



**South East Faversham (23/505553):
Transport and Highways Review**

client: Faversham Town Council

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Table of Contents

1 Introduction.....	1
The Author.....	1
Introduction.....	1
2 Transport Sustainability.....	4
Distance from Town Centre and Existing Facilities in Faversham.....	4
Physical Separation.....	4
Severance Effect of A2 and Railway Lines.....	5
Barriers to Bicycle Use.....	6
Cycles Banned from Rights of Way Leading to Town Centre.....	6
Unsuitability of A2 for Cycling.....	7
Issues with Proposed Shared Footway/Cycleway along A2.....	7
Lack of Safe and Convenient Cycle Routes.....	9
Bus Provision.....	10
Access to Train Services.....	11
Accessibility by Car and Sustainable Modes.....	12
Influence of M2 and Major A Roads.....	13
3 Trip Generation.....	14
Residential Trip Generation.....	14
Employment Trip Generation.....	19
Poundbury Data.....	20
Internal Trips.....	22
4 Traffic Surveys and Base Data.....	23
Base Traffic Surveys.....	23
Changes in Traffic Flows between Base and Future Year Situations.....	24
Highway Safety.....	24
5 Traffic Modelling.....	25
Swale Highway Model (SHM).....	25
VISSIM Model.....	25
Base Year Modelling.....	25

Future Year Reference Case Modelling.....	27
Future Year With Development Modelling.....	29
Individual Junction Operational Assessments.....	30
6 Comments on Proposed Highways Improvements.....	32
A2/Western Link Junction.....	32
M2 Junction 6.....	32
Lack of Individual Junction Operational Assessments.....	32
7 Phase 1 Development.....	33
Access Arrangements.....	33
Commercial Uses.....	33
Higher Trip Generation Rates.....	33
Cycle Parking.....	34
Car Parking.....	34
8 Environmental Statement (ES).....	36
9 Summary and Conclusion.....	38

Figures

- Figure 1:** Site and Surrounding Transport Networks
- Figure 2:** Distance from Centre of Faversham
- Figure 3:** Step-Free Walking Routes
- Figure 4:** Proposed Cycle Facilities along A2
- Figure 5:** Committed Development

Glossary

AADT	Annual Average Daily Traffic
CIHT	Chartered Institution of Highways and Transportation
CRF	Congestion Reference Flow
DfT	Department for Transport
ES	Environmental Statement
FCJR	Faversham Critical Junctions Report
ha	hectare
IEA	Institution of Environmental Assessment
LCWIP	Local Cycling and Walking Infrastructure Plan
LTN	Local Transport Note

KCCHA	Kent County Council Highway Authority
MfS	Manual for Streets
NCN	National Cycle Network
NH	National Highways
NPPF	National Planning Policy Framework
NTEM	National Trip End Model
PIA	Personal Injury Road Traffic Accident
PROW	Public Right of Way
RFC	Ratio of Flow to Capacity
SBC	Swale Borough Council
SHM	Swale Highway Model
SRN	Strategic Road Network
TA	Transport Assessment
TAG	Transport Analysis Guidance
TRO	Traffic Regulation Order
TSR	Transport Scoping Report
VFR	VISSIM Forecasting Report
VLMVR	VISSIM Local Model Validation Report
VMMR	VISSIM Modelling Methodology Report

1 INTRODUCTION

The Author

- 1.1 The author of this report is Bruce Bamber, Director of Railton TPC Ltd. who has over 30 years of experience working within the transport planning industry for both private and public sector clients. He has dealt with the transport and access arrangements for development schemes comprising all land use types and at all scales. He has been involved with numerous local and strategic transport studies and modelling exercises. He has given evidence at many informal hearings and public inquiries, participated in Local Plan Inquiries and at a DCO Hearing. He is a Chartered Member of the Institution of Highways and Transportation and has a Masters Degree in Transport from Imperial College, London.
- 1.2 The author has visited the site and the surrounding transport networks, has walked the key routes between the site and the town centre and has driven around the local highway network, including the A2 between the Western Link roundabout and Brenley Corner during the PM peak hour.

Introduction

- 1.3 Railton TPC Ltd has been instructed by Faversham Town Council to review transport work submitted in support of a planning application (Swale Borough Council (SBC) ref. 23/505533) for up to 2,500 dwellings and other land uses including employment for around 2,500 workers on land south-east of Faversham (see **Figure 1**). The site boundary encompasses an area of around 137.5 hectares (ha) The development site includes the relocation and upgrading of a football training pitch and cricket green although these are subject to separate planning applications.
- 1.4 Full planning permission is sought for Phase 1 of the development (261 dwellings and other land uses). Phase 1 is located at the eastern end of the proposed development site (see **Figure 1**). Outline planning permission is sought for the remainder of the site.
- 1.5 The key transport documents that have been reviewed comprise the following:
- Transport Assessment (TA), Arup, December 2023;
 - Transport Scoping Report, Arup, April 2021 (part of Appendix C of TA);

- Trip Generation Technical Note, Arup, April 2022 (part of Appendix C of TA);
- Transport Strategy and Framework Travel Plan (FTP), Arup, December 2023 (Appendix B of TA);
- Environmental Statement (ES), Marian Cameron Consultants Ltd, December 2023.

1.6 The traffic impact of the proposed development has been assessed using a VISSIM strategic model. This, in turn has been informed by the Swale SATURN Highway Model (SHM). Details of the modelling work are set out in a number of reports included in Appendices C and D of the TA. The key documents dealing with transport modelling comprise the following:

- Transport Scoping Report (TSR), Arup, April 2021 (Appendix C of TA);
- Trip Generation Technical Note, Arup, April 2022 (Appendix C of TA);
- VISSIM Forecasting Report (VFR), Arup, December 2023 (Appendix D of TA);
- Strategic Modelling Forecasting Report (SMFR), Arup, December 2023 (Appendix C of VRF);
- VISSIM Local Model Validation Report (VLMVR), Arup, December 2023 (Appendix A of VFR);
- VISSIM Modelling Methodology Report (VMFR), Arup, February 2022 (Appendix A of VLMVR);
- Model Peak Hour Note, Arup, 09 May 2022 (Appendix B of VLMVR).

1.7 Faversham Town has a Neighbourhood Plan (NP) that is soon to be put to Neighbourhood Planning Referendum. The Evidence Base for the NP includes the following transport reports:

- Faversham Critical Junctions Report (FCJR), PJA, May 2022. This identifies the top 25 critical junctions within the town in relation to safety and capacity;
- Local Cycling and Walking Infrastructure Plan (LCWIP), PJA, January 2022. This identifies a priority list of schemes to improve facilities for pedestrians and cyclists.

1.8 The applicant has engaged with both Kent County Council Highway Authority (KCCHA) and National Highways (NH) over recent years. Details of initial scoping discussions are set out in minutes of a meeting held with both KCCHA and NH in March 2021 attached as Appendix B of the TSR.

1.9 The latest consultation response from NH (10 April 2024) recommends that any decision be postponed until NH has had sufficient time to assess whether the proposals would impact on the safe and efficient operation of the Strategic Road

Network (SRN) (i.e. M2 and junctions 6 and 7). NH also states that sufficient information needs to be submitted to allow a full assessment of potential impact to be undertaken so that proper conditions can be applied to mitigate adverse impacts if found to be necessary. For this reason NH recommend that access not be dealt with as a reserved matter for the wider development.

- 1.10 The following sections provide comment on the key aspects of the transport assessment work with emphasis placed on matters where evidence is lacking or misrepresented, where assumptions are unreliable and where there are omissions, inconsistencies or flaws in the work.

2 TRANSPORT SUSTAINABILITY

- 2.1 This section considers transport sustainability in terms of the site's relationship with SRN, the distance of the site from facilities within Faversham, public transport services and barriers to movement on foot and by bicycle.
- 2.2 This issue lies at the centre of the transport assessments. The applicant suggests that the nature of the proposed development will have a profound effect on its vehicle trip generation characteristics. In essence, the argument that is put forward is that the development will internalise a high proportion of trips and of those that will be to or from destinations outside of the site, a high proportion will be by sustainable modes, particularly walking.
- 2.3 The site is, however, also subject to the effect of having very high levels of accessibility by private car as a result of being located immediately adjacent to two motorway junctions and A Roads (A2, A251, A299) that provide access to numerous large urban areas.

Distance from Town Centre and Existing Facilities in Faversham

Physical Separation

- 2.4 **Figure 2** shows that almost all of the existing built-up area of Faversham lies within 1 mile (1,600m) of the centre of the town. It also shows that the majority of the site lies further than 1 mile from the centre of the town and thus further from the centre than any other existing development in Faversham.
- 2.5 This spatial arrangement will fundamentally affect the level of travel by sustainable modes, particularly walking. Distance is a major deterrent to walking. A 'walkable neighbourhood' is generally defined as one where facilities lie within 800m (half a mile) of dwellings¹. As distances increase beyond 800m, the likelihood that people will undertake journeys on foot decreases rapidly. Although some people are physically able to walk greater distances, where there a car offers a convenient alternative, most people tend to rely on the car.
- 2.6 Although there are some existing facilities, for example in the southern part of the town centre (including the railway station) that are slightly closer to the development, it is likely that the majority of trips to existing facilities within Faversham will be too far from

¹ See Section 4.4 of Manual for Street (MfS), DfT, 2007

the majority of the development to be undertaken on foot. The site is itself over 2km in length which will mean that some journeys from the site, even if to existing facilities very close to the site boundary, are likely to be by car.

Severance Effect of A2 and Railway Lines

- 2.7 The A2 is a very busy road carrying significant numbers of heavy vehicles. The latest Department for Transport (DfT) monitoring data for the A2 east of Love Lane² indicates around 14,000 vehicles per day of which over 500 are HGVs or buses and over 2,200 are light goods vehicles (LGVs). It presents a threatening, noisy and unpleasant environment for pedestrians on adjacent footways.
- 2.8 The vast majority of Faversham is located to the north of the A2. The route constitutes a very significant barrier to movement (i.e. severance) between the site and most of the existing town. Although severance can be partially overcome through the provision of safe pedestrian crossing facilities, this does not overcome all of the deterrent effects of a very busy road (noise, fear and intimidation, air pollution). The presence of the A2 will be particularly threatening to parents with children and other vulnerable highway users.
- 2.9 The site is also separated from the town centre by the presence of the east-west railway line located north of the A2 but south of the town centre. This leads to constraints in terms of the number and quality of crossing opportunities. **Figure 3** shows the shortest step-free walking routes between the site and the town centre. All routes between these two routes involve steep steps to cross the railway lines. For anyone with a push chair or with more serious mobility constraints the intervening routes would be impossible to negotiate. For anyone carrying loads or with a shopping trolley, steps would represent a significant barrier. **Figure 3** shows the direct desire line between the site and the town centre. The 'crow-fly' distance significantly under-estimates the step-free route distance between the site and the town centre. **Figure 2** therefore underestimates the distance deterrent effect resulting from the site's location.
- 2.10 There are no measures proposed by the applicant or identified in other studies considering barriers to walking³ that would overcome the problem of stepped bridges over the railway line.

2 See DfT AADF point id. 18400

3 See Local Cycling and Walking Infrastructure Plan (LCWIP), PJA, January 2022

- 2.11 The railway line crossing the site represents a further barrier to internal movement. The proposed pedestrian and cycle bridge crossing could partially overcome the barrier but cannot entirely off-set the lack of site permeability caused by the railway.
- 2.12 Much of the TA seeks to find ways to reduce the barriers to pedestrian movement caused by the A2, the railway line and the physical separation of the site from existing facilities. Although it would be unreasonable to expect any development to entirely mitigate severance arising from pre-existing infrastructure, any reasonable assessment must recognise the limitations on sustainable travel that are inherent in the characteristics of a site's location.

Barriers to Bicycle Use

- 2.13 Since walking between the site and most existing facilities within Faversham is made difficult by both the physical distance between the site and the town centre and the severance effects of the A2 and the railway lines, the main alternative sustainable mode is cycling.

Cycles Banned from Rights of Way Leading to Town Centre

- 2.14 It should be noted that cycling is currently prohibited on a number of pedestrian routes linking the A2 to railway bridges and onward to the town centre:

Photo 1: Cycling Prohibited from Footpath from A2 West of Salters Lane to Church and Short Bridge



Photo 2: Cycling Prohibited on Footpath Leading from A2 to Long Bridge



2.15 The restricted nature of these routes make it unreasonable to assume that any improvements could be implemented that would make them safe for cycle use. Cyclists could push their bikes along the restricted rights of way (although even this would be difficult along the section shown in **Photo 1**) and could carry their bikes up and down the stepped rail crossing (or push if cycle ‘gutters’ are provided) but the routes would remain difficult and unattractive for cycling.

Unsuitability of A2 for Cycling

2.16 The A2 through Faversham is only used by the most determined of cyclists since there is insufficient width for vehicles to overtake while staying within their lane. Very high volumes of traffic make passing bicycles difficult and drivers who meet a cyclist are seen to accelerate sharply to use infrequent overtaking opportunities. At busier times larger vehicles are subject to significant slowing in the presence of cyclists.

Issues with Proposed Shared Footway/Cycleway along A2

2.17 Proposals to provide a shared off-road pedestrian and cycle route along the A2 are described by the applicant. The proposals are summarised In **Figure 4**.

- 2.18 Information provided in the TA is not entirely clear as far as the proposed cycle facilities along the A2 are concerned. The drawings in Appendix A of the TA refer to widened footways in some areas rather than shared footway/cycleways despite other notes referring to toucan crossings and raised tables at side roads suggest that cyclists are expected to use the widened ‘footways’. Paragraph 21.2.4 of the TA suggests that cyclists are expected to use the entire length of the ‘widened footway’ sections of the A2.
- 2.19 Guidance on cycle infrastructure design is provided in Local Transport Note 1/20 (LTN 1/20) (DfT, July 2020). This recommends against shared use but does not rule it out; *‘Where a route is also used by pedestrians, separate facilities should be provided for pedestrian and cycle movements. However, away from the highway, and alongside busy interurban roads with few pedestrians or building frontages, shared use might be adequate’* (para. 5.5.3). The reasons for seeking to avoid shared use are given:
- ‘In urban areas, the conversion of a footway to shared use should be regarded as a last resort. Shared use facilities are generally not favoured by either pedestrians or cyclists, particularly when flows are high. It can create particular difficulties for visually impaired people. Actual conflict may be rare, but the interactions between people moving at different speeds can be perceived to be unsafe and inaccessible, particularly by vulnerable pedestrians. This adversely affects the comfort of both types of user, as well as directness for the cyclist’* (DfT, 2020, para. 6.5.4)
- 2.20 The minimum width of a shared use route is identified as 3.0m (see Table 6-3 of LTN 1/20). **Figure 4** shows three sections of the proposed footway/cycleway where the total width is less than 3.0m.
- 2.21 Where a cycle route is bounded by a fixed object (such as a wall or fence) that is over 600mm high, it is recommended that an additional 500mm (0.5m) width of cycle track is required to maintain the effective width of the cycle track (see Table 5-3 of LTN 1/20). It is clear that much of the proposed shared footway/cycleway through the existing built-up area of Faversham is bounded by high walls or fences. In these areas the effective width of the footway cycleway will be reduced by 0.5m.
- 2.22 There is also a constraint on the road side of the footway/cycleway. LTN 1/20 recommends an additional 200mm (0.2m) to avoid kerbs (see Table 5-3). In the case of the A2, it is likely that the footway/cycleway would need a buffer of more than 0.2m due to the volume and type of traffic using the A2. The proposal to reduce the width of the A2 to around 6.5m will mean that large vehicles will be forced to travel very close to the kerb, particularly when passing other large vehicles. A cyclist travelling close to the edge of the road would be in danger of colliding with the passing HGV or be at risk of losing control due to the violent displacement of air around the moving vehicle.

- 2.23 The proposed footway/cycleway passes numerous driveways, accesses and gates. No allowance is made for any off-set to allow cyclists to react to people or vehicles emerging from the side. The inter-visibility between cyclists and drivers or pedestrians is extremely low when the footway/cycleway abuts side access points. There is a risk that collisions will take place or that cyclists will be forced to swerve and risk entering the main carriageway or forcing other pedestrians or cyclists to do the same.
- 2.24 Even where the proposed shared footway/cycleway has a width of 3.0m, its effective width would be more like 2.0m due to solid barriers on one side and heavy traffic on the other. Where the proposed footway/cycleway is less than 3.0m, the effective width would be less than 2.0m.
- 2.25 The use of the proposed shared footway/cycleway would also be impaired by the presence of numerous items of street furniture (street lamps, telegraph poles, signage). These represent further obstacles that introduce risk and limit further the effectiveness of the route.
- 2.26 It is concluded that the proposed shared footway/cycleway, over much of its length, particularly through the existing built-up area of Faversham falls well short of standards and is likely to be unacceptable for highway safety reasons.
- 2.27 If the shared facility were implemented and if it were to be used by cyclists, it is likely to constitute a barrier to pedestrian use because of the conflict between pedestrians and faster moving bicycles within a sub-standard corridor width would deter pedestrians, particularly the more vulnerable groups.

Lack of Safe and Convenient Cycle Routes

- 2.28 **Figure 3** shows the two shortest step free cycle routes between the site and the town centre. The LCWIP found the Love Lane route to be one of the two lowest scoring cycle routes, along with the A2 due to cyclists' exposure to general traffic. The Mall/Forbes Road route that passes under the railway has no cycle facilities and is subject to high vehicle flows and congestion during peak periods.
- 2.29 It would be possible to provide cycle routes within the development that would, to some extent, bypass the A2. However, the site does not provide a continuous frontage along the southern side of the A2 thus forcing some residents to join the proposed A2 route to the east of Love Lane or divert within the development to avoid areas to the east and west of Selling Road that fall outside of the development area. All cyclists that are seeking to reach the town centre, even if they are able to reach the site's north-west

corner via internal cycle routes, would be forced to travel around 400m further west along the A2 before reaching Preston Grove, the first opportunity to leave the A2 and travel towards the town centre to cross the railway at Forbes Road. It is this section of the proposed shared footway/cycleway along the A2 that is most constrained in terms of width and edge constraints (see **Figure 4**).

- 2.30 It is concluded that there are no direct, safe and convenient cycle routes between the site and the town centre and it is therefore unreasonable to assume that any significant proportion of trips between the site and the town centre would be made by bicycle.

Bus Provision

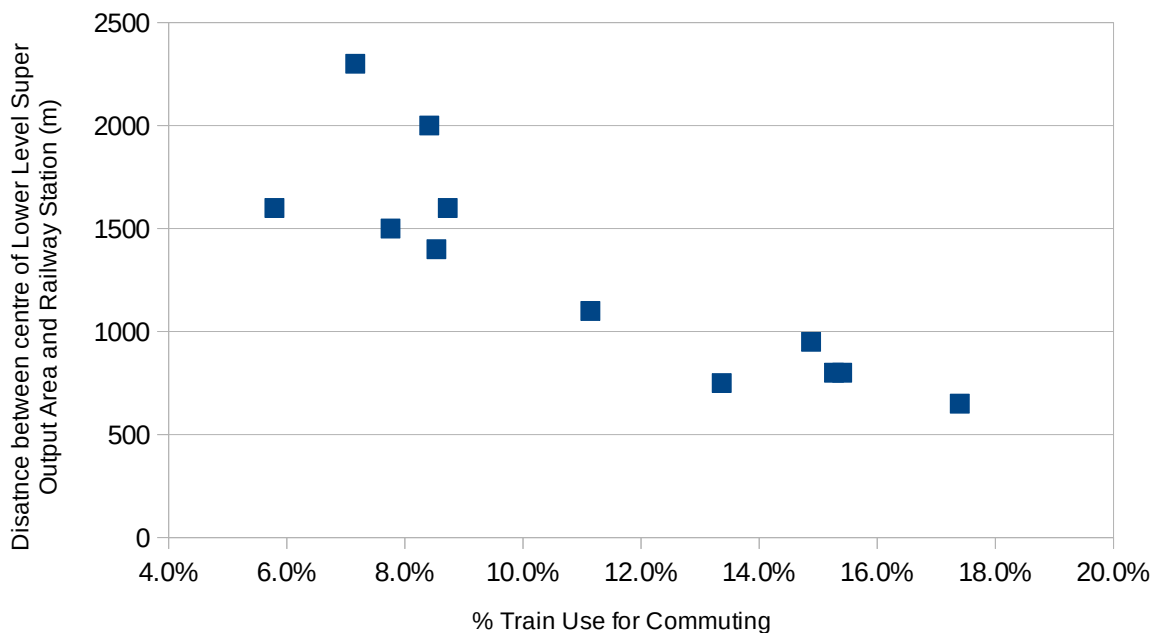
- 2.31 Paragraph 16.2.2 of the TA states, '*Initial engagement with the local bus operator Stagecoach in June 2023 confirmed that they would not seek to divert or add any services in response to the Proposed Development*'. To divert through the proposed development would both increase bus journey times for existing passengers and cause existing bus stops along the A2 to be bypassed, increasing walk distances for existing passengers and therefore potentially losing existing patronage. This is a problem for the development since only about half the development would lie within 400m of the A2⁴ and less would lie within 400m of bus stops along the A2.
- 2.32 The railway line crossing the site provides a significant barrier to bus permeability should a bus service ever enter the site. Figure 83 of the TA shows the internal bus route to include a long cul-de-sac to serve areas to the west of the railway line. The there-and-back 1,500m diversion would add journey time and make bus use even less attractive relative to the private car.
- 2.33 There are no bus priority measures within Faversham and no new bus priority measures are proposed as a part of the development.
- 2.34 The applicant does not rely on bus services to achieve transport sustainability. It appears unlikely that bus will accommodate any significant proportion of travel needs.

⁴ Recommended walk distance to bus stops is usually taken to be 400m (see page 6 of Kent Design Guide: Public Transport. The Chartered Institution of Highways and Transportation (CIHT) document, Buses in Urban Developments (CIHT, January 2018) recommends a 300m walk distance when the frequency of bus service is less than 5 per hour (Table 4).

Access to Train Services

2.35 Faversham station provides a good level of service. Data presented by the applicant suggests that the rail services are well used for commuting journeys (average for the whole of Faversham 10.2% train use for commuting – see Table 5 of TA). However, the applicant does not consider the relationship between distance from the railway station and the observed level of train use. The following graph shows the relationship between rail use for commuting and walk distance to the railway station in Faversham:

Graph 1: Rail Use and Distance from Faversham Railway Station



source: 2011 Census Data (NOMIS Table QS701EW)

2.36 Although it can be seen that the average for the town as a whole is around 10%, there is a range from less than 6% to over 17%. There is also a distinct inverse relationship; as the distance from the railway station increases, the level of train use decreases. The centre of the proposed site is further from the railway station than any existing residential areas in Faversham (over 3km). It can therefore be expected that the level of train use will be around the lowest levels currently observed in areas around the town. The level of train use would be further reduced because of the severance effects of the A2 and railway lines described above and the relative ease with which residents in the proposed development would be able to access the strategic highway network.

2.37 Rail is, compared to other modes, expensive, inflexible and provides access to a limited number of destinations. Although it is often chosen as the preferred mode for

commuting, it tends to be used far less for the other main journey purposes (education, shopping, leisure and personal business).

- 2.38 Although the railway does provide some opportunity for those who would live in the proposed development, a balanced assessment of the situation reveals that its role with respect to the proposed site should not be over-emphasised.

Accessibility by Car and Sustainable Modes

- 2.39 The key determinant of a site's level of sustainable transport is the **relative** attractiveness of all available modes. A site can be provided with high levels of convenient and attractive walking and cycling infrastructure and a convenient and frequent bus service but if car accessibility is also high, the level of sustainable travel will be limited.
- 2.40 It is a well-established fact that there is a 'modal bias' in favour of the private car. Where the cost of using a bus is the same as the cost of using the car, the car is generally preferred. Where a car is available for a short journey, it is often preferred to walking and cycling.
- 2.41 The relative attractiveness of using different modes can be influenced by making it more difficult or costly to use the car through closing direct routes to motorised traffic or by imposing high parking charges. These measures are often highly unpopular and none are proposed as part of this development.
- 2.42 Attempts have been made in the past to reduce car use by restricting residential parking but this approach has generally failed and has often had the undesirable effect of causing informal and unsafe parking on footways, verges and in areas otherwise expected to be kept clear for emergency access. No parking restrictions are being proposed as part of this development.
- 2.43 Alternatively it is possible to make it relatively more attractive to use public transport by providing bus lanes or other bus priority measures that reduce journey times compared with using the car. No bus priority measures are proposed as part of this development. Indeed, bus access appears to be a low priority since the operator has expressed no desire to route services through the site (see above).
- 2.44 The approach that is described in the TA is, essentially one of 'laissez faire' as far as transport choice is concerned. Residents are provided with sufficient parking to meet

demand. There are no significant closures of roads making car travel inconvenient⁵. There is no reliance on a public transport strategy that overcomes modal bias.

- 2.45 There are circumstances where walking and cycling provide an advantage over car travel when networks become congested, particularly for relatively short journeys (assuming that pedestrian and cycle networks are available). The traffic modelling reported in the TA shows that in 2038 with the proposed development and the associated highway improvements, queues and delays are, in some cases, **less** than existing. There is therefore expected to be no constraint placed on car travel by network congestion.
- 2.46 The laissez faire approach to transport provision needs to be considered when judging the sustainability credentials of the development. It is very important to arrive at a clear view on this subject as it has important implications as far as assumptions about vehicle trip generation are concerned.

Influence of M2 and Major A Roads

- 2.47 The site has extremely high accessibility to the M2. It is located between two motorway junctions. To put this in perspective, in most cases the car journey from the site to the M2 would be shorter than the walk journey between the site and the town centre.
- 2.48 The M2 provides access to Canterbury (9 miles via A2 east), Chatham/Rochester/Gillingham (20 miles) and Maidstone (19 miles via A249).
- 2.49 In addition, the A251 provides a direct route to Ashford (13 miles) and the A2 provides a direct route to Sittingbourne (7 miles). The A299 provides direct access to Whitstable (7 miles), Herne Bay (12 miles), Margate (23 miles), Ramsgate (25 miles) and Broadstairs (26 miles).
- 2.50 The convenience of vehicle use will attract both residents and businesses seeking high road accessibility. To imagine that the proposed site would tend towards local self-sufficiency in relation to travel patterns cannot be reconciled with its location with respect to strategic highway routes and major urban areas. Any consideration of travel patterns needs to acknowledge this aspect of the development.

⁵ Indeed, the TA refers to the provision of alternative vehicle routes to improve 'network resilience'. This 'network resilience' is used to explain why future year traffic modelling shows an **improvement** of existing conditions in some locations (see, for example, TA para. 10.2.11).

3 TRIP GENERATION

Residential Trip Generation

3.1 The TA identifies three trip generation scenarios; Central Forecast (Scenario 1: 'prevailing travel behaviour'), Lower Forecast (Scenario 2: modal shift away from car) and Higher Forecast (Scenario 3: modal shift towards car) (see Para. 19.1.1 of TA). Details are provided in Appendix C of the TA.

3.2 The 'business as usual' residential and employment trip generation rates (Scenario 1) adopted in the assessments are set out in Figure 107 of the TA and reproduced in the following table:

Table 1: 'Business as Usual' Vehicle Trip Generation Rates (Scenario 1)

Land Use	AM Peak	PM Peak
Residential	0.267 per dwelling	0.277 per dwelling
Employment (cars)	0.291 per job	0.215 per job
Employment (HGVs)	0.186 per 100sqm	0.124 per 100sqm

Source: Figure 107 of TA

3.3 A 'bespoke travel patterns' set of trip rates (Scenario 2) is presented as 'a realistic and achievable' mode share:

Table 2: 'Bespoke Travel Patterns' Vehicle Trip Generation Rates (Scenario 2)

Land Use	AM Peak	PM Peak
Residential	0.173 per dwelling	0.209 per dwelling
Employment (cars)	0.235 per job	0.174 per job
Employment (HGVs)	0.186 per 100sqm	0.124 per 100sqm

Source: Figure 109 of TA

3.4 Paragraph 19.3.1 states that the 'Bespoke Travel Patterns' trip generation rates constitute 'a realistic and achievable mode share considering travel patterns in Poundbury and the location of the Proposed Development relative to Faversham railway station'. As described below, trip rates are not based on observed travel patterns in Poundbury and there is no specific allowance made for rail accessibility.

3.5 Notwithstanding the above, 'higher forecast' trip generation rates have been calculated by applying an additional 20% to the 'business as usual' rates:

Table 3: 'Higher Forecast' Vehicle Trip Generation Rates (Scenario 3)

Land Use	AM Peak	PM Peak
Residential	0.320 per dwelling	0.333 per dwelling
Employment (cars)	0.349 per job	0.258 per job
Employment (HGVs)	0.186 per 100sqm	0.124 per 100sqm

Source: Figure 111 of TA

3.6 The above rates (Scenario 3) are those used for the purposes of transport modelling. These trip rates are very low for residential developments. The following paragraphs assess the details of the applicant's approach to trip generation.

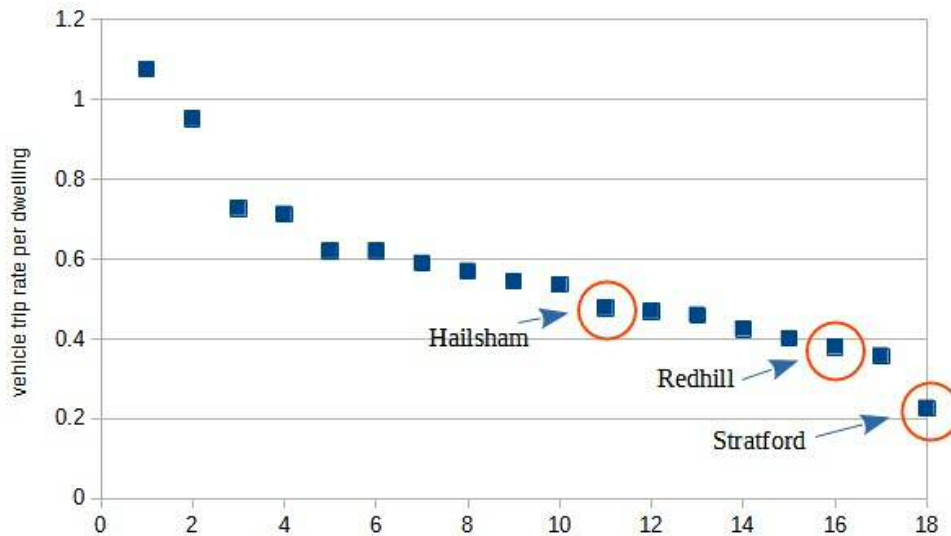
3.7 Background information explaining how trip generation rates have been derived is set out in a Technical Note that is attached as Appendix C of the TA which in turn refers back to the Transport Assessment Scoping Report (TASR) that is also included in Appendix C of the TA. An initial residential trip generation rates has been derived from the TRICS database using survey data collected at three sites (see Table 3 of Trip Generation Technical Note):

- Hailsham: TRICS ref. ES-03-M-11: 354 dwellings
- Redhill: TRICS ref. SC-03-M-06: 500 dwellings
- Stratford upon Avon: TRICS ref. WK-03-M-01: 395 dwellings

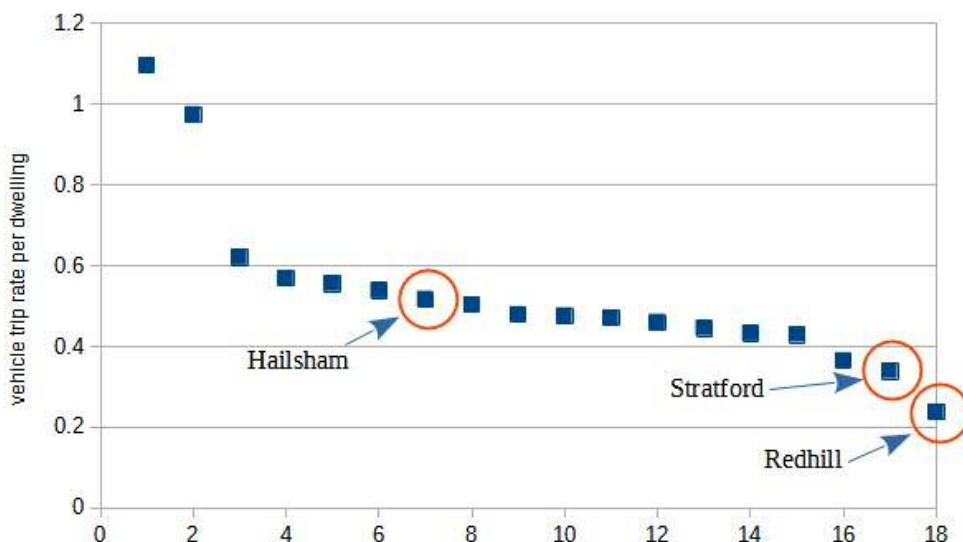
3.8 The Technical Note does not include a justification for selecting just these three sites from the TRICS database. The following graphs show the variation in vehicle trip generation rates at all the sites in the TRICS database that might have been used⁶. The sites are ranked from highest on the left to lowest on the right:

⁶ Mixed private/affordable housing, England excluding Greater London, 200 to 2,000 dwellings

Graph 2: AM Peak Trip Generation Rates (TRICS Database)



Graph 3: PM Peak Trip Generation Rates (TRICS Database)



3.9 It is immediately apparent that the three sites that have been selected have some of the lowest peak hour trip generation rates of all those surveyed in the database. If ‘outliers’ with particularly high or low trip generation rates are excluded from the calculations it can be seen that typical peak hour trip generation rates are in the region of 0.5 vehicle trips per dwelling. The ‘business as usual’ (Scenario 1) trip generation rates cited in the TA are little over half of these rates. The label ‘business as usual’ is not appropriate since the rates are only slightly higher than the very lowest rates observed at other sites and bear no resemblance to average rates for similar sites.

3.10 Part of the reason that ‘business as usual’ trip rates are so low is to do with the methodology that has been applied in the TA. This takes observed *person* trip

generation rates and, through a convoluted series of steps relying on assumptions made in the National Trip End Model (NTEM), converts the person trip rates to trip rates for all modes. Vehicle trip rates are derived using this method but it makes no sense to use vehicle trip rates calculated indirectly when vehicle trip rates have already been directly surveyed at the TRICS sites that have been used. This is a 'sleight of hand' that results in vehicle trip rates lower than those that would have been used if observed data were used directly:

Table 4: Comparison of Observed Residential Vehicle Trip Rates and Derived Vehicle Trip Rates

	AM Peak	PM Peak
Observed *	0.362	0.365
Derived**	0.267	0.277
Difference	-26%	-24%

* from TRICS database surveys for 3 sites

** see Figure 16 of Trip Generation Technical Note

- 3.11 The use of the NTEM to factor the data leads to vehicle trip rates between 24% and 26% lower than those derived directly from observations.
- 3.12 It is concluded that the extremely low trip generation rates applied in the assessments are the result of both selecting data from sites that have unrepresentatively low peak hour vehicle trip generation rates and applying NTEM factors that have the effect of further reducing rates.
- 3.13 Surveys were carried out in Faversham to 'validate' the above trip rates. The surveys of houses on Canterbury Road show the following vehicle trip generation rates:

Table 5: Observed Vehicle Trip Rates, Canterbury Road, Faversham

	AM Peak	PM Peak
Observed *	0.402	0.439
Derived**	0.267	0.277
Difference	-34%	-37%

* from Faversham Survey (see TASR)

** see Figure 17 of Trip Generation Technical Note

- 3.14 The Technical Note concludes that the derived *person* trip generation rates are in line with those observed in Faversham but fails to comment on the fact that observed vehicle

trip generation rates are considerably higher than those derived for the purposes of assessing the proposed development.

3.15 The TASR refers to surveys at both Gaskin Road and along Canterbury Road (see Figure 39 of TASR). The trip rates derived from the Gaskin Road data were extremely low (approximately one third of those observed along Canterbury Road). It appears that the Gaskin Road survey data has not been carried forward into later assessments. The Trip Generation Technical Note refers only to surveys of residential areas along Canterbury Road. It can only be assumed that it was concluded that the surveys at Gaskin Road did not produce representative results.

3.16 It should also be noted that the location of the surveys in Faversham are significantly closer to the centre of the town and the railway station than the proposed development. The following table shows the walk distances from the centre of the survey site and the centre of the proposed development from the town centre and the railway station:

Table 6: Walk Distances to Town Centre and Railway Station (min/max)

	Town centre*	Railway Station
Canterbury Road Development	0.85km – 1.5km	0.4km – 1.4km
Proposed Development	1.3km – 3.1km	0.95km – 2.8km

* central car park

3.17 The IHT’s document, Guidelines for Providing for Journeys on Foot (IHT, 2000) sets out suggested acceptable walking distances:

Table 3.2: Suggested Acceptable Walking Distance.

	Town centres (m)	Commuting/School Sight-seeing (m)	Elsewhere (m)
Desirable	200	500	400
Acceptable	400	1000	800
Preferred maximum	800	2000	1200

3.18 Part of the Canterbury Road development lies within the desirable walking distance (400m) of the railway station and most lies within the preferred maximum walking

distance (1,200m) of the town centre. In contrast, the vast majority of the proposed development lies in excess of the preferred maximum walking distance (1,200m) of the railway station and all of it lies beyond the preferred maximum walking distance of the town centre.

- 3.19 The differences in walking distances between the surveyed site and the proposed site are significant since people in the proposed site will be significantly less likely to access the town centre and the railway station on foot than those in the areas that were surveyed. It is not, therefore, reasonable to directly apply the Faversham survey data to the proposed site.
- 3.20 A balanced appraisal of the available evidence suggests that the proposed site would most likely display vehicle trip generation rates well over 0.4 trips per dwelling in the peak hours. This level of trip generation is at least 25% higher than the Higher Forecast (Scenario 3) rates provided in the TA and accompanying documentation.

Employment Trip Generation

- 3.21 The Trip Generation Technical Note provides details of the methodology used to derive trip generation rates for employees in the proposed development.
- 3.22 The TRICS database has been used to identify an initial employee vehicle trip generation. This is based on large business parks with over 1,000 employees. It could be argued that the proposed approach to employment within the development is dissimilar to that provided in a conventional large, self-contained business park. The applicant provides no justification for adopting the chosen approach to employment trip generation.
- 3.23 An allowance has been made for parking restraint equivalent to a 20% reduction in car mode share. It is noted that Poundbury includes no parking restraint and promoted free on-street parking throughout the development. It is therefore questionable whether a significant change in car usage due to restricted parking provision at employment locations can be justified.

Poundbury Data

3.24 The trip generation work makes reference to surveys undertaken in Poundbury⁷ although the Poundbury data are not used directly to calculate trip rates for the proposed development. The TA presents Poundbury as a 'similar' location and the proposed development is expected to have a similar profile of transport movements. Reference is made to a 2014 Oxford Brookes University study, 'Learning from Poundbury'⁸. This study was funded by the Duchy of Cornwall and should not therefore be seen as independent given that the Duchy of Cornwall is the applicant in this case. It is, however, acknowledged that, '*much of the findings of that report is swayed by a heavy component of retirement age respondents*' (para. 5.2.1 of TA).

3.25 There are good reasons to avoid making the assumption that observed trip-making patterns in Poundbury are relevant to the Faversham situation:

- The location of the Poundbury development is not comparable with that of Faversham since Dorchester displays a much higher level of isolation in terms of its relationship with other major urban areas. The nearest major centres are Yeovil (20miles) and Poole (22 miles);
- Highway accessibility at Poundbury is far lower than at Faversham (the A35 is of a much lower standard than the M2 and other major A roads around Faversham);
- The surveys at Poundbury do not differentiate between residential and employment trips;
- The surveys at Poundbury exclude some trip types such as shopping and education;
- Poundbury is not subject to the severance effects of a major A road and a railway line between it and the centre of Dorchester;
- The socio-economic characteristics of those living in Poundbury are not the same as those expected to live in the Faversham development (Poundbury contains significant numbers of retirement flats).

3.26 The analysis of the traffic surveys at Poundbury defined a 'through trip' (i.e. one that was not associated with any of the land uses in Poundbury) as any trip taking 7 minutes or

7 See Appendix C of TA, Poundbury Survey Data

8 See para. 5.2.1 of TA

less. The distance through Poundbury is around 1km. There is no evidence of congestion on the route through Poundbury yet the assumption is that some vehicles that are just passing through travel at an average speed of 8.6kph (5.3mph). This does not appear credible. The 7 minute threshold appears highly likely to exclude a number of trips to (and from) land uses within the area.

3.27 The analysis goes further to exclude any vehicles with observed dwell times within Poundbury of between 8 minutes and two hours. These are assumed to comprise either school drop-off and pick-up trips or retail trips. In the AM peak hour a total of 473 school and retail trips are excluded and in the PM peak hour 327 trips are excluded (see Figure 6 of Poundbury Traffic Survey Summary). The proposed development includes a primary school and will generate school trips to educational establishments outside the development. The proposed development also includes retail facilities. It is not justifiable to assume there are no school and retail trips associated with the proposed development.

3.28 The TSR quotes the Poundbury survey results without school and retail trips as a comparison with the trip rates proposed for the development (see Figure 54 of TSR). The following Table summarises the Poundbury survey results and provides a fairer comparison (i.e. with school and retail trips included):

Table 7: Comparison of Poundbury Trip Generation Rates (per job/household)

Source	AM Peak	PM Peak
Poundbury excl. retail and school trips*	0.585	0.496
Poundbury incl. retail and school trips**	1.060	0.890
SE Faversham Scenario 3 residential plus employment***	0.669	0.591
% difference (SE Faversham compared with Poundbury)	-37%	-34%

* see Figure 54 of TSR

** derived from Figure 8 of Poundbury Traffic Survey Summary (Appendix C of TA)

*** see Figure 111 of TA

3.29 The data that are available indicate that the **highest** level of trip generation derived for the proposed development (Scenario 3) is between 34% and 37% lower than the observed trip generation rates for Poundbury. It appears likely that the shortfall would be higher since the exclusion of all ‘through trips’ at Poundbury of seven minutes or less is likely to be underestimating trip generation levels.

- 3.30 It is concluded that the characteristics of the Poundbury development make it unrepresentative of the SE Faversham development but even if a comparison were to be drawn, the assumed SE Faversham trip rates are at least a third lower than those derived for Poundbury.

Internal Trips

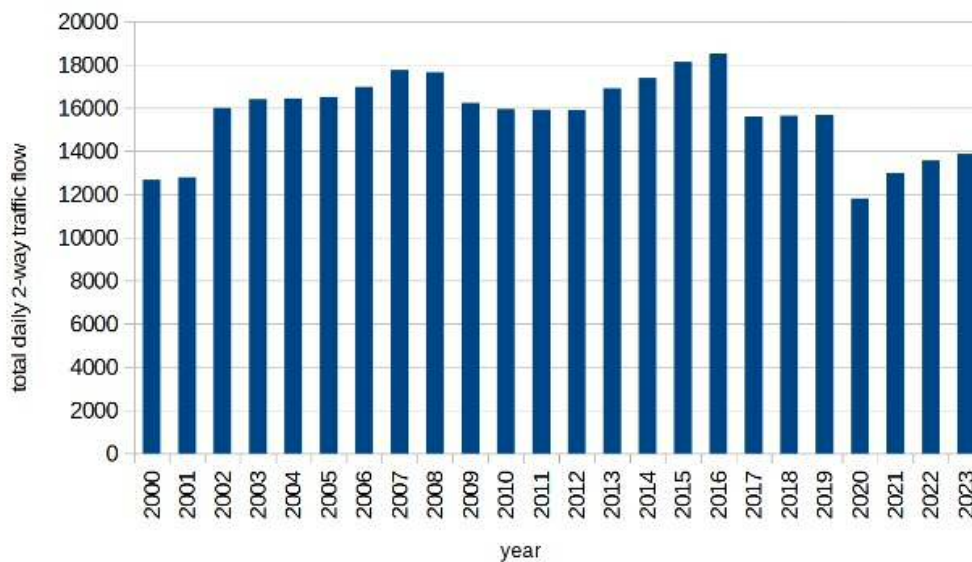
- 3.31 It is proposed to provide around 2,500 jobs within the development, of which 500 are expected to be home-working. The development is also expected to include a primary school, community and sports provision, health facilities, a hotel and retail facilities. Since the trip generation characteristics of the proposed development are based only on residential and employment uses, it is assumed that the scale of other uses such as retail will be such that they will not attract incoming trips. Notwithstanding this, no allowance has been made for external trips travelling to the primary school and no allowance has been made for the proposed hotel.
- 3.32 The non-residential uses within the site will reduce external vehicle trip making to some extent. Some secondary school trips will also be partly internalised because the Abbey School is situated around 800m west of the site's western boundary. Much of the site is beyond a reasonable walking distance of the school. The Queen Elizabeth Grammar School, the other secondary school in Faversham lies over 2km from the centre of the site, beyond walking distance for most residents within the development.
- 3.33 There has been no explicit use of assumed rates of internalisation to derive vehicle trip rates. Reliance has been placed on TRICS data, manipulated in relation to mode share and journey purpose but not internalisation. The Poundbury data reflect an inherent internalisation of trips but if these data are applied to the proposed development, the vehicle trip rates would be significantly higher than those used for assessments.

4 TRAFFIC SURVEYS AND BASE DATA

Base Traffic Surveys

- 4.1 Traffic surveys were undertaken at the end of November 2021. Travel patterns were affected, to some extent, by the Covid pandemic. Most restrictions had been eased earlier in the year but there were further restrictions that came into force at the beginning of December 2021. The following graph shows the variation in daily traffic flows on the A2 adjacent to the site since 2000:

Graph 4: Daily Traffic Flows on A2



source: DfT data (AADF count point 18400)

- 4.2 The graph clearly shows the reduction in traffic flows along the A2 in the vicinity of the site in 2020 due to the pandemic. In 2021 the traffic flows were 10.1% higher than in 2020 but then increased by a further 4.5% in 2022 and 2.2% in 2023.
- 4.3 Although automatic traffic count (ATC) data were collected over a two week period, data for only Tuesday 30th November were used for the development of the model. No justification for using this day rather than other days is provided. There is also no comparison of the total levels of traffic recorded on each of the days that would allow some assessment of whether traffic levels on Tuesday 30th November 2021 were typical.

Changes in Traffic Flows between Base and Future Year Situations

- 4.4 Key committed developments in the vicinity of the proposed development are shown on **Figure 5**.
- 4.5 Tables 20 and 21 of the TA set out the committed housing developments that have been included in the 2038 Swale Highway Model (SHM) to form the 2038 Reference Case against which the impact of the proposed development is compared.
- 4.6 Trips within the VISSIM model are based on observed 2021 flows (Base Model). Flows are converted to 2038 by applying an uplift based on the uplift used in the SHM from the Base Year to 2038. In theory this allows traffic growth and committed development to be taken into account in the VISSIM model.
- 4.7 No information is provided to allow a comparison of traffic flows on links for the Base and Future Reference Case situations.
- 4.8 No information is provided to allow an assessment of the changes in link flows and turning movements resulting from the proposed development.
- 4.9 Some of the results of the VISSIM modelling are illogical and inconsistent with the proposals (see following section). **Flow diagrams showing how flows are predicted to change due to traffic growth, committed development and the proposed development are required to allow the apparent inconsistencies to be explored.**

Highway Safety

- 4.10 Figure 74 of the TA shows PIAs along the A2 corridor through Faversham. The accompanying text states that four of the seven serious PIAs involved pedestrians. The figure shows numerous slight PIAs. No assessment is made of the proportion of these that involved pedestrians or other vulnerable highway users. Despite the lack of proper assessment, the accompanying text states, '*The data for A2 Canterbury/London Road corridor does not indicate any common causal patterns*' (TA, para. 11.2.13). **Given the high number of PIAs along this section of the A2, this assessment needs to be undertaken.**

5 TRAFFIC MODELLING

Swale Highway Model (SHM)

- 5.1 Paragraphs 10.1.10 to 10.1.13 of the TA summarise the Baseline and future Reference Case modelling results from the SHM. The 2017 Baseline SHM shows only two links operating with significant delays in the AM peak hour; Brenley Lane on the approach to the Brenley Corner junction and the B2041 (The Mall) north of the A2. In the PM peak hour the model shows only the Brenley Lane link to be over capacity.
- 5.2 The 2038 Reference Case shows delays on three links in the AM peak hour; Brenley Lane, the M2 north-east bound off-slip and the B2040 Whitstable Road at its junction with the A2 in Ospringe. Delays are more prevalent in the PM peak with Brenley Lane, the B2040 Whitstable Road at its junction with the A2 in Ospringe, the A2 east of Love Lane, the B2040 north-east of Faversham and the M2 off-slip on to the A251.

VISSIM Model

Base Year Modelling

- 5.3 It is noted that the VISSIM Modelling Methodology Report⁹ (Arup) that forms the basis of agreements with NH and KCC is dated February 2022. The base traffic surveys were therefore undertaken before a modelling methodology was presented to the highway authorities. It therefore appears that both NH and KCC were asked to agree a predetermined methodology rather than to engage in discussions to design a mutually acceptable approach.
- 5.4 Section 3.2 of the VISSIM Local Model Validation Report (VLMVR) (Arup, December 2023) states that a site visit to observe the '*general operation of the network... to inform base modelling*'. Observations of the network should have been carried out during the period of the traffic surveys in order to assess how closely the modelled situation reflected observed conditions. The VLMVR refers to site observations at only one junction.
- 5.5 Table 15 of the VLMVR shows that the VISSIM model origin-destination (OD) matrix, when compared with observed traffic flows, underestimated heavy vehicles entering the model by 76% and leaving the model by 26%. The comment in the VLMVR is that, '*The*

9 Appendix A of LMVR

comparison of both lights and heavies shows a generally good match between both data sets' (VLMVR, p.27). When compared with strategic model (Saturn) flows, the VISSIM model OD outputs showed that heavy vehicles entering the network in the model were 140% lower than in the strategic model and those leaving were 131% lower than the OD outputs. The accompanying text states, *'Whilst PM peak heavy volumes are shown to be a fair bit lower than those in the Strategic model a better comparison is achieved between OD matrices and the observed surveyed volumes'* (VLMVR, p.28). The text dismisses the potential significance of these discrepancies.

- 5.6 Section 5.6 of the VLMVR states that, *'All queues witnessed in the base year model are deemed appropriate compared to available on-site data and site observations'* (VLMVR, p.44). No queuing data were collected during the traffic surveys and no other queue observations (apart from the one instance noted above) were made. There is therefore no evidence to support the claim that queues in the base year model are *'appropriate'*.
- 5.7 Automatic Number Plate Recognition (ANPR) data are not provided so it is impossible to check whether the journey times used to validate the model are accurate.
- 5.8 Appendix F of the VLMVR provides information about observed and modelled journey times. Graphs show the mean travel time and the minimum and maximum journey times observed. Although the mean observed journey times are generally close to the observed journey times, a much greater range between minimum and maximum observed journey times is indicated. For example, for Route 1 (A2 through Faversham) the following graphs are provided:

Extract from Appendix F of LMVR

F.1.1 AM Peak

Figure 32: Route 1 EB AM Min/Max Validation

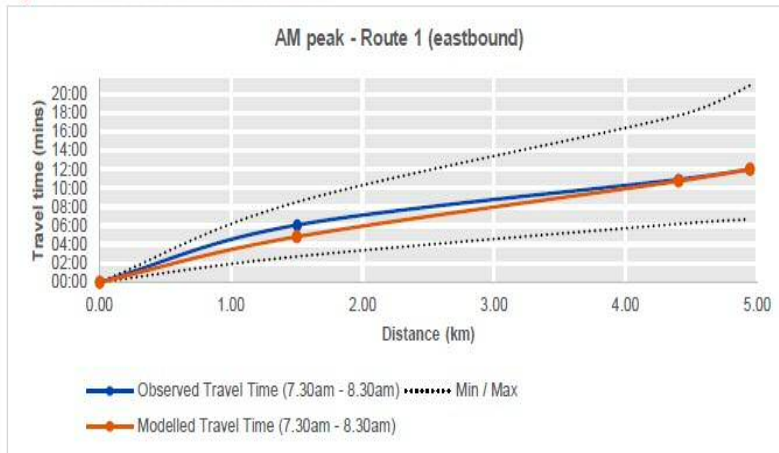
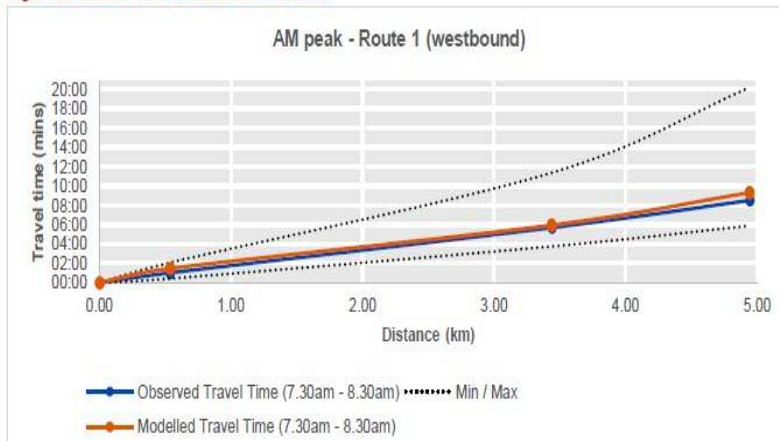


Figure 33: Route 1 WB AM Min/Max Validation



- 5.9 Whereas the mean observed eastbound (top graph) travel time is around 12 minutes at the end of the route (5km), the observed range is between just over 6 minutes and over 20 minutes. Guidance suggests that, *'End to end route times should be analysed, with the means and 95% confidence intervals of observed times being presented alongside the modelled times'* (TAG Unit M3.1 para. 9.3.1). No consideration has been given to 95% confidence intervals and no raw data showing observed journey times are included to allow 95% confidence intervals to be identified. **Further information is required to allow the reliability of journey time data to be checked.**

Future Year Reference Case Modelling

- 5.10 It is noted that a number of journey times are predicted to **decrease** between the 2021 Base and the 2038 Reference Case:

Table 8: Change in VISSIM Journey Times 2021 to 2038 (Reference Case)

Time	Route	Journey time in seconds		
		2021 Base	2038 Ref. Case	Change
AM Peak	A2 west of Faversham to A2 east of Brenley Corner	801	640	-161
	A2 west of Faversham to A251 south of M2	564	496	-68
PM Peak	A2 west of Faversham to A2 east of Brenley Corner	730	531	-199
	A2 west of Faversham to A251 south of M2	599	398	-201

- 5.11 The text of the TA states, '*These improvements are likely due to alternative available routes through the model network and additional traffic being held on eastern arm of M2 Junction 7 (Brenley Corner) roundabout where journey times increase*' (TA, para. 10.2.11).
- 5.12 It is difficult to see how the **eastbound** journey through Faversham on the A2 would benefit from alternative routes being available or from additional traffic being held on the eastern arm of Junction 7 of the M2. **This discrepancy needs to be explained.**
- 5.13 For traffic travelling from the A2 to the A251 Ashford Road the possible holding back of traffic at Brenley Corner seems unlikely to have any significant impact. The model does, however, include two new routes between the A2 and the A251; through the Perry Court development on the western side of the A251 and through Preston Fields east of the A251. Neither of these routes is suitable for through traffic (convoluted routes through residential areas) so it appears that the model may be predicting a significant level of rat-running through these developments. There is no information provided to confirm whether or not this is the case. **Clarification is required.**
- 5.14 Figure 68 of the TA shows average speed plots for the A2 in the vicinity of the A251 junction. This shows a surprising increase in vehicle speeds in 2038 compared with 2021, particularly in the PM peak situation. This is consistent with the reduction in journey times shown in the table above. The explanations given in the accompanying text is again that traffic is being held back at Brenley Corner and that traffic is given alternative routes (see para. 10.2.19 of TA).

5.15 Figure 69 shows average speed plots of the A2 in the vicinity of the Western Link. The plots show an improvement on the A2 eastbound, west of Western Link between 2021 and 2038. No explanation is provided for this improvement. It cannot be due to traffic being held back at Brenley Corner and there are no alternative routes that eastbound traffic on the A2 could use at this point (see Figures 2 and 3 of TA showing the extent of the VISSIM model). **Given that there is a significant increase in traffic levels between 2021 and 2038 the improvement in network performance on the A2 in the vicinity of the Western Link needs to be explained.**

Future Year With Development Modelling

5.16 It is unclear whether the proposals include a reduction in the speed limit on the A2 through Faversham from 30mph to 20mph. Table 41 of the TA (Infrastructure Commitments and Measures) includes:

Implement a scheme of works to the A2 Canterbury/London Road, Preston Park, A251 Ashford Road and B2040 Love Lane to: [...] Reduce the speed of traffic (potentially including changes to speed limits subject to Traffic Regulation Orders) (TA, Table 41 ref. B.2.1)

5.17 Paragraph 13.5.24 of the ES states that there will be, ‘*calming of A2 Canterbury/London Road to reduce vehicle speeds*’. The ES claims that, ‘[these] *measures will minimise negative perceptions of severance of communities along these roads*’ (ES para. 13.5.25) and ‘*Proposed traffic calming of A2 Canterbury/London Road by the new and enhanced pedestrian and cycle facilities is expected to reduce traffic speeds and provide increased separation from motor vehicles which will create a pleasant environment for pedestrians and cyclists*’ (ES para. 13.5.43). Whether or not a change of speed limit is proposed, the mitigation of the adverse severance and fear and intimidation effects of development relies on the slowing of traffic along the A2. Despite this, the results of the VISSIM modelling shows journey times **reducing** on the A2 in both the AM and PM peak hours as a result of development (i.e. vehicle speeds are predicted to **increase**):

Table 9: Change in VISSIM Journey Times Westbound on A2 (2038 Reference Case to 2038 Development Case)

	Journey time in seconds		
	Reference Case	With Development	Change
AM Peak	779	736	-43
PM Peak	835	788	-47

- 5.18 The VISSIM Modelling Results contradict the proposed mitigation measures on the A2. **This contradiction needs to be explained.**

Individual Junction Operational Assessments

- 5.19 The applicant has undertaken no individual junction operational assessments to demonstrate that the proposed development in combination with the proposed mitigation measures will not lead to unacceptable highway impacts.
- 5.20 It is noted that Highways England (now National Highways) stated at the meeting with KCC and the applicant that, *'a combination of both macro and micro network models are likely to be needed to assess the interplay between traffic at Junction 7 and other junctions impacted by the proposed development'* (see item 5.2 of Meeting Minutes in Appendix B of TSR attached as Appendix C of TA). Despite this, no micro network models have been employed to test impact.
- 5.21 It is acknowledged that detailed planning permission is not being sought for the access arrangements for the whole site. However, for outline permission to be granted there should be sufficient detail of transport impact submitted to allow a clear and unambiguous judgement to be made of the potential to deliver a development that does not have unacceptable highways impact. The information that has been provided is not clear and unambiguous as has been shown above.
- 5.22 The need for more detailed and reliable individual junction modelling is particularly important in situations where transport networks are sensitive or congested. The A2 is both sensitive and congested¹⁰ yet no detail is provided with regard to impacts on both existing and proposed junctions. The conventional approach would be to extract turning movements from the VISSIM model at key junctions to determine whether they operate satisfactorily. This approach would also make it clear what assumptions have been made: the traffic flows that have been used, the proportions of HGVs, how traffic has been distributed over peak periods, what allowances have been made for pedestrian crossing, the widths and lengths of traffic lanes, the assumed turning radii, saturation flows etc. At present none of these assumptions can be interrogated.
- 5.23 No individual junction assessments have even been undertaken for the Phase 1 development for which detailed planning permission is sought for access.

¹⁰ This is clear from the information provided in the Faversham Critical Junctions report (PJA, May 2022) that identifies 13 of the 25 critical junctions to be along the A2 though Faversham

5.24 The acceptability of the proposed access strategy for both Phase 1 development and the larger site needs to be supported by detailed individual junction operational assessments of key junctions.

6 COMMENTS ON PROPOSED HIGHWAYS IMPROVEMENTS

A2/Western Link Junction

- 6.1 Drawing SK-025A in Appendix A of the TA shows the swept paths of vehicles using the proposed A2/Western Link signalised junction (replacing existing roundabout). It is proposed to widen the Western Link approach arm to accommodate two right turning lanes that are provided with a short section of widened west bound A2 to merge into a single lane. The swept path drawing appears to show that two vehicles turning right are unable to make the manoeuvre without collision. **The safe operation of this proposed highway improvement needs to be demonstrated.**

M2 Junction 6

- 6.2 Both slip road junctions with the A251 are proposed to be changed to signalised arrangements. In both cases the left turn from the slip to the A251 is proposed to comprise two lanes that then merge into one lane over a short distance on the A251. **Stage 1 Road Safety Audits of these junctions are required to confirm whether the proposed modifications are safe.**

Lack of Individual Junction Operational Assessments

- 6.3 No individual junction operational assessments have been undertaken. It is therefore impossible to properly interrogate the parameters that have been used and the assumptions that have been made. **Details of junction modelling are required to properly demonstrate that the proposed mitigation (and wider access strategy) is acceptable.**

7 PHASE 1 DEVELOPMENT

Access Arrangements

- 7.1 Despite full planning permission being sought for Phase 1 of the development, there has been no assessment made of the ability of the proposed site access junctions to operate within capacity. **This assessment needs to be undertaken.**

Commercial Uses

- 7.2 It is noted that the proposed commercial uses and associated car parking are located immediately adjacent to the main A2 junction. It is highly likely that the facilities (29 units likely to include retail, food/restaurant/takeaway, other personal business) will be used by significant numbers of drivers either diverting from the A2 or travelling specifically to use the facilities. No assessment has been undertaken of the impact of these vehicle trips on the operation of the main access junction.

Higher Trip Generation Rates

- 7.3 Phase 1 will have higher trip rates than much of the remainder of the proposed development for the following reasons:
- No primary school would be available so most, if not all primary school trips would be by car;
 - Phase 1 constitutes one of the parts of the site furthest from existing facilities within Faversham. It is around 1.75km from the railway station, 2.25km from the centre of Faversham and 2.0km from the Abbey School;
 - Phase 1 does not benefit from any of the internal pedestrian and cycle routes that are associated with the wider site;
 - The overall level of internalisation of trips will be lower for Phase 1 than for the site as a whole since fewer facilities are provided. Indeed, the facilities that are provided are likely to lead to a net increase in trip making since they will attract trips from outside the site.

- 7.4 The low level of sustainable access is likely to establish unsustainable habits of travel behaviour that will be a barrier to behaviour change as further parts of the site are developed.
- 7.5 There has been no assessment made of the implications of the low levels of sustainability of the proposed Phase 1 development.

Cycle Parking

- 7.6 Paragraph 18.6.2 states that cycle parking for houses will be provided in garages (or in other on-plot cycle parking stores. Further detail is required to demonstrate that the dimensions of garages will accommodate cycle parking and to demonstrate that 'other on-plot cycle parking' does not mean parking in inaccessible back gardens. No 'on-plot cycle stores are shown on the Phase 1 Parking Strategy Plan (Drg. No. A-152 rev. A).
- 7.7 Paragraph 18.6.2 states that cycle parking for flats will be provided at a standard of 1 per dwelling. Given the sustainability principles said to be governing this development, this level of provision appears low and will lead to informal parking in communal areas or residents being forced to carry bicycles into flats.
- 7.8 **The applicant needs to demonstrate an acceptable cycle parking strategy.**

Car Parking

- 7.9 It is proposed to provide 12 of the 61 visitor car parking spaces adjacent to the A2, '*as a measure to change the character and speed of the A2 Canterbury/London Road*' (TA, para. 18.6.3). Given the absence of other measures to moderate vehicle speeds, particularly in a westbound direction, the introduction of parking spaces that would require drivers to stop within the carriageway and reverse into spaces is likely to represent a serious highway safety risk. It will also encourage drivers pulling out to attempt u-turns within the carriageway of the A2 to return the way they have come. This, again, would constitute a highway safety hazard.
- 7.10 It appears that the car parking adjacent to the A2 is located within the visibility splay of the proposed secondary access.
- 7.11 Paragraph 18.6.3 states that 61 visitor parking spaces would be provided. The Phase 1 Parking Strategy Plan shows only 50 visitor parking spaces for the residential development, which includes the spaces adjacent to the A2.

- 7.12 A total of 76 disabled car parking spaces are proposed for the residential land uses. This is far in excess of requirements. It is likely that many disabled spaces will be used for additional parking for able bodied drivers. **Clarification is required on this aspect of the design.**

8 ENVIRONMENTAL STATEMENT (ES)

- 8.1 Section 13 of the ES deals with transport environmental impacts. A review of this work reveals a number of concerns.
- 8.2 Paragraph 13.3.31 of the ES states that the proposed development is expected to generate 33,586 vehicle movements per 18 hour day. This includes 1,013 HGV movements. Paragraph 13.3.32 states that the proposed development is expected to generate between 1,450 and 1,650 vehicle movements in the peak hours including 40-60 HGV movements. The combined peak hour traffic (3,100 trips) represents 9.2% of the 18 hour trips. Combined peak hour traffic would generally represent 15%-20% of daily traffic. The daily traffic generation quoted in the ES therefore appears to be incorrect. It is impossible to interrogate the figure since no supporting calculations are provided.
- 8.3 Whereas the ES identifies peak hour vehicle trip generation as between 1,450 and 1,650 trips¹¹, the TA identifies the peak hour trip generation as between 1,450 and 1,207¹² trips (see Table 35 of TA). **This discrepancy needs to be explained.**
- 8.4 In terms of road vehicle driver delay, the magnitude of increase in journey time in the PM peak hour resulting from the proposed development on the A2 Canterbury/London Road to the A251 Ashford Road is identified as 'large' (see Table 13.15 of ES) and the sensitivity of the route is identified as 'medium'. This should result in a 'moderate to major' adverse impact (see Table 13.7 of ES). However, Table 13.16 identifies the significance of the effect as 'permanent moderate adverse effect'. This is an error and contradicts the conclusion that, '*There are no likely significant permanent adverse affects predicted to result from the operation of the Proposed Development*' (para. 13.6.3 of ES).
- 8.5 In dealing with Non-Motorised User Amenity and Fear and Intimidation, the Chapter ignores the A251 Ashford Road that is shown to experience a 'large' magnitude of impact in terms of traffic. The likely significant increase in movements of vulnerable pedestrians (school children) crossing the A251 between the site and the Abbey School is entirely overlooked. The section of the A251 between the site and the school should

11 ES Chapter 13, para. 13.3.32

12 Although the difference between the 2038 Reference Case traffic demand (11,754 trips) and the situation in 2038 with the proposed development (12,937 trips) should be 1,183 trips (Table 35 of TA).

be defined as having 'very high' sensitivity and transport environmental assessments should have been undertaken on this basis. The ES is deficient in this respect.

- 8.6 The proposed measures for cyclists and pedestrians along the A2 are assumed to lead to 'moderate beneficial' effects with respect to Non-Motorised User Amenity and Fear and Intimidation (see Table 13.18 of ES). It has already been explained above that the proposals do not provide a safe shared footway/cycleway route along the A2, particularly in the most constrained area east of the Abbey School (i.e. between the school and the site). A two-way shared footway/cycleway in an urban area close to a secondary school with no margin between it and a carriageway carrying high volumes of traffic including many HGVs and with accesses at the back of the footway/cycleway with little or no inter-visibility and the presence of street furniture make for a potentially highly dangerous situation and one that it is difficult to justify as 'beneficial'. The findings of the transport environmental assessments are therefore questionable.
- 8.7 The ES identifies an increase of 1,706 daily vehicles on Brogdale Road and an increase of 4,039 on the A2 west of the site (see Table 13.11 of ES). This implies that 42% of traffic travelling between the site and areas to the west is modelled as using Brogdale Road. **Given that Brogdale Road provides access to few, if any significant facilities or urban areas, this finding appears highly questionable and requires clarification.**

9 SUMMARY AND CONCLUSION

- 9.1 Railton TPC Ltd has been instructed by Faversham Town Council to review transport work submitted in support of a planning application (Swale Borough Council (SBC) ref. 23/505533) for up to 2,500 dwellings and other land uses including employment for around 2,500 workers on land south-east of Faversham.
- 9.2 The author has visited the site and the surrounding transport networks, has walked the key routes between the site and the town centre and has driven around the local highway network, including the A2 between the Western Link roundabout and Brenley Corner during the PM peak hour.
- 9.3 The applicant argues that the proposed development will generate a level of sustainable travel (primarily walking and train use) far higher than other developments of a similar size. The argument is that the balance of jobs and dwellings and the provision of a range of other land uses (retail, primary school, some personal business) within the development will lead to a high level of internalisation. Coupled with this it is argued that the site allows a high proportion of trips to local destinations to be undertaken on foot.
- 9.4 Opposed to the argument for sustainable travel is the site's location immediately adjacent to two motorway junctions and major A roads providing convenient and direct access to a number of major urban areas. Also, the barrier effects of the A2 and the railway lines and the physical separation of the site from the centre of Faversham deter both walking and cycling between the site and the town centre.
- 9.5 The vast majority of the site lies further from the centre of Faversham than any other existing parts of the town. For the majority of residents walking will not be a feasible mode of travel to the town centre, the railway station and secondary schools.
- 9.6 It is likely that provision within the site for cyclists would be good. Between the site and the centre of Faversham cycling is made difficult on the most direct routes because of stepped railway crossings and, on routes either side of the stepped crossings, by busy roads. It is proposed to introduce a shared footway/cycleway along the A2 but close scrutiny of the proposals reveals them to be sub-standard and potentially hazardous for both cyclists and pedestrians. It is unlikely that any significant proportion of trips outside of the site would be undertaken by bicycle.
- 9.7 The applicant acknowledges that the local bus operator would not divert existing bus services through the site. Buses would not, therefore, provide a convenient mode of travel for those living and working in much of the proposed development.

- 9.8 Faversham offers a good rail service. However, access to the railway station is constrained by its distance from much of the site and the need to cross stepped bridges. A review of the level of train use by those living in different parts of Faversham reveals that although overall levels of train use for commuting are high, there is a clear inverse relationship between train use and distance from the station. The vast majority of the proposed development lies further from the station than any other existing parts of the town. The potential level of train use by those living and working in the proposed development should not, therefore, be over-estimated.
- 9.9 Since the A2 corridor is both highly sensitive and directly affected by the proposals, the applicant needs to undertake a comprehensive assessment of the record of personal injury road traffic accidents, rather than the cursory assessment currently set out in the TA and other supporting documents.
- 9.10 The applicant adopts a laissez-faire approach to transport provision. No constraints on residential or employment parking are proposed. The traffic modelling suggests that in the future year congestion will be **less** than existing, providing little incentive to choose walking or cycling over car use for short journeys. The proposed development increases highway capacity with new and alternative routes providing 'network resilience'. This will serve to facilitate and encourage vehicle movement. No constraints will be placed on vehicle movement between the site and the M2 and other surrounding strategic routes. No road space is designated for exclusive bus use and the internal bus route, if ever used, would require an inefficient there-and-back diversion due to the barrier of the railway line. The overall transport strategy, on closer inspection, is not consistent with the oft repeated 'Duchy of Cornwall Approach'.
- 9.11 It appears that residential trip generation rates have been artificially lowered through a selective choice of source data and through secondary 'processing' of observed trip rates using the National Trip End Model. Surveys undertaken in housing areas on Canterbury Road in Faversham that are significantly closer to the town centre than most of the site show vehicle trip rates well above those proposed for the site. This evidence is ignored by the applicant.
- 9.12 Surveys in Poundbury are used to support the trip generation approach. Scrutiny of the Poundbury data reveals that the analysis in the TA is faulty and, in reality, the Poundbury data suggest that the Faversham trip rates should be significantly higher.
- 9.13 A review of the VISSIM strategic traffic model reveals a number of concerns. The modelling is not validated against any queue length observations. No details of journey

time surveys are provided to allow an informed review of the findings and the model appears to be under-estimating the number of HGVs on the local network.

- 9.14 The future year VISSIM model (2038 Reference Case) suggests that journey times along the A2 **decrease** significantly between 2021 and 2038 despite traffic growth and committed development traffic. The suggested reasons for this are that traffic is being held at Brenley Corner and that traffic is using alternative routes. These explanations are not credible. Further analysis is required to demonstrate that the model is operating reliably.
- 9.15 The acceptability of the traffic impact of the proposed development relies entirely on the outputs from the VISSIM model. It is impossible to interrogate these outputs since no traffic flow diagrams and no changes in turning movements at junctions are provided.
- 9.16 It is proposed to implement measures to reduce speeds on the A2. However, the VISSIM model suggests that vehicle speeds along the A2 will increase with development. This contradiction needs to be explained.
- 9.17 There has been no individual junction modelling for either the Phase 1 development or for the site as a whole. This is required to justify the proposed access strategy and mitigation works.
- 9.18 Chapter 13 of the Environmental Statement (ES) deals with transport. A daily vehicle trip generation figure is provided (33,586 vehicles per 18 hour day) but this does not appear to reconcile with the peak hour vehicle trip generation (1,450 and 1,650). No supporting calculations are provided to allow this discrepancy to be examined.
- 9.19 The ES contains inconsistencies and errors that need to be corrected. It appears that the section of the A251 between the site and the Abbey School has been overlooked as an area of potential transport environmental impact. It has been assumed that the proposed footway/cycleway along the A2 will lead to improved transport environmental conditions. This seems unlikely given that pedestrians will be subject to the threat of unsegregated cyclists, there appears to be no margin between the footway/cycleway and the carriageway, cyclists will be subject to highway safety concerns both from vehicles, particularly HGVs travelling closer to the carriageway edge due to road narrowing and from vehicles and people emerging from accesses immediately adjacent to the back of the footway.
- 9.20 The ES suggests that 42% of traffic travelling between the site and areas to the west uses Brogdale Road. This finding does not appear credible and needs to be explained.

- 9.21 Further work is required to demonstrate that the proposed A2/Western Link signalised junction can operate safely, particularly in relation to the proposed two right turning lanes from Western Link to the A2 west. Similarly, the proposed M2 slip road/A251 junctions need to be subject to swept path analysis.
- 9.22 Further work is required to demonstrate that the proposed accesses for the Phase 1 development will operate safely and within capacity.
- 9.23 Trip generation rates for the Phase 1 development will be higher than for the remainder of the development since levels of internalisation are lower, the site is far from the town centre, the network of pedestrian and cycle routes through the remainder of the site will not be available and the proposed commercial units will attract significant numbers of vehicle trips into the site.
- 9.24 Residents within the Phase 1 development will establish travel habits that are not sustainable that will be difficult to overcome once the site as a whole is developed.
- 9.25 The parking strategy for the proposed Phase 1 development includes parallel parking spaces adjacent to the A2. These are likely to lead to highway safety problems as drivers stop within the carriageway to reverse into spaces and seek to u-turn on the A2 carriageway.
- 9.26 Arrangements for cycle parking within the Phase 1 development require clarification.
- 9.27 The review has highlighted some further matters where additional clarification or explanation is required:
- Traffic flows diagrams are required to allow a comparison of Base Year, 2038 Reference Case and Do-Something (with development) flows;
 - A more detailed analysis of personal injury road traffic accidents along the A2 corridor is required;
 - Source data from where observed journey times have been derived needs to be supplied to support the summary data presented in the TA;
 - The predicted increase in speeds of vehicles on the A2 west of the Western Link with development needs to be explained;
 - Further work is required to demonstrate that the proposed M2 Junction 6 slip road junctions with the A251 and the proposed A2/Western Link junction will operate safely;
 - Further work is required to clarify the cycle parking strategy for the Phase 1 development;

- The derivation of traffic flows quoted in the ES needs to be explained and apparent discrepancies clarified;
- Errors in the ES Chapter 13 need to be corrected (see text for details).

Figures

Figure 1: Site and Local Transport Networks

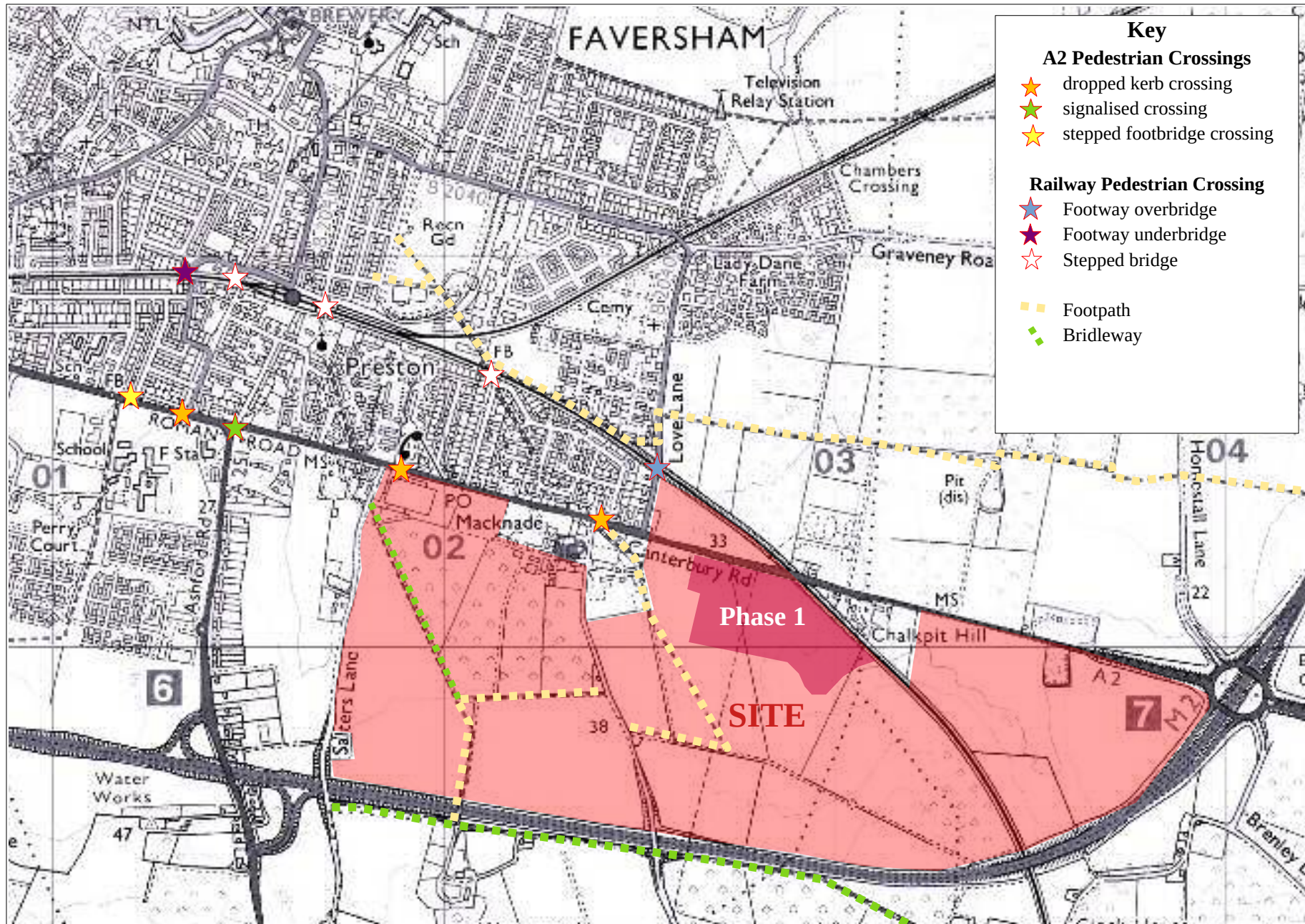


Figure 2: Distance from Centre of Faversham



Figure 3: Step-Free Walking Routes

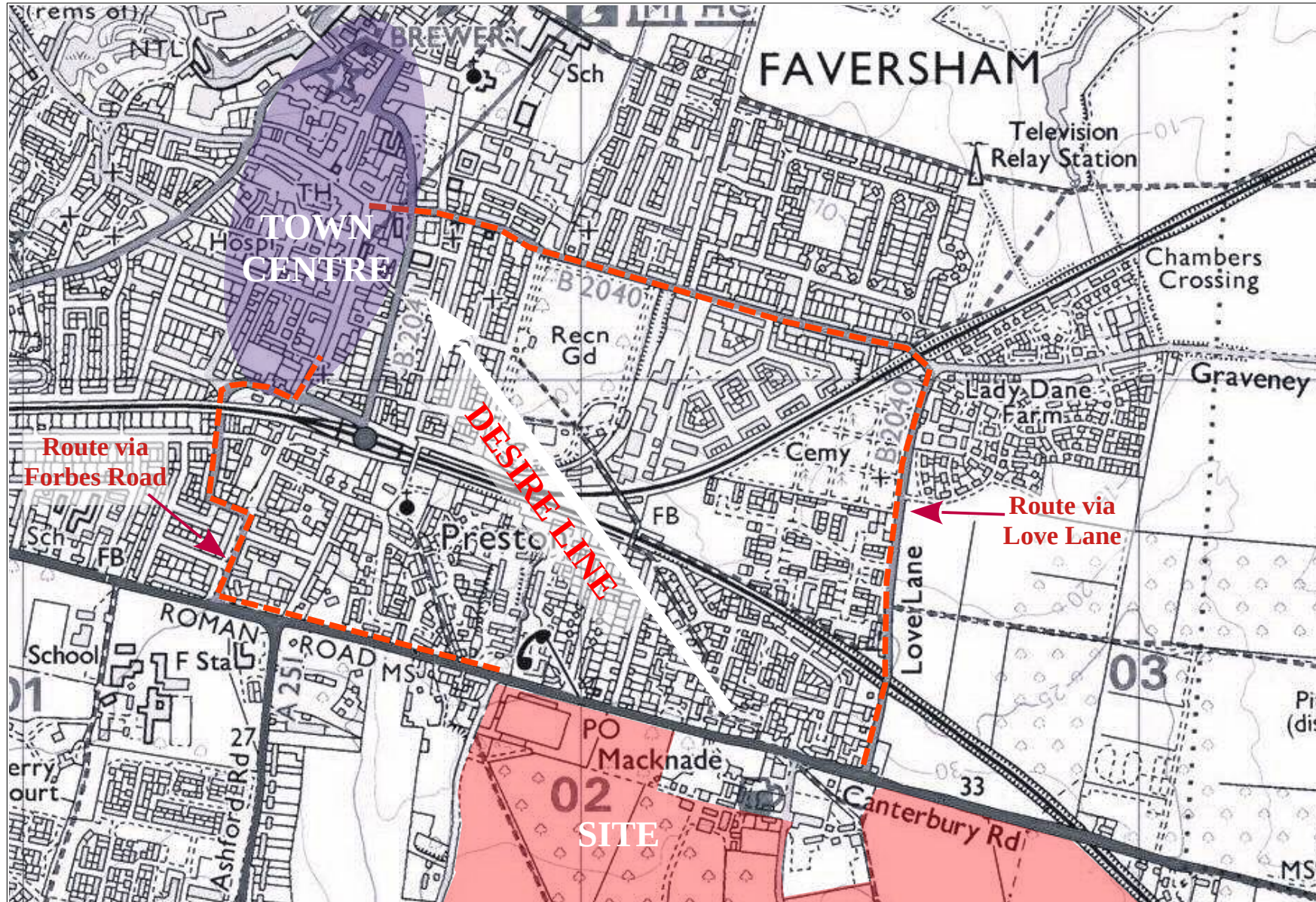
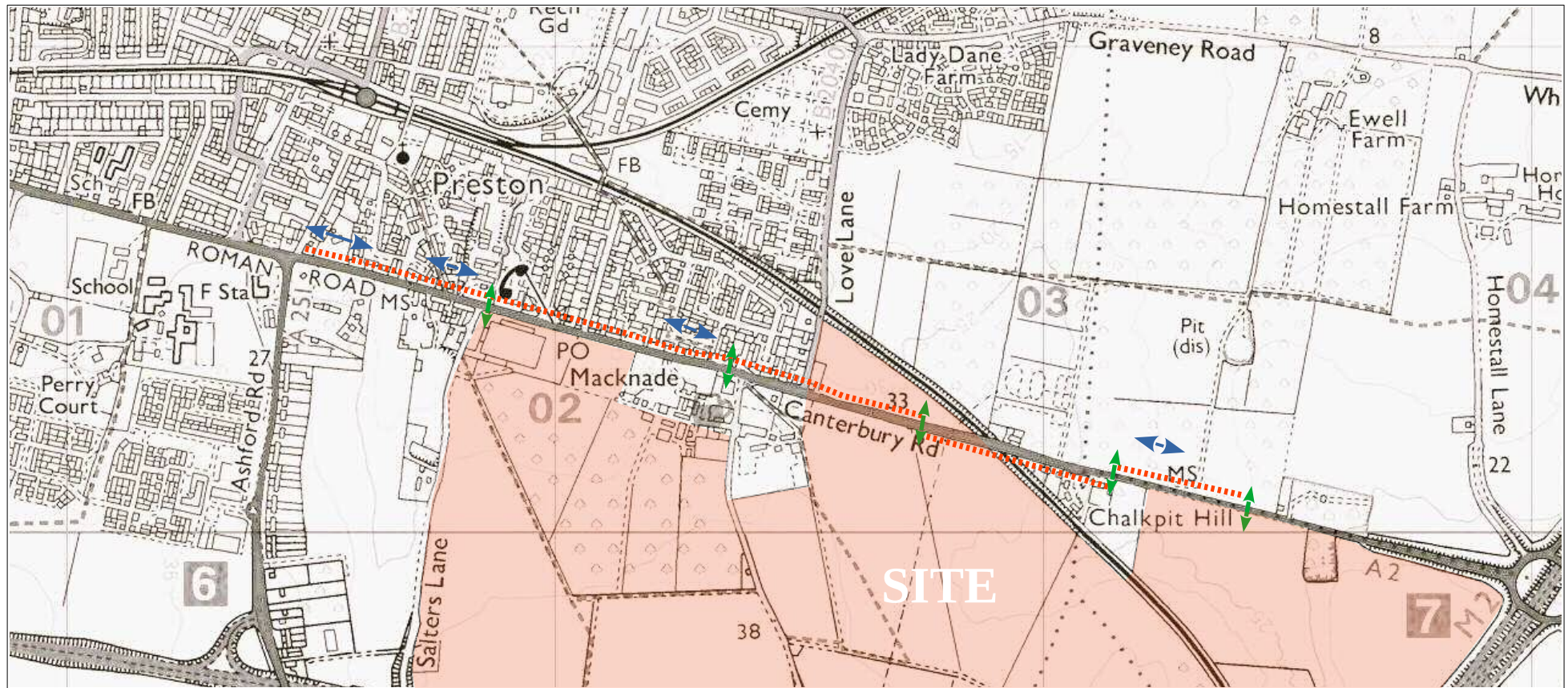


Figure 4: Proposed Cycle Facilities along A2






-  proposed shared footway/cycleway
-  proposed toucan crossing
-  section of proposed footway/cycleway less than 3.0m width (kerb to back of footway/cycleway)

Figure 5: Committed Development

