Minster Road connects with Queenborough Road and eastbound Minster Road connects to Minster and the east of the island beyond.

Local Facilities

2.8 An assessment has been undertaken to determine the accessibility of key local facilities from the site. The proximity of amenities such as shops, local employment, healthcare, schools and leisure centres can be vital for encouraging travel by sustainable modes.

2.9 Figure 2.2 shows the location of key services and facilities. Table 2.1 gives the distance to each of these facilities from a site access, alongside approximate walking (1.4m/s) and cycling (4.2m/s) times and distances.

2.10 Figure 2.2 also sets out a walking and cycling catchment.

2.11 The distance people are prepared to walk will vary depending on journey type, journey purpose, and personal preference. Central government indicates 2km as being a reasonable guide for an acceptable distance for journeys on foot. However, 2km does not represent an upper limit and people will be willing to walk longer distances. Assuming a walking speed of 1.4m/s (as stated in the IHT document *Guidelines for providing for journeys on foot*), Manual for Streets outlines that walking offers the greatest opportunity to replace short car trips especially those under 2km. However, this should not be considered an upper limit for trips on foot. A walking catchment of 2km is shown in Figure 2.2.

2.12 Cycling has the potential to replace car trips. An 8km cycle is equivalent to a 30-minute journey. In reality, particularly with the introduction and increased uptake of electric bikes, the distance people are prepared to cycle is increasing and journeys to work by bike often exceed 8km, and much will depend on personal preference and the type of facilities available to cyclists at the end of their journey such as shower and laundry facilities and bike storage. A cycling catchment of 8km is shown in Figure 2.2.

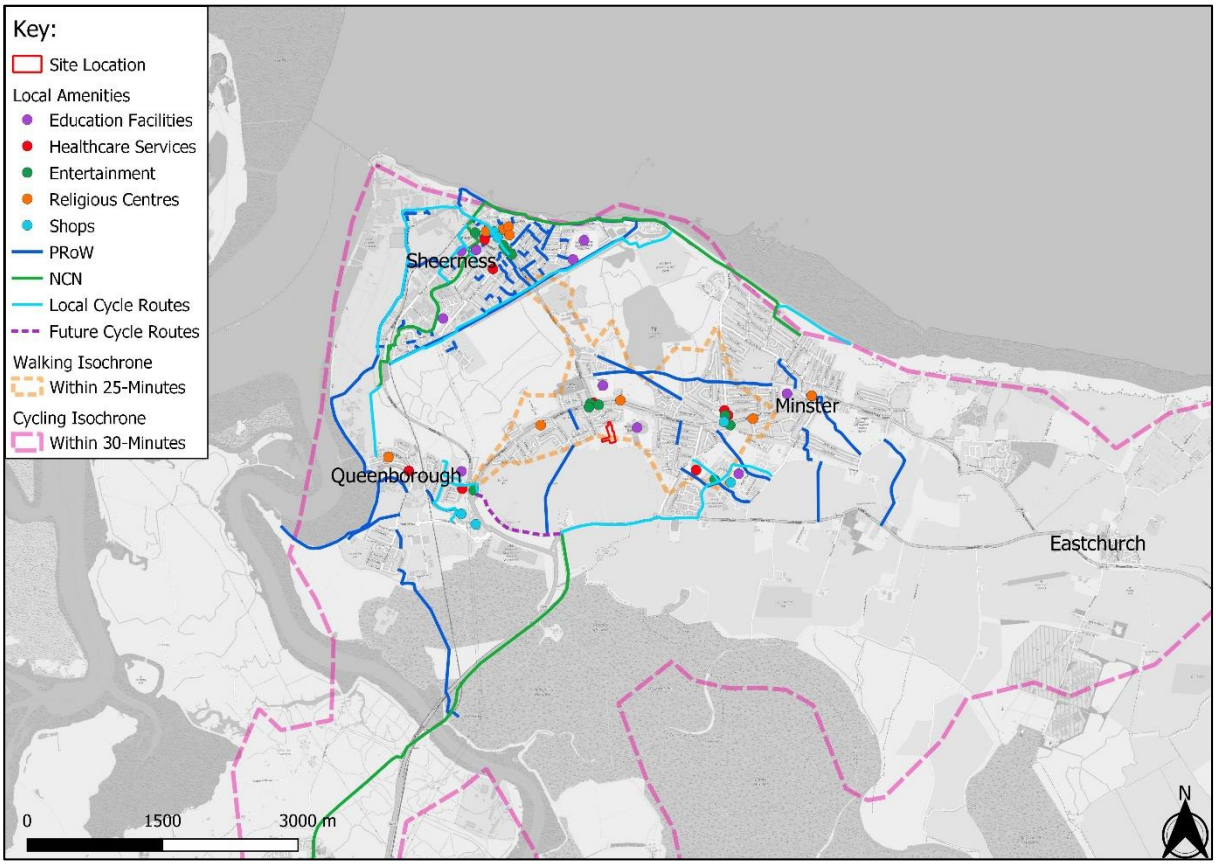


Figure 2.2 – Local Facilities Plan

Table 2.1 - Local Amenities Walking and Cycling Distance

Facility	Name	Distance (metres)	Walking (minutes)	Cycling (minutes)
Bus Stop	Minster Road	450	6	2
Railway Station	Queenborough Railway Station	2500	31	9
	Sheerness-on-Sea Railway Station	3000	37	11
Primary School	Halfway Houses Primary School	700	9	4
	Queenborough School & Nursery	2500	31	9
	Minster in Sheppey Community Primary School	2800	34	13
Secondary School	Oasis Academy Isle of Sheppey	800	10	3
Retail & Health	Costcutter	500	6	2
	Halfway Pharmacy	500	6	2
	Halfway Mini Mart	600	7	3
	B P	1900	23	6
	Sheppey Community Hospital	1700	22	7
	Minster-on Sea Post Office	2800	36	13
	Tesco Superstore	3300	41	13
Leisure & Recreation	Sheerness East Working Mens Club	650	8	3
	Sheerness Golf Club	1600	19	6
	Stones Fishing Lakes	900	18	6
	Sheppey Rugby Football Club	1700	34	10
	Isle of Sheppey Sailing Club	3300	40	13
	Sheppey Leisure Centre	1900	37	12
Employment	Blue Town Industrial Estate	3800	47	14
	Rushenden Industrial Estate	3500	44	13

2.13 The locations shown in Figure 2.2 and Table 2.1 show that there is a variety of local amenities located within a short walking/cycling distance of the Site. The proximity of facilities will allow for containment of trips from the Site within Sheerness and Minster, promoting patronage of local businesses and active travel uptake to local amenities. The site is in an excellent location to facilitate sustainable travel.

Accessibility

2.14 This section summarises the accessibility of the site in relation to sustainable modes of transport including public transport, walking and cycling.

Walking

2.15 The pedestrian catchment is shown in Figure 2.2. The site connects to the pedestrian network on Highfield Road, which benefits from footpaths and street lighting on either side of the road. The transport network surrounding the site has an extensive footpath network, which makes good provision for trips to be made by foot and which connects to key services

and facilities. The pedestrian environment is typically of residential character, with footpaths on one or both sides of the road.

2.16 A network of footpaths connects the site to key local services and facilities at Halfway and Minster. There is a network of pedestrian footways located within and on the outskirts of the Halfway suburb and on the periphery of the Site.

2.17 Pedestrian routes surrounding the Site are extensive, which are complemented by a number of Public Rights of Way (PRoW) around the Site, heading in a variety of directions. An extract of the Kent Council PRoW plan is shown at Figure 2.3 to highlight the plethora of pedestrian options from the Site.

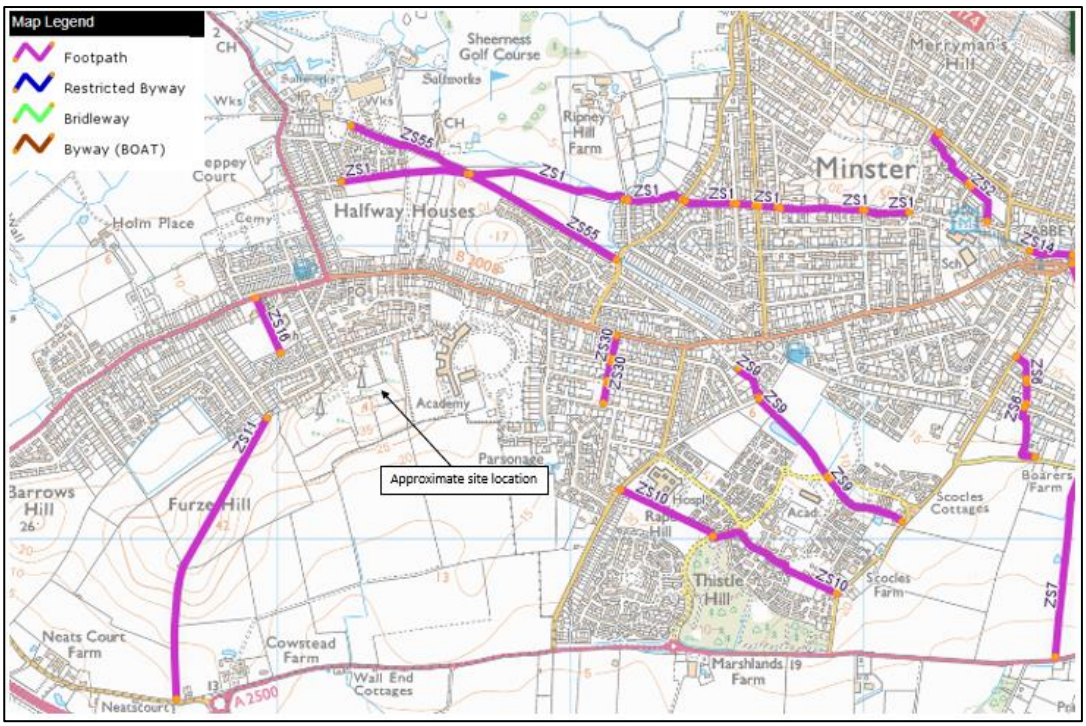


Figure 2.3 – Kent Council PRoW Plan

Cycling

2.18 Cycling is one of the most efficient ways to travel, in terms of both road space and energy usage. It also presents an opportunity to use an active mode of travel over longer distances than walking. A typical average cycling speed is 16 kmph, and therefore destinations within an 8km cycling distance are considered to be accessible by bike within 30 minutes.

2.19 Electric bikes are fast becoming one of the most efficient ways of travelling around an urban environment. The assisting motor allows for the rider to easily conquer hills, and increase the distance cycled in the same time. Cynergy bikes[1] state that an average speed of 18mph can be achieved without significant effort. This equates to a distance of 14.5km in a 30 minute ride, compared to 8km on a standard bike, and therefore increase the potential cycling catchment.

[1] https://www.cynergyebikes.com/about-ebikes-s/117.htm

2.20 Whilst no off-road cycle paths are located within the immediate vicinity of the Site, SBC have produced a cycling brochure which highlights the roads suitable for cyclists[2] on the Isle of Sheppey. The brochure details that Swale are proposing a new shared footway / cycleway dissecting southern Sheerness in a west to east direction. The northern sea front, as can also be seen within the brochure, has an existing segregated cycleway spanning from the Tesco Superstore to the west to Barton's Point Coastal Park to the east.

2.21 Cyclists will be able to reach National Cycle Network (NCN) route 174 from the A2500 located approximately 3.2km to the southwest of the Site. NCN route 174 can be used for access to Sheerness to the north and Kemsley to the south. Figure 2.4 highlights the most local cycling routes to the site along with proposed routes that will come forward in the future.

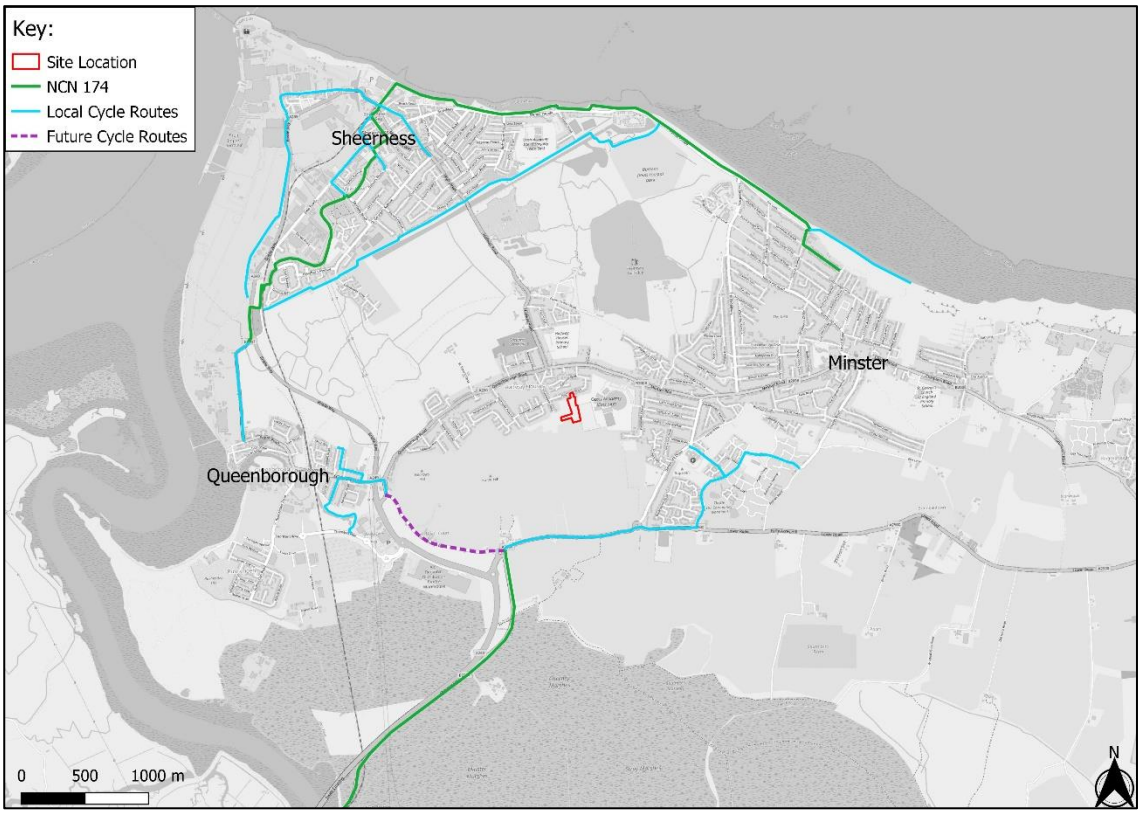


Figure 2.4 – Local Cycle Routes

2.22 Roads within Halfway do not benefit from vehicle-free cycle paths although the roads are mostly wide enough to accommodate both cyclists and vehicles. The residential highways in the area surrounding the Site benefit from streetlighting to allow for safe movement of cyclists throughout all periods of the day.

2.23 The cycling catchment shown in Figure 2.2 indicates that the entirety of the town of Sheerness, its local services and facilities and Minster on Sea are accessible by bike from the Site within 20-minutes. Queenborough and Rushenden can also be reached within a 20-minute cycling time distance. Within Sheerness and Queenborough, railway stations can be reached by bike.

[2] https://www.visit-swale.co.uk/media/8010/isle-of-sheppey-cycle-routes-brochure-web.pdf

2.24 Both Queenborough and Sheerness-on-Sea stations benefit from secure and covered cycle parking spaces. Queenborough station benefits from a total of 12 cycle parking spaces located on the western side of the station. The existing condition of the main cycle parking area is provided at Figure 2.5.

Figure 2.5 – Queenborough Cycle Parking Area

Bus Services

2.25 The closest bus stops to the Site is located approximately 450m north of the Site on Minster Road. There is both a westbound and eastbound bus stop at this location. The westbound stop benefits from a flagpole stop and bus cage. Figure 2.6 shows an image of the existing westbound bus stop at Minster Road. The eastbound stop also benefits from a flagpole stop and bus cage. Figure 2.7 shows an image of the existing eastbound bus stop at Minster Road.

Figure 2.6 – Minster Road Westbound Bus Stop

Figure 2.7 – Minster Road Eastbound Bus Stop

2.26 There are currently five bus services that serve the aforementioned bus stops. The 334 service operates half-hourly Monday-Saturday and hourly on Sunday. It links the Site with Sheerness. Sittingbourne and Maidstone. The 360 service operates hourly Monday-Saturday and every two hours on a Sunday and links the Site with Leysdown, Minster West and Minster. The 367 service operates five times a day Monday-Friday and 4 times a day Saturday and links the Site with Sheerness, Minster and Warden Point. The 368 service operates hourly Monday-Saturday and links the Site with Minster, Queenborough and Rushenden. Finally, the 750 service operates four times a day Monday-Friday and links the Site with Sheerness, Minster and London.

2.27 Table 2.2 lists all of the buses available from the bus stops at Minster Road located 550m away from the access to the Site.

Table 2.2 – Summary of Local Bus Services

Service	Route	Average Frequency (mins)		
		Weekday	Saturday	Sunday
334	Sheerness-Sittingbourne-Maidstone	30 mins	30 mins	60 mins
360	Leysdown-Minster West-Minster	60 mins	60 mins	120 mins
367	Sheerness-Minster-Warden Point	5 per day	4 per day	-
368	Minster-Queenborough-Rushenden	60 mins	60 mins	-
750	Sheerness-Minster-London	4 per day	-	-

2.28 On average there is a service from the most local bus stop towards Sheerness every 30 minutes. Travel further afield can be undertaken from Sheerness which links with a variety of locations locally and nationally. Sheerness-on-Sea railway station is accessible on the 334 service within 30 minutes.

2.29 The route of the 334, 360, 367, 368 & 750 bus services are shown at Figure 2.8. The most local bus stops are also shown on this plan.

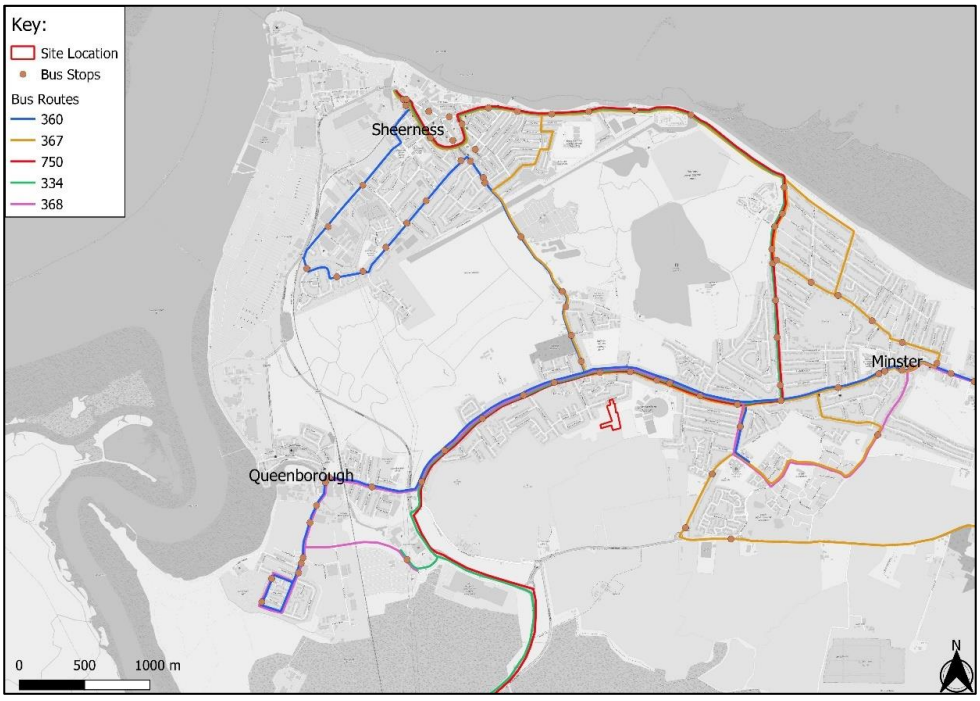


Figure 2.8 – Route of 334, 360, 367, 368 & 750 Services

Rail Services

2.30 Both Sheerness on-Sea and Queenborough railway stations are within cycling distance of the site. Sheerness-on-Sea rail station is located 3.1km from the site which is a 37-minute walk and a 11-minute cycle. Queenborough rail station is located 2.5km from the site which is a 31-minute walk and a 9-minute cycle. Future residents of the site are more likely to use Queenborough station due to its closer proximity and there being more hourly services than Sheerness-on-Sea.

2.31 Queenborough railway station, operated by Southeastern railway, provides frequent services to London Victoria to the West and Canterbury to the East. Destinations closer afield including Sheerness-on-Sea, Sittingbourne and Rochester can also be reached directly from Queenborough. Services during a weekday run on average every 30 minutes to London Victoria and on average every 30 minutes to Canterbury. Access to London Victoria and Canterbury can both be used as a node for travel further afield.

2.32 Table 2.3 sets out the current peak hour services and frequencies from Queenborough station due it being the closest station to the site. Only direct services and journeys have been accounted for.

Table 2.3 – Train Services at Queenborough Station

Destination	Trains per Peak Hour Weekday	Trains per Peak Hour Saturday	Trains per Peak Hour Sunday	Average Journey Time
Sheerness-on-Sea	2	2	1	5 mins
Sittingbourne	2	2	1	16 mins
Canterbury	2	2	1	53 mins
London Victoria	2	2	1	1hr 33 mins
Rochester	2	2	1	49 mins

2.33 The location of Queenborough and Sheerness-on-Sea rail station in relation to the site is shown at Figure 2.9.

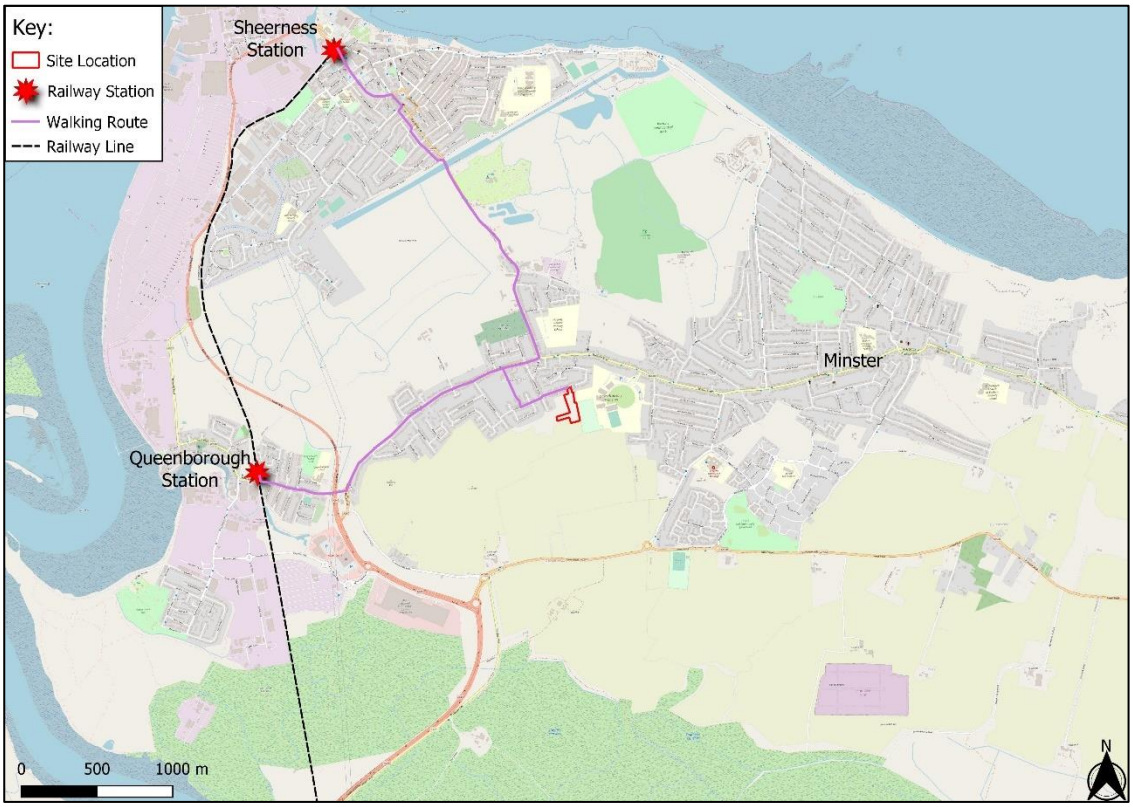


Figure 2.9 – Railway Station Locations

Committed Development

2.34 Planning application 19/503810/OUT for the erection of 17 dwellings south east of Bartletts Close, Halfway was originally refused under grounds of the site not being in an appropriate for housing having regard to local and national policies concerning housing in the countryside.

2.35 This refusal was overturned at appeal (W/4001086) with planning permission for the site granted. The inspector's comments with regard to location of the site stated:

'*Overall, given the close proximity of Halfway and the availability of nearby public transport links, the future occupiers would have good access to local services, facilities and employment opportunities. I am satisfied, based on my site visit and on the evidence before me that these could be reached by sustainable transport means and the future occupiers of the development proposed would not be reliant on the use of a private vehicle.*

I therefore conclude that when assessed against the development plan as a whole, the development proposed would be in a suitable location and would not be contrary to policies ST1, ST3, ST6 and CP3 of the LP or Paragraphs 8 and 11 of the Framework, which when read together seek to ensure that development takes place in suitable locations which have good access to local services and facilities and public transport links and future occupiers would not be reliant on the use of a private vehicle.'

2.36 The proposed development is in a comparable location to this consented development meaning it is in an accessible location and no reason to in principle object to the development.

Summary

2.37 The site benefits from a ‘sustainable location and is located close to the settlement area of Halfway. Moreover, bus stops are located a short walk from the site served by two high frequency routes. In addition, it is within walking and cycling distance of a number of key local destinations and therefore, there is a potential for the uptake of sustainable travel modes.

3 Development Proposals

3.1 This section of the report outlines the development proposals for the site. It includes a description of the proposed land use and proposed access arrangements by all modes.

Proposed Development Schedule

3.2 The application is in outline and seeks planning permission for up to 19 dwellings, with the precise mix to be determined at the reserved matters stage. For the purposes of this application, an illustrative layout has however been prepared based on the mix set out at Table 3.1.

Table 3.1 – Development Scheme Mix

Accommodation Type	No. Of Units
2 Bedroom Dwelling	11
3 Bedroom Dwelling	8
Total	19

3.3 The proposed development seeks outline permission for 19 residential units (Use Class C3). A total of 11 units will be 2-bedroom dwellings with the remaining 8 units being 3-bedroom dwellings

3.4 The illustrative layout plan is provided at **Appendix A** of this report.

Access Arrangements

3.5 A proposed priority site access has been designed to the relevant KCC design standards including Manual for Streets (MfS). The design and alignment of the new priority access junction is presented in **Appendix B**.

3.6 The access benefits from a 5.5m wide carriageway and 6m junction radius. A 2m wide footpath is proposed along each side of the carriageway on the western and eastern side of the road. The access bellmouth benefits from dropped kerbs and tactile paving to facilitate pedestrian movements across the access.

3.7 The access benefits from a minimum visibility splay of 43m which is in line with the requirements of Manual for Street for a 30mph road and can be provided within the adopted highway boundary.

3.8 The internal access road benefits from a minimum visibility splay of 12m which is in line with the requirements of Manual for Street for a 10mph road as shown in **Appendix B** and can be provided within the site boundary.

3.9 This access design is considered both safe and deliverable in highway terms.

Parking Provision

3.10 The development proposes to provide a total of 50 parking spaces with 2 parking spaces for all 2-bedroom dwellings and 3 parking spaces for all 3-bedroom dwellings. The development will also provide a total of 4 visitor parking spaces. As the site is considered to be located in a Suburban area with none of very limited on street parking controls this provision accords with the Swale Borough Council (SBC) Parking Standards (2020) for car parking. The provision of active charging spaces per unit will also accord with the Swale Borough Council (SBC) Parking Standards (2020).

3.11 On site cycle parking will be provided at each of the units and will accord with Swale Borough Council (SBC) Parking Standards (2020) for cycle parking.

Refuse Collection

3.12 All refuse collection will be taken on site in conjunction with existing refuse collection operations in the surrounding area. A swept path analysis of the access has been undertaken for a 11.437m long refuse vehicle as shown in **Appendix C**. This confirms that the access design can accommodate this.

Servicing

3.13 The quantum of residential units is not foreseen to generate a significant number of servicing trips, however it is understood that a minimal number of trips will likely be experienced for purposes such as retail deliveries.

3.14 Servicing for the site will take place from onsite which will have no parking restrictions.

Travel Plan

3.15 Given the scale of proposals a Travel Plan is not considered necessary to support the development proposals.

4 Policy Context

4.1 This section of the report provides a review of relevant national and local policy and assesses the development proposals in relation to this.

National Policy

National Planning Policy Framework (NPPF) 2019

4.2 The NPPF sets out national policy for delivering sustainable growth and development in England. It details how it expects policy to be applied and it aims to make the planning system less complex and more accessible.

4.3 Chapter 9 covers the promotion of 'Sustainable Transport' and states in relation to parking standards:

4.4 "If setting local parking standards for residential and non-residential development, policies should take into account:

a) the accessibility of the development;

b) the type, mix and use of development;

c) the availability of and opportunities for public transport;

d) local car ownership levels; and

e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.''

4.5 Paragraph 111 refers to the importance of Travel Plans, stating that they are a "key tool" in the promotion of sustainable travel. "All developments which generate significant amounts of movement should be required to provide a Travel Plan". It is noteworthy that the proposed development is not, of itself, anticipated to generate significant amounts of movement, as such a Travel Plan will not be required for the site.

Planning Practice Guidance 2014

4.6 In March 2014, the Department for Communities and Local Government (DCLG) launched the National Planning Practice Guidance web-based resource. One section relates specifically to transport and provides the overarching principles of Travel Plans, Transport Assessments and Statements.

4.7 The guidance explains the importance of Transport Assessments, Transport Statements and Travel Plans and what key principles should be taken into account when producing these documents.

4.8 The guidance also states that Travel Plans are "long term management strategies for integrating proposals for sustainable travel into the planning process" to promote and encourage sustainable travel. They should be brought forward in parallel with development proposals and should be integrated into the design of developments.

Local Policy

Swale Borough Local Plan – Bearing Fruits 2031

4.9 The Swale Borough Local Plan was adopted in 2017. Section 4.1 of the Local Plan reflects the NPPF presumption in favour of sustainable development.

4.10 The Local Plan which details the boroughs vision up to 2031 sets out the following key aims which relate to transport:

- working with relevant transport providers and neighbouring authorities to develop strategies for viable infrastructure necessary (including for the growth of ports) to support sustainable development;
- ensuring that opportunities for sustainable transport have been taken up to minimise the need for major new transport infrastructure to support reductions in greenhouse gas emissions and to reduce congestion;
- ensuring that the necessary improvements can be undertaken as far as possible within the transport network and are cost effective at mitigating the significant impacts of development;
- achieving safe and suitable access to sites for all people and goods; and
- designing developments to prioritise pedestrian and cycle access and give access to high quality public transport facilities.

Swale Borough Council Parking Standards 2020

4.11 The Swale Borough Council Parking Standards is a Supplementary Planning Document (SPD) provides guidance on parking standards within the Borough of Swale), it was adopted in May 2020.

4.12 The SPD states that:

4.13 'National parking policy has sought to end 'unrealistic' restrictions on an individual's right to own and park cars, with the NPPF Paragraph 105 acknowledging that where local parking standards are to be set for residential and non-residential developments, consideration should be given to:

- *The accessibility of development;*
- *The type and mix of new developments;*
- *The availability of, and options for, public transport;and*

– *Local car ownership levels.'*

4.14 The SPD details the required car and cycle parking for residential developments based on unit mix and location which the development will adhere to.

Summary

4.15 The focus of transport and land use planning policy is on the development of sustainable travel measures and the encouragement of development proposals which widen the accessibility of sustainable travel to Site attendees and the wider community.

5 Multi Modal Trip Generation and Distribution

5.1 This section of the report provides a review of predicted multi model trip generation associated with the site and the assignment of these trips on the local highway network.

Total Trip Generation

5.2 For the proposed 19 residential units, the trip generation by each mode of transport to and from the site has been estimated for AM peak and PM peak. The methodology used to derive the proposed multi modal trip generation of the site is presented in **Appendix D**.

5.3 The total external residential multi-modal trip generation, combining all journey purposes is summarised in Table 5.1 for cumulative assessment.

Table 5.1 – Multi-Modal Trip Forecast, Total Residential Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Train	0	0	0	0	0	1
Bus	1	2	2	1	0	1
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	2	8	10	6	3	10
Car Passenger	1	2	2	3	1	4
Bicycle	0	0	1	0	0	0
Walk	1	5	6	2	1	3
Other	0	0	0	0	0	0
Total	5	17	22	12	6	18

5.4 For the peak hours of residential trips, it can be seen that the site is predicted to generate a total of 10 two-way car driver trips in the AM Peak and 10 two-way car driver trips in the PM Peak. This equates to approximately 1 vehicle trip every 6 minutes.

5.5 This level of additional traffic is minimal.

Distribution

5.6 The proposed vehicle trips associated with the site have been distributed across the local highway network using the 'WU03EW – Location of usual residence and place of work by method of travel to work'. Due to the really low number of car driver trips expected to be generated by the site it is deemed this is the most appropriate method for distributing all trip types across the network.

5.7 The car driver trips have been distributed based on whether the trips will route North via Halfway Road, East via Minster Road or West via Queenborough Road. The percentage distribution for each of these three routes is presented in Table 5.2 and the Census Data used to derive this is presented in **Appendix E**.

Table 5.2 – Percentage Distribution

Direction	Percentage Distribution
Halfway Road	23%
Minster Road	20%
Queenborough Road	57%
Total	**100%**

5.8 The distribution presented in Table 5.2 has then been assigned to the proposed car driver trips associated with the site. This is presented in Table 5.3.

Table 5.3 – Assignment of Car Driver Trips

Route	0800-0900			1700-1800		
	In	**Out**	**2-way**	**In**	**Out**	**2-way**
Halfway Road	1	2	2	1	1	2
Minster Road	0	2	2	1	1	2
Queenborough Road	1	4	6	4	2	5
Total	2	8	10	6	3	10

5.9 As can be seen within Table 5.3 the proposed impact the car driver trips will have on each of the links is nominal. Only trips assigned to Halfway Road will be required to use the Halfway Junction with all Queenborough Road (Westbound) trips first using Southdown Road and all Minster Road (Eastbound) trips first using Admirals Walk then Banner Way. A total of 2 two-way trips in both the AM and PM Peaks at the Halfway Junction is considered negligible.

5.10 Notwithstanding the above, a scheme to increase capacity at the junction is secured as part of offsite highway works associated with the proposed development at Barton Hill Drive and which was approved at appeal (APP/V2255/W/19/3238171).

Summary

5.11 The development proposes 19 residential units. The TRICS database has been consulted to obtain trip rates for residential developments to understand the likely number of trips that could be generated by the site. This, in conjunction with Census data for the area have shown that the site would likely generate 10 two-way vehicle movements in the AM peak hour and 10 two-way vehicle movements in the PM peak hour.

6 Summary and Conclusion

6.1 Vectos have been appointed by SW Attwood to provide transport and highways advice to support a proposed residential development at Highfield Road, Halfway, on the Isle of Sheppey (the 'site').

6.2 Development proposals consist of the conversion of the site to provide 19 residential dwellings. The existing site currently provides vacant grassland south of the Halfway settlement area.

6.3 The Site is situated to the west of Minster to the south of Sheerness and to the east of Queenborough in a suburb called Halfway. The Site is bounded by an underground reservoir to the west, Oasis academy to the east, agricultural land to the south and existing properties on Highfield Road to the North.

6.4 A proposed priority site access has been designed to the relevant KCC design standards including Manual for Streets (MfS). The access benefits from a 5.5m wide carriageway and 6m junction radius. A 2m wide footpath is proposed running along the eastern side and western sides of the road.

6.5 The site benefits from a 'sustainable location and is located close to the settlement area of Halfway. Moreover, bus stops are located a short walk from the site served by two high frequency routes. In addition, it is within walking and cycling distance of a number of key local destinations and therefore, there is a potential for the uptake of sustainable travel modes.

6.6 The development proposes to accord with the Swale Borough Council (SBC) Parking Standards (2020) for both car and cycle parking. The level of visitor parking and provision of active charging spaces per unit will also accord with the Swale Borough Council (SBC) Parking Standards (2020).

6.7 The site can be accessed by all anticipated delivery, service and refuse vehicles. With all servicing and refuse collections taking place on Site.

6.8 The proposals would result in an additional 10 two-way vehicle trips in the AM peak period and 10 two-way vehicle trips in the PM peak period. This minimal quantum of trips is deemed to not have a material impact on the surrounding highway network.

6.9 In conclusion, the proposed development meets the NPPF sustainability criteria and should be approved on transport or highway grounds.

Appendix A

Plot	2 Bed	3 Bed	Parking spaces
1		●	3
2		●	3
3	●		2
4	●		2
5	●		2
6	●		2
7	●		2
8	●		2
9		●	3
10	●		2
11	●		2
12		●	3
13		●	3
14		●	3
15	●		2
16	●		2
17		●	3
18	●		2
19		●	3
			4 visitor
Total	**11**	**8**	**50**

(A) Pumping station

(B) Underground attenuation tank

Land at Highfield Road, Minster-on-Sea, Kent
ILLUSTRATIVE SITE LAYOUT PLAN

1602.003

Scale: 1:1000 @ A3

29/11/2020

N

jb planning associates
town planning
and development
consultants

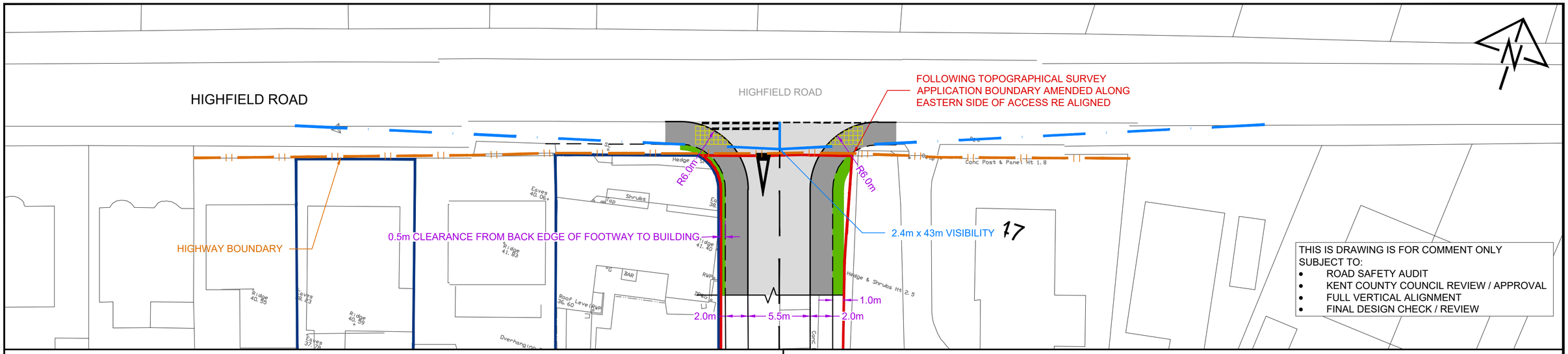
Chells Manor, Chells Lane
STEVENAGE, SG2 7AA

T 01438 312130

info@jbplanning.com
www.jbplanning.com

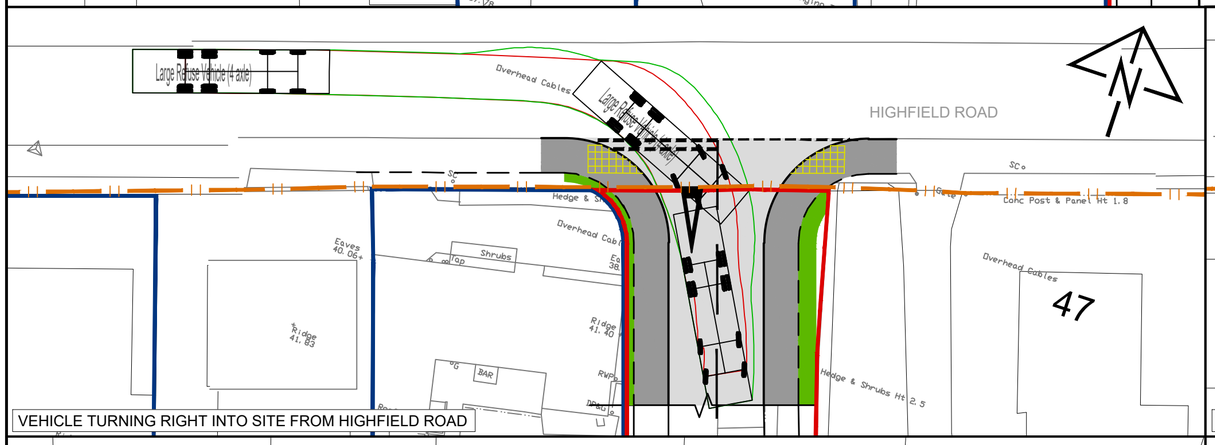
Appendix B

HIGHFIELD ROAD

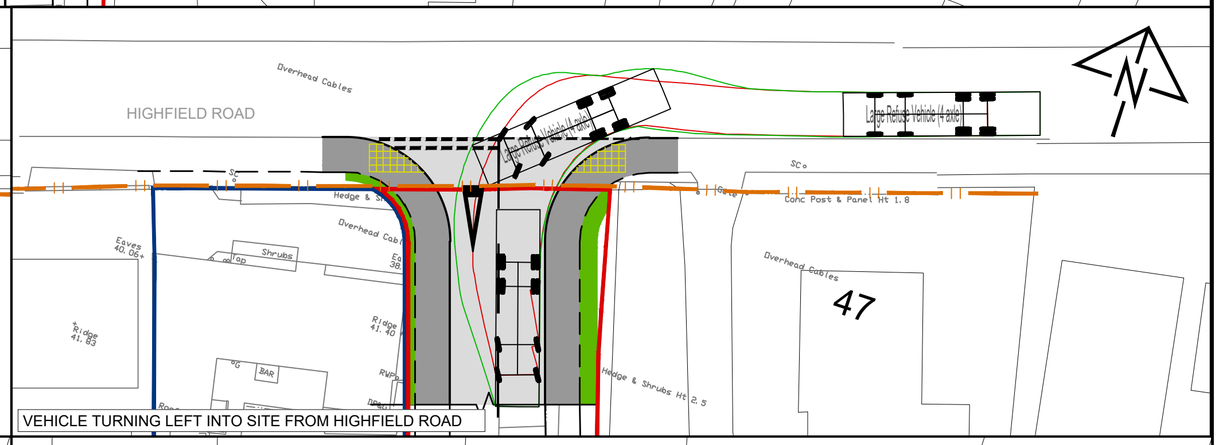


THIS IS DRAWING IS FOR COMMENT ONLY
SUBJECT TO:

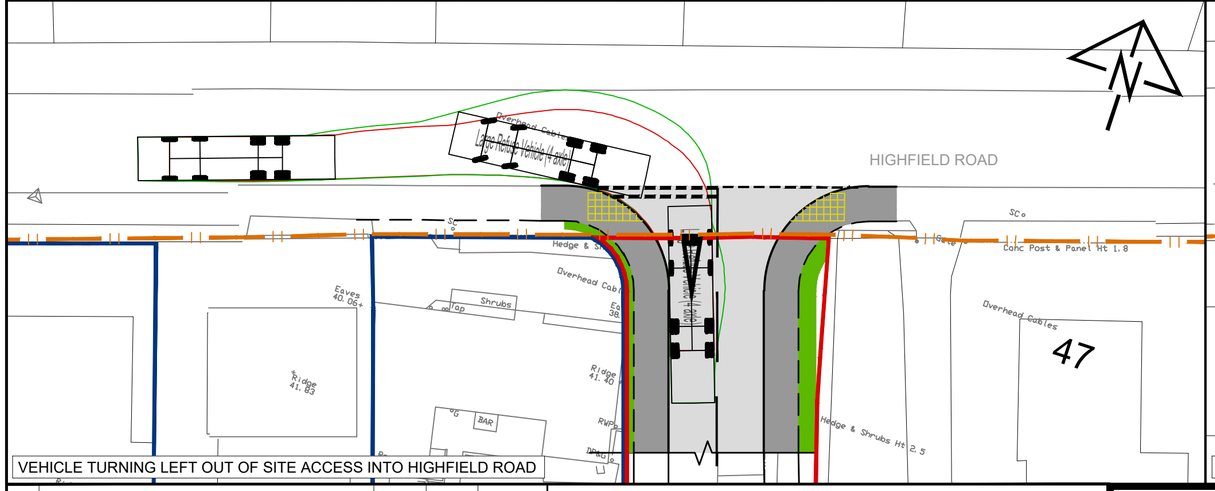
- ROAD SAFETY AUDIT
- KENT COUNTY COUNCIL REVIEW / APPROVAL
- FULL VERTICAL ALIGNMENT
- FINAL DESIGN CHECK / REVIEW



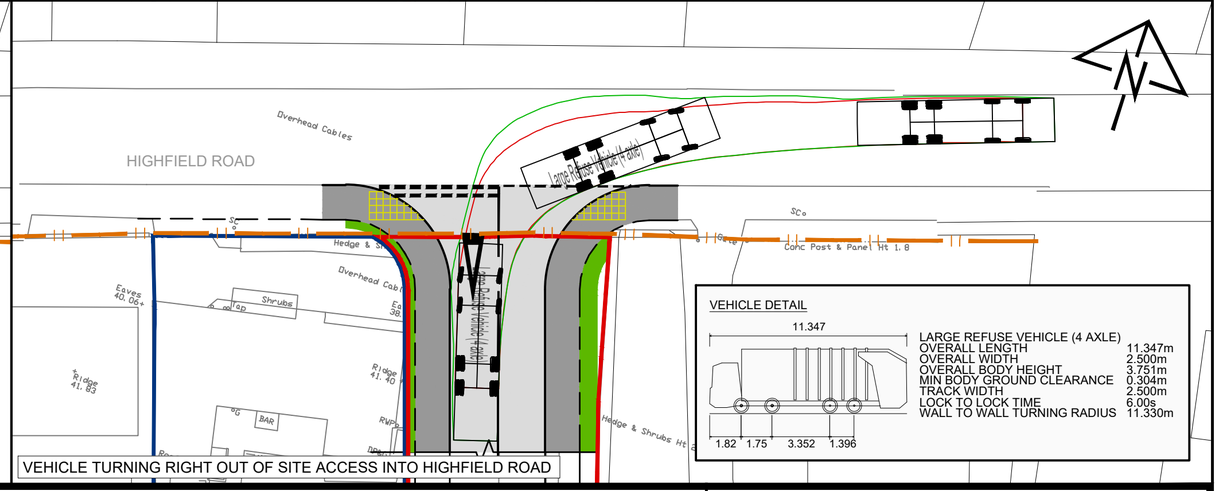
VEHICLE TURNING RIGHT INTO SITE FROM HIGHFIELD ROAD



VEHICLE TURNING LEFT INTO SITE FROM HIGHFIELD ROAD



VEHICLE TURNING LEFT OUT OF SITE ACCESS INTO HIGHFIELD ROAD



VEHICLE TURNING RIGHT OUT OF SITE ACCESS INTO HIGHFIELD ROAD

VEHICLE DETAIL

LARGE REFUSE VEHICLE (4 AXLE)	
OVERALL LENGTH	11.347m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	3.751m
MIN BODY GROUND CLEARANCE	0.304m
TRACK WIDTH	2.500m
LOCK TO LOCK TIME	6.00s
WALL TO WALL TURNING RADIUS	11.330m

REV.	DETAILS	DRAWN	CHECKED	DATE
A	ACCESS RE POSITIONED ONTO TOPOGRAPHICAL SURVEY. HIGHWAY RECORDS AND APPLICATION BOUNDARY RE INTERPOLATED	SCJ	DR	29.06.20
B	HIGHWAY BOUNDARY CONFIRMED	SCJ	DR	14.07.20
C	APPLICATION AREA UPDATED	SCJ	DR	30/11/20

KEY

- APPLICATION SITE
- LAND IN CONTROL OF THE APPLICANT
- HIGHWAY BOUNDARY (INTERPRETED FROM KENT COUNTY COUNCIL RECORDS)

STATUS:

INFORMATION ONLY

PROJECT:

Highfield Road

CLIENT:

SW Attwood

DRAWING TITLE:

PROPOSED SITE ACCESS GENERAL ARRANGEMENT, VISIBILITY SPLAYS AND SWEPT PATH ANALYSIS

DRAWN:	CHECKED:	DATE:	SCALES:
SCJ	DR	10/06/20	1:250 @ A2

vectos.
5th Floor, 4 Colston Avenue, Bristol, BS1 4ST
t: 0117 203 5240 e: enquiries@vectos.co.uk

DRAWING NUMBER: 205427-A01

REVISION: C

REV.	DETAILS	DRAWN	CHECKED	DATE

STATUS:

INFORMATION ONLY

PROJECT:

Highfield Road

CLIENT:

SW Attwood

DRAWING TITLE:

FORWARD VISIBILITY ASSESSMENT

DRAWN:	CHECKED:	DATE:	SCALES:
SCJ	DR	30/11/20	1:250 @ A2

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t: 0117 203 5240 e: enquiries@vectos.co.uk

DRAWING NUMBER: 205427-A02

REVISION: -

Appendix C

REV.	DETAILS	DRAWN	CHECKED	DATE

STATUS:

INFORMATION ONLY

PROJECT: Highfield Road

CLIENT: SW Attwood

DRAWING TITLE:

SWEPT PATH ANALYSIS OF MASTER PLAN (LARGE REFUSE VEHICLE)

vectos.

5th Floor, 4 Colston Avenue, Bristol, BS1 4ST

t: 0117 203 5240 e: enquiries@vectos.co.uk

DRAWN:	CHECKED:	DATE:	SCALES:	DRAWING NUMBER:	REVISION:
SCJ	DR	30/11/20	1:250 @ A2	205427-A01-AT01	-

Appendix D

Land of Highfield Road, Sheppey
Multi Modal Trip Generation Methodology

205427

Proposed Multi Modal Trip Generation

1.1 The TRICS database was used to derive total person trips rates for the proposed residential units. The following criteria were used to ensure that the trip rates were representative.

- Land Use: Residential;
- Sub Land Use: Houses Privately Owned;
- Regions: All regions excluding London, Northern Ireland, Republic of Ireland, Scotland and Wales;
- Location: Suburban Area, Edge of Town;
- Number of dwellings: 20 to 30 units; and
- Survey Days: Weekdays only.

1.2 Whilst the proposals may include for a proportion of affordable housing, to ensure a robust assessment, a 'privately owned' trip rate, which is the most trip intensive category, has been calculated for all dwellings.

1.3 In total, 9 sites fell within these parameters. The resultant average total person trip rate is summarised in Table 1 and the full TRICS output data is provided at **Appendix A**.

Trip Rates

1.4 Using the parameters identified, an average person trip rate was devised for the application site which is shown in Table 1.

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Table 1 – Average Total Person Trip Rates

Mode	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Trip Rate	0.281	0.897	1.178	0.647	0.326	0.973

1.5 The current proposals are for circa 19 dwellings, and therefore the trip rates in Table 1 are applied to a maximum proposed development of 19 residential dwellings, in order to assess the potential impact of the site. This results in a total person trip generation as summarised in Table 2.

Table 2 – Total Persons Trip Generation (19 Dwellings)

Mode	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Trips	5	17	22	12	6	18

Modal Split

1.6 To obtain a modal split for the site, the journeys have been first considered by purpose. The National Travel Survey (NTS) gives an hourly breakdown of trips by journey purpose for weekdays, which is set out in Table 3 for the weekday assessment hours. This uses Table 0502 of the latest available NTS dataset, from 2017.

Table 3 – NTS Trips by Journey Purpose

Trip Type	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
Commuting	21%	33%
Business	3%	4%
Education	29%	3%
Escort Education	22%	2%
Shopping	4%	12%
Other Work / Other Escort / Personal Business	14%	20%
Visiting Friends / Entertainment / Sport	3%	19%
Holiday / Day Trip / Other	3%	7%
TOTAL	100%	100%

1.7 To allow an analysis of trips by purpose, this split has been classified into three general journey purposes: commuting, education and leisure/recreation, with the proportion of trips for each purpose, for each assessment hour, given in Table 4.

Table 4 – Trips by Journey Purpose

	Commuting	Education	Leisure
AM (08:00-09:00)	24%	51%	25%
PM (17:00-18:00)	37%	5%	58%

1.8 Distributing the weekday total person residential trips summarised in Table 2 by the journey purpose given in Table 3. Results in a breakdown of trips by journey purpose as displayed in Table 5.

Table 5 – Total Person Residential Trips by Journey Purpose

Mode	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Resi (Commuting)	1	4	5	5	2	7
Resi (Education)	3	9	11	1	0	1
Resi (Leisure/Recreation)	1	4	6	7	4	11
TOTAL	5	17	22	12	6	18

1.9 The trips for each journey purpose will be considered in turn.

Commuting Trips

1.10 To determine an appropriate modal split for commuting trips, census table QS701EW – Method of Travel to Work has been used to determine the mode split for existing residents of the area. Data has been obtained for output area 'E02005118 Swale 004', the output area in which the site lies, and is summarised in Table 6.

Table 6 – Mode Split for MSOA Swale 004

	Number of People	Mode Split
Train	111	3%
Bus	98	3%
Taxi	13	0%
Motorcycle	44	1%
Car Driver	2,745	75%
Car Passenger	277	8%
Bicycle	87	2%
Walk	262	7%
Other	10	0%
Total	**3,647**	**100%**

1.11 The mode split in Table 6 has been applied directly to the number of commuting trips, as given in Table 5, to result in a split of trips by mode as shown in Table 7.

Table 7 – Multi-Modal Trip Forecast, Residential Commuting Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Train	0	0	0	0	0	0
Bus	0	0	0	0	0	0
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	1	3	4	3	2	5
Car Passenger	0	0	0	0	0	1
Bicycle	0	0	0	0	0	0
Walk	0	0	0	0	0	0
Other	0	0	0	0	0	0
Total	1	4	5	5	2	7

1.12 As can be seen in Table 7 the site is predicted to generate 6 two-way car driver trips in the AM Peak and 8 two-way card river trips in the PM Peak for commuting trips.

Education Trips

1.13 To assess the modal split of trips for education purposes, it is assumed that 50% of education trips are to primary education, and 50% are to secondary education.

1.14 The NTS provides data for the usual mode of travel to school by age group. The main mode for children aged 5-10 years, and aged 11-16 years, is given in Table 8.

Table 8 – NTS Travel to School Mode Split by Age

	Aged 5-10 years	Aged 11-16 years
Walk	51%	35%
Bicycle	2%	4%
Car / van	41%	26%
Private bus	2%	13%
Local bus	2%	18%
Surface rail	0%	2%
Other	2%	2%
Total	100%	100%

1.15 The NTS mode split for children aged 5-10 years has been used to approximate the likely mode split of trips to primary education from the proposed site. A split of 51% travel by foot has been judged to be appropriate.

1.16 The mode split has been applied to 50% of the residential trips to education as set out in Table 8. The resultant multi-modal trip forecast is displayed in Table 9.

Table 9 – Multi-Modal Trip Forecast, Primary Education Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Train	0	0	0	0	0	0
Bus	0	0	0	0	0	0
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	1	2	2	0	0	0
Car Passenger	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0
Walk	1	2	3	0	0	0
Other	0	0	0	0	0	0
Total	1	4	6	0	0	0

1.17 The NTS mode split for children aged 11-16 years has been used to approximate the likely mode split of trips to secondary education from the proposed site. This assumes a 35% mode split for walking, which is deemed appropriate given that there are 2 secondary schools approximately a 2km walking distance of the site, and a 31% split by bus, which is also considered reasonable given that there is good bus provision in the vicinity of the site for travel to other high schools within the Sheppey area.

1.18 Applying the NTS mode split for ages 11-16 to 50% of the residential trips to education, as set out in Table 8, results in a multi-modal trip forecast as set out in Table 10.

Table 10 – Multi-Modal Trip Forecast, Secondary Education Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Arr	Total
Train	0	0	0	0	0	0
Bus	0	1	2	0	0	0
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	0	1	1	0	0	0
Car Passenger	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0
Walk	0	2	2	0	0	0
Other	0	0	0	0	0	0
Total	1	4	6	0	0	0

Leisure / Recreation Trips

1.19 For external trips for leisure / recreation, further data from the NTS is used. NTS table 0409 gives the average number of trips by journey purpose. The mode split obtained from this data is set out in Table 11.

Table 11 – Mode Split Trip Forecast, Residential Leisure / Recreation Trips

Mode	Mode Split
Train	3%
Bus	5%
Taxi	2%
Motorcycle	0%
Car Driver	38%
Car Passenger	33%
Bicycle	2%
Walk	16%
Other	1%
Total	**100%**

1.20 Table 11 sets out the trip generation for leisure / recreation trips split by mode as per the proportions set out in Table 12.

Table 12 – Multi-Modal Trip Forecast, Residential Leisure / Recreation Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Train	0	0	0	0	0	0
Bus	0	0	0	0	0	1
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	0	2	2	3	1	4
Car Passenger	0	1	2	2	1	4
Bicycle	0	0	0	0	0	0
Walk	0	1	1	1	1	2
Other	0	0	0	0	0	0
Total	1	4	6	7	4	11

Total Trip Generation

1.21 The total external residential multi-modal trip generation, combining all journey purposes is summarised in Table 13 for cumulative assessment.

Table 13 – Multi-Modal Trip Forecast, Total Residential Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Total	Arr	Dep	Total
Train	0	0	0	0	0	1
Bus	1	2	2	1	0	1
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	2	8	10	6	3	10
Car Passenger	1	2	2	3	1	4
Bicycle	0	0	1	0	0	0
Walk	1	5	6	2	1	3
Other	0	0	0	0	0	0
Total	5	17	22	12	6	18

1.22 For the peak hours of residential trips, it can be seen that the site is predicted to generate a total of 10 two-way car driver trips in the AM Peak and 10 two-way car driver trips in the PM Peak. This equates to approximately 1 vehicle trip every 6 minutes.

1.23 This level of additional traffic is minimal.

Appendix A

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Calculation Reference: AUDIT-152303-200608-0628

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

03	SOUTH WEST		
	DC	DORSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	2 days
08	NORTH WEST		
	CH	CHESHIRE	2 days

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

Primary 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: No of Dwellings
Actual Range: 21 to 28 (units:)
Range Selected by User: 20 to 30 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 06/06/19

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	4 days
Tuesday	2 days
Wednesday	1 days
Thursday	2 days

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

Selected survey types:

Manual count	9 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:

Suburban Area (PPS6 Out of Centre)	6
Edge of Town	3

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	9

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	9 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®.

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	3 days
20,001 to 25,000	1 days
25,001 to 50,000	2 days

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

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days
125,001 to 250,000	3 days
250,001 to 500,000	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	3 days
1.1 to 1.5	6 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	8 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	9 days

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

LIST OF SITES relevant to selection parameters

1 CA-03-A-05 DETACHED HOUSES CAMBRIDGESHIRE
EASTFIELD ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *17/10/16* *Survey Type: MANUAL*

2 CH-03-A-09 TERRACED HOUSES CHESHIRE
GREYSTOKE ROAD
MACCLESFIELD
HURDSFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 24
Survey date: MONDAY *24/11/14* *Survey Type: MANUAL*

3 CH-03-A-11 TOWN HOUSES CHESHIRE
LONDON ROAD
NORTHWICH
LEFTWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 24
Survey date: THURSDAY *06/06/19* *Survey Type: MANUAL*

4 DC-03-A-08 BUNGALOWS DORSET
HURSTDENE ROAD
BOURNEMOUTH
CASTLE LANE WEST
Edge of Town
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *24/03/14* *Survey Type: MANUAL*

5 LN-03-A-03 SEMI DETACHED LINCOLNSHIRE
ROOKERY LANE
LINCOLN
BOULTHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 22
Survey date: TUESDAY *18/09/12* *Survey Type: MANUAL*

6 NF-03-A-01 SEMI DET. & BUNGALOWS NORFOLK
YARMOUTH ROAD
CAISTER-ON-SEA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 27
Survey date: TUESDAY *16/10/12* *Survey Type: MANUAL*

7 NY-03-A-08 TERRACED HOUSES NORTH YORKSHIRE
NICHOLAS STREET
YORK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 21
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

8 NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE
HORSEFAIR
BOROUGHBRIDGE

Edge of Town
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 WL-03-A-02 SEMI DETACHED WILTSHIRE
HEADLANDS GROVE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 27
Survey date: THURSDAY *22/09/16* *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
MULTI-MODAL 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	9	25	0.098	9	25	0.290	9	25	0.388
08:00 - 09:00	9	25	0.179	9	25	0.402	9	25	0.581
09:00 - 10:00	9	25	0.179	9	25	0.192	9	25	0.371
10:00 - 11:00	9	25	0.161	9	25	0.152	9	25	0.313
11:00 - 12:00	9	25	0.201	9	25	0.188	9	25	0.389
12:00 - 13:00	9	25	0.196	9	25	0.196	9	25	0.392
13:00 - 14:00	9	25	0.196	9	25	0.183	9	25	0.379
14:00 - 15:00	9	25	0.237	9	25	0.272	9	25	0.509
15:00 - 16:00	9	25	0.313	9	25	0.263	9	25	0.575
16:00 - 17:00	9	25	0.308	9	25	0.268	9	25	0.576
17:00 - 18:00	9	25	0.339	9	25	0.174	9	25	0.513
18:00 - 19:00	9	25	0.246	9	25	0.161	9	25	0.407
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.652			2.741			5.393

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:	21 - 28 (units:)
Survey date date range:	01/01/12 - 06/06/19
Number of weekdays (Monday-Friday):	9
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
MULTI-MODAL TOTAL PEOPLE
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	9	25	0.138	9	25	0.513	9	25	0.651
08:00 - 09:00	9	25	0.281	9	25	0.897	9	25	1.178
09:00 - 10:00	9	25	0.268	9	25	0.321	9	25	0.589
10:00 - 11:00	9	25	0.277	9	25	0.335	9	25	0.612
11:00 - 12:00	9	25	0.308	9	25	0.295	9	25	0.603
12:00 - 13:00	9	25	0.353	9	25	0.326	9	25	0.679
13:00 - 14:00	9	25	0.321	9	25	0.281	9	25	0.602
14:00 - 15:00	9	25	0.379	9	25	0.384	9	25	0.763
15:00 - 16:00	9	25	0.634	9	25	0.438	9	25	1.072
16:00 - 17:00	9	25	0.598	9	25	0.424	9	25	1.022
17:00 - 18:00	9	25	0.647	9	25	0.326	9	25	0.973
18:00 - 19:00	9	25	0.451	9	25	0.219	9	25	0.670
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.655			4.759			9.414

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 E

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	E02005118 : Swale 004 (2011 super output area - middle layer)

place of work	All categories: Method of travel to work (2001 specification)	Work mainly at or from home	Underground, metro, light rail or tram	Train	Bus, minibus or coach	Taxi	Motorcycle, scooter or moped		Driving a car or van	%			Passenger in a car or van	Bicycle	On foot	Other method of travel to work
E02005115 : Swale 001	299	0	0	1	15	1	4	E02005116 : Swale 002	381	13.9%	15%	N	38	11	28	2
E02005116 : Swale 002	506	0	0	0	15	6	10	E02005120 : Swale 006	300	10.9%	12%	E	35	34	25	0
E02005117 : Swale 003	110	0	0	0	0	3	0	Medway	254	9.3%	10%	W	5	2	33	0
E02005118 : Swale 004	282	0	0	1	2	1	3	E02005119 : Swale 005	210	7.7%	8%	W	22	1	120	2
E02005119 : Swale 005	259	0	0	1	2	0	3	E02005115 : Swale 001	199	7.2%	8%	N	21	12	9	1
E02005120 : Swale 006	348	0	0	1	2	0	3	Maidstone	172	6.3%	7%	W	31	6	5	0
E02005121 : Swale 007	110	0	0	1	1	0	3	E02005124 : Swale 010	167	6.1%	7%	W	10	2	0	0
E02005122 : Swale 008	21	0	0	0	0	0	0	London	154	5.6%	6%	W	3	0	0	0
E02005123 : Swale 009	67	0	0	2	1	1	0	E02005118 : Swale 004	130	4.7%	5%	E	8	2	3	0
E02005124 : Swale 010	216	0	0	16	5	0	2	E02005121 : Swale 007	93	3.4%	4%	W	14	6	5	1
E02005125 : Swale 011	60	0	0	2	0	0	1	Tonbridge and Malling	89	3.2%	4%	W	6	1	0	0
E02005126 : Swale 012	38	0	0	4	0	0	1	E02005117 : Swale 003	67	2.4%	3%	E	3	0	4	0
E02005127 : Swale 013	76	0	0	2	2	0	1	E02005127 : Swale 013	62	2.3%	2%	W	6	0	2	1
E02005128 : Swale 014	16	0	0	0	0	0	0	Canterbury	52	1.9%	2%	W	2	1	1	0
E02005129 : Swale 015	28	0	0	0	0	0	0	E02005123 : Swale 009	50	1.8%	2%	W	2	0	2	0
E02005130 : Swale 016	17	0	0	0	0	0	1	E02005125 : Swale 011	50	1.8%	2%	W	1	0	2	0
E02005131 : Swale 017	10	0	0	0	0	0	0	East	37	1.3%	1%	W	3	0	0	0
Adur	0	0	0	0	0	0	0	Dartford	27	1.0%	1%	W	0	0	0	0
										90.9%	23%	N				
Arun	0	0	0	0	0	0	0	E02005126 : Swale 012	26	0.9%	20%	E	0	0	0	0
Ashford	21	0	0	2	0	0	0	Gravesham	26	0.9%	57%	W	2	0	0	0
Aylesbury Vale	1	0	0	1	0	0	0	E02005129 : Swale 015	24	0.9%			0	0	0	0
Basingstoke and Deane	0	0	0	0	0	0	0	Sevenoaks	21	0.8%			0	0	0	0
Bracknell Forest	0	0	0	0	0	0	0	E02005122 : Swale 008	18	0.7%			0	0	0	0
Brighton and Hove	1	0	0	0	0	0	0	Ashford	17	0.6%			0	0	0	0
Canterbury	63	0	0	6	1	0	0	E02005130 : Swale 016	13	0.5%			4	0	0	0
Cherwell	0	0	0	0	0	0	0	E02005128 : Swale 014	12	0.4%			0	0	0	0
Chichester	0	0	0	0	0	0	0	Tunbridge Wells	11	0.4%			0	0	0	0
Chiltern	0	0	0	0	0	0	0	Thanet	9	0.3%			0	0	0	0
Crawley	4	0	0	0	0	0	0	E02005131 : Swale 017	7	0.3%			0	0	0	0
Dartford	33	0	0	0	0	0	0	East Midlands	7	0.3%			5	1	0	0
Dover	6	0	0	0	0	0	0	Dover	6	0.2%			0	0	0	0
East Hampshire	0	0	0	0	0	0	0	Shepway	6	0.2%			0	0	0	0
Eastbourne	1	0	0	0	0	0	0	North West	5	0.2%			0	0	0	0
Eastleigh	0	0	0	0	0	0	0	Crawley	4	0.1%			0	0	0	0
Elmbridge	2	0	0	0	0	0	0	Lewes	4	0.1%			1	0	0	0
Epsom and Ewell	0	0	0	0	0	0	0	West Midlands	4	0.1%			0	0	0	0
Fareham	0	0	0	0	0	0	0	Tandridge	3	0.1%			0	0	0	0

Train		
	3%	111
Bus	3%	98
Taxi	0%	13
Motorcycle	1%	44
Car Driver	75%	2,745
Car Passenger	8%	277
Bicycle	2%	87
Walk	7%	262
Other	0%	10

Gosport	0	0	0	0	0	0	0	Yorkshire and The Humber	3	0.1%		0	0	0	0	
Gravesham	29	0	0	0	0	0	0	Horsham	2	0.1%		1	0	2	0	
Guildford	0	0	0	0	0	0	0	Portsmouth	2	0.1%		0	0	0	0	
Hart	1	0	0	0	0	0	0	Runnymede	2	0.1%		0	0	0	0	
Hastings	0	0	0	0	0	0	0	West Berkshire	2	0.1%		0	0	0	0	
Havant	0	0	0	0	0	0	0	Windsor and Maidenhead	2	0.1%		0	0	0	0	
Horsham	2	0	0	0	0	0	0	South West	2	0.1%		0	0	0	0	
Isle of Wight	1	0	0	0	0	0	0	Wales	2	0.1%		0	0	0	1	
Lewes	5	0	0	0	0	0	0	Brighton and Hove	1	0.0%		1	0	0	0	
Maidstone	202	0	0	0	3	0	4	Eastbourne	1	0.0%		15	3	5	0	
Medway	285	0	0	9	2	0	5	Elmbridge	1	0.0%		10	1	4	0	
Mid Sussex	1	0	0	0	0	0	0	Hart	1	0.0%		0	0	0	0	
Milton Keynes	0	0	0	0	0	0	0	Mid Sussex	1	0.0%		0	0	0	0	
Mole Valley	1	0	0	0	0	0	0	Mole Valley	1	0.0%		0	0	0	0	
New Forest	0	0	0	0	0	0	0	South Oxfordshire	1	0.0%		0	0	0	0	
Oxford	0	0	0	0	0	0	0	Surrey Heath	1	0.0%		0	0	0	0	
Portsmouth	2	0	0	0	0	0	0	Test Valley	1	0.0%		0	0	0	0	
Reading	0	0	0	0	0	0	0	Winchester	1	0.0%		0	0	0	0	
Reigate and Banstead	0	0	0	0	0	0	0	Worthing	1	0.0%		0	0	0	0	
Rother	0	0	0	0	0	0	0	Adur	0	0.0%		0	0	0	0	
Runnymede	2	0	0	0	0	0	0	Arun	0	0.0%		0	0	0	0	
Rushmoor	0	0	0	0	0	0	0	Aylesbury Vale	0	0.0%		0	0	0	0	
Sevenoaks	21	0	0	0	0	0	0	Basingstoke and Deane	0	0.0%		0	0	0	0	
Shepway	7	0	0	0	0	0	0	Bracknell Forest	0	0.0%		0	0	1	0	
Slough	0	0	0	0	0	0	0	Cherwell	0	0.0%		0	0	0	0	
South Bucks	0	0	0	0	0	0	0	Chichester	0	0.0%		0	0	0	0	
South Oxfordshire	1	0	0	0	0	0	0	Chiltern	0	0.0%		0	0	0	0	
Southampton	0	0	0	0	0	0	0	East Hampshire	0	0.0%		0	0	0	0	
Spelthorne	1	0	0	0	0	0	0	Eastleigh	0	0.0%		1	0	0	0	
Surrey Heath	1	0	0	0	0	0	0	Epsom and Ewell	0	0.0%		0	0	0	0	
Tandridge	3	0	0	0	0	0	0	Fareham	0	0.0%		0	0	0	0	
Test Valley	1	0	0	0	0	0	0	Gosport	0	0.0%		0	0	0	0	
Thanet	11	0	0	0	0	1	0	Guildford	0	0.0%		0	1	0	0	
Tonbridge and Malling	92	0	0	0	0	0	2	Hastings	0	0.0%		1	0	0	0	
Tunbridge Wells	14	0	0	0	0	0	0	Havant	0	0.0%		3	0	0	0	
Vale of White Horse	0	0	0	0	0	0	0	Isle of Wight	0	0.0%		0	0	0	0	
Waverley	0	0	0	0	0	0	0	Milton Keynes	0	0.0%		0	0	0	0	
Wealden	0	0	0	0	0	0	0	New Forest	0	0.0%		0	0	0	0	
West Berkshire	2	0	0	0	0	0	0	Oxford	0	0.0%		0	0	0	0	
West Oxfordshire	0	0	0	0	0	0	0	Reading	0	0.0%		0	0	0	0	
Winchester	1	0	0	0	0	0	0	Reigate and Banstead	0	0.0%		0	0	0	0	
Windsor and Maidenhead	2	0	0	0	0	0	0	Rother	0	0.0%		0	0	0	0	
Woking	0	0	0	0	0	0	0	Rushmoor	0	0.0%		0	0	0	0	
Wokingham	0	0	0	0	0	0	0	Slough	0	0.0%		0	0	0	0	
Worthing	1	0	0	0	0	0	0	South Bucks	0	0.0%		0	0	0	0	
Wycombe	0	0	0	0	0	0	0	Southampton	0	0.0%		0	0	0	0	
East	46	0	0	1	0	0	0	Spelthorne	0	0.0%		7	0	0	1	
East Midlands	7	0	0	0	0	0	0	Vale of White Horse	0	0.0%		0	0	0	0	
London	287	0	5	61	47	0	1	Waverley	0	0.0%		14	1	3	1	
North East	0	0	0	0	0	0	0	Wealden	0	0.0%		0	0	0	0	
North West	5	0	0	0	0	0	0	West Oxfordshire	0	0.0%		0	0	0	0	
Northern Ireland	1	0	0	0	0	0	0	Woking	0	0.0%		0	0	1	0	
Scotland	1	0	0	0	0	0	0	Wokingham	0	0.0%		0	1	0	0	
South West	9	0	0	0	0	0	0	Wycombe	0	0.0%		2	0	5	0	
Wales	3	0	0	0	0	0	0	North East	0	0.0%		0	0	1	0	
West Midlands	5	0	0	0	0	0	0	Northern Ireland	0	0.0%		0	1	0	0	
Yorkshire and The Humber	4	0	0	0	0	0	0	Scotland	0	0.0%		0	0	1	0	
				111	98	13	44		2,745			277	87	262	10	3,647
				3%	3%	0%	1%		75%			8%	2%	7%	0%	

Contact

London
Network Building,
97 Tottenham Court Road,
London W1T 4TP.
Tel: 020 7580 7373

Bristol
5th Floor, 4 Colston Avenue,
Bristol BS1 4ST
Tel: 0117 203 5240
www.vectos.co.uk

Cardiff
Helmont House, Churchill Way,
Cardiff CF10 2HE
Tel: 029 2072 0860

Exeter
6 Victory House,
Dean Clarke Gardens,
Exeter EX2 4AA
Tel: 01392 422 315

Birmingham
Great Charles Street,
Birmingham B3 3JY
Tel: 0121 2895 624

Manchester
Oxford Place, 61 Oxford Street,
Manchester M1 6EQ.
Tel: 0161 228 1008

Leeds
7 Park Row, Leeds LS1 5HD
Tel: 0113 512 0293

Bonn
Stockenstrasse 5, 53113,
Bonn, Germany
Tel: +49 176 8609 1360
www.vectos.eu

Registered Office
Vectos (South) Limited
Network Building
97 Tottenham Court Road
London W1T 4TP
Company no. 7591661