Tunbridge Wells Draft Local Plan
Parish of Capel

Transport Evidence Addendum

For

Save Capel and Capel Parish Council

motion

Document Control Sheet

Tunbridge Wells Draft Local Plan

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This document has been issued and amended as follows:

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1.0 Introduction

1.1 This Transport Evidence Addendum is prepared on behalf of Save Capel and Capel Parish Council ('Save Capel'). It deals with additional evidence following Examination hearing sessions during March-July 2022 and subsequent 'initial findings' published in November 2022.

1.2 The initial findings identified the following principal issues, which the additional evidence seeks to address:

1. Whether the assessment of sites in the Green Belt had been undertaken on a consistent basis.
2. The need for further consideration to be given to a range of issues in relation to the proposal for a new settlement at Tudeley Village (SLP allocation STR/SS 3), and to alternative ways forward, as posited by the Inspector.
3. The need to give further consideration to an option for strategic growth at Paddock Wood and land in east Capel that does not involve building on land within higher flood zones.

1.3 The additional evidence submitted primarily comprises a Local Development Plan Strategy Topic Paper – Addendum (January 2024), published by Tunbridge Wells Brough Council (TWBC) ("the Topic Paper Addendum").

1.4 The Topic Paper Addendum sets out a number of options in response to the initial findings. Of these 'Option 5' is the recommended course of action. It is described as:

"No Tudeley Village and reduced housing and employment growth at Paddock Wood including land in east Capel, with all housing on Flood Zone 1, with employment land similar to the PSLP, but excluding land which is, or will be, within Flood Zone 3, while including land which would be within Flood Zone 2 (SA Development Strategy Option number 17)"

New Evidence

1.5 The Topic Paper Addendum makes reference to a number of other new documents and reports. These include, but are not limited to:

1. Red, Amber, Green (RAG) Assessment, Landscape & Visual – Colt's Hill Bypass – October 2023 (the RAG Assessment);
2. Tunbridge Wells Bus Feasibility Review – October 2023 (the Bus Study);
3. Tunbridge Wells Local Plan: Paddock Wood and east Capel Access and Movement Report – November 2023 (the Access and Movement Report);
4. TW Local Plan Stage 3 Modal Shift Impact Reporting – September 2023 (the Modal Shift Reporting);
5. Tunbridge Wells Stage 1 Technical Note – August 2023 (the Technical Note);
6. Tunbridge Wells Local Plan - Local Junction Capacity Sensitivity Testing Technical Note – November 2023 (the Sensitivity Testing Technical Note).

Summary of Key Changes

1.6 The key changes to the local plan, from a transport perspective, are:

1. Removal of Tudeley Garden Village (TGV), which comprised 2,800 dwellings.
2. Reduction of circa 1,000 proposed dwellings at Paddock Wood and east Capel.
3. Removal of the Five Oak Green Bypass.

4. Commitment to an early review following adoption of the Local Plan.

1.7 The early review is made necessary by the reduction in dwellings allocated, which is expected to leave TWBC unable to demonstrate a five year supply after approximately 10 years.

Document Structure

1.8 Following this introduction this report consists of a further 5 sections which consider topics as follows:

1. Section 2 – the revised Masterplan.
2. Section 3 – Active Travel.
3. Section 4 – Public Transport.
4. Section 5 – Revised traffic modelling including its interaction with the Sustainability Appraisal.
5. Section 6 – Potential Highway Impacts and associated mitigation.

1.9 A summary and conclusion are provided at Section 7

2.0 Paddock Wood and East Capel Masterplan Review

Land Use and Location

2.1 The Tunbridge Wells Local Plan addendum provides an indication of potential areas for strategic growth in and around Paddock Wood (document reference PS/046), highlighting the following features:

1. Residential Developments.
2. Employment Areas.
3. Primary and Secondary Schools.
4. Outdoor Sports Provision.
5. Upgraded Indoor Sports Provision.

2.2 These would be established by draft policy STR/SS 1. The draft policy seeks to break down the land allocation in to six discrete parcels (STR/SS 1 a-f). However, it is important to note that so far as infrastructure is concerned, the absence of any of these six parcels fundamentally undermines the delivery as a whole. This is implicit to the evidence base provided by the Council to support the draft local plan, which is predicated on all six parcels being delivered or none. Indeed, in terms of infrastructure delivery, the attempt to break down the policy area in to six portions and allocate infrastructure / development quanta to each merely serves to undermine the delivery of the infrastructure required to sustain the development. This is because development could occur within each parcel without a need to deliver any of the strategic infrastructure either required to sustain the allocation as a whole or within the context of the Borough wide plan, which is the subject of this EIP.

2.3 Notwithstanding this, it can be seen that the provision of development is broadly split into two separate areas for strategic growth. The first area is situated in East Capel (EC), to the west of Paddock Wood and comprises residential areas 1-5, a primary school, a secondary school and provision of a sports pitch. The second area (referred to as 'PW' in this report) is situated immediately southeast of Paddock Wood and comprises residential areas 6-8 and a primary school, as well as an existing Reserved Matters Scheme (Planning Reference: 19/03655/REM).

2.4 A third area is situated to the northeast and comprises solely of employment land. The areas identified for strategic growth are illustrated below in Figure 2.1.

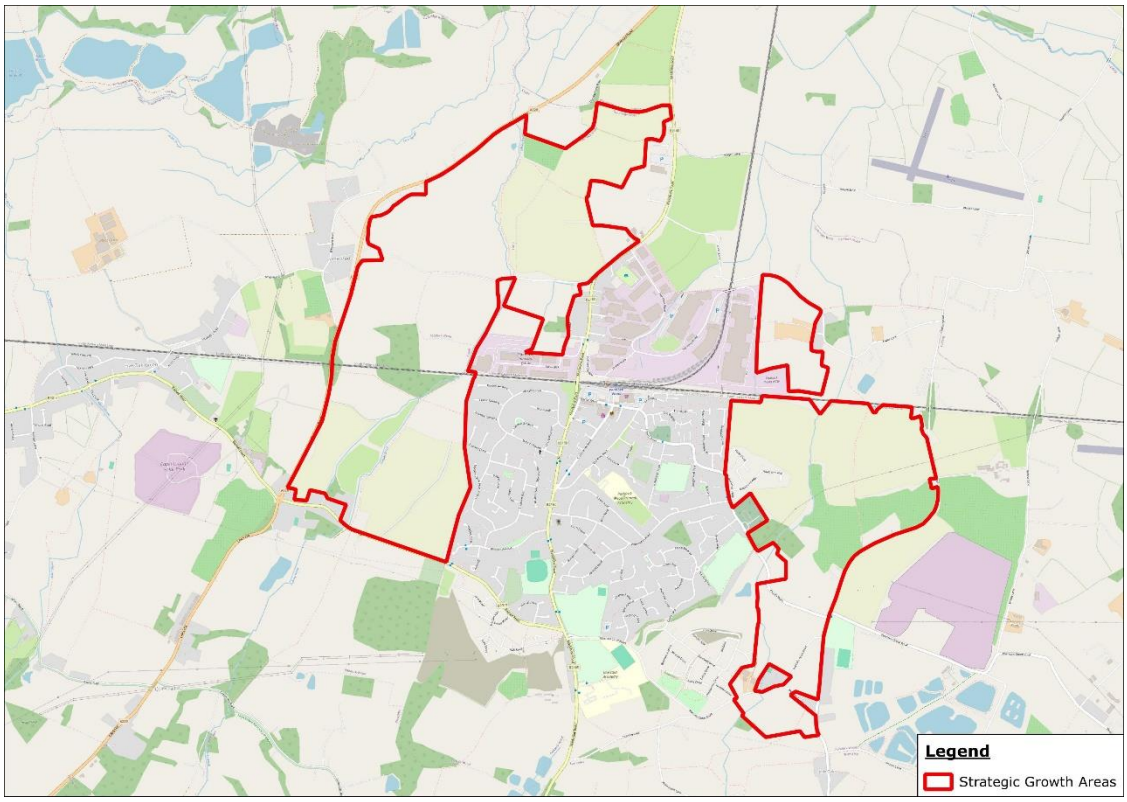


Figure 2.1: Paddock Wood Strategic Growth Areas

Spatial Balance

2.5 The Chartered Institution of Highways and Transportation (CIHT) provides guidance on distances considered suitable for a journey on foot indicating that a journey of up to 2km is considered acceptable by most people. Based on an average walking speed of 80m per minutes, this equates to a 25-minute journey. In addition to this, it is generally considered that a distance of up to 5km is acceptable to most cyclists.

2.6 In order to assess the spatial compatibility of draft allocation STR/SS 1 against the guidance provided by the CIHT, pedestrian and cyclist isochrone mapping has been produced. Figures 2.2 and 2.3 below illustrates the accessibility of Paddock Wood by foot and by cycle.

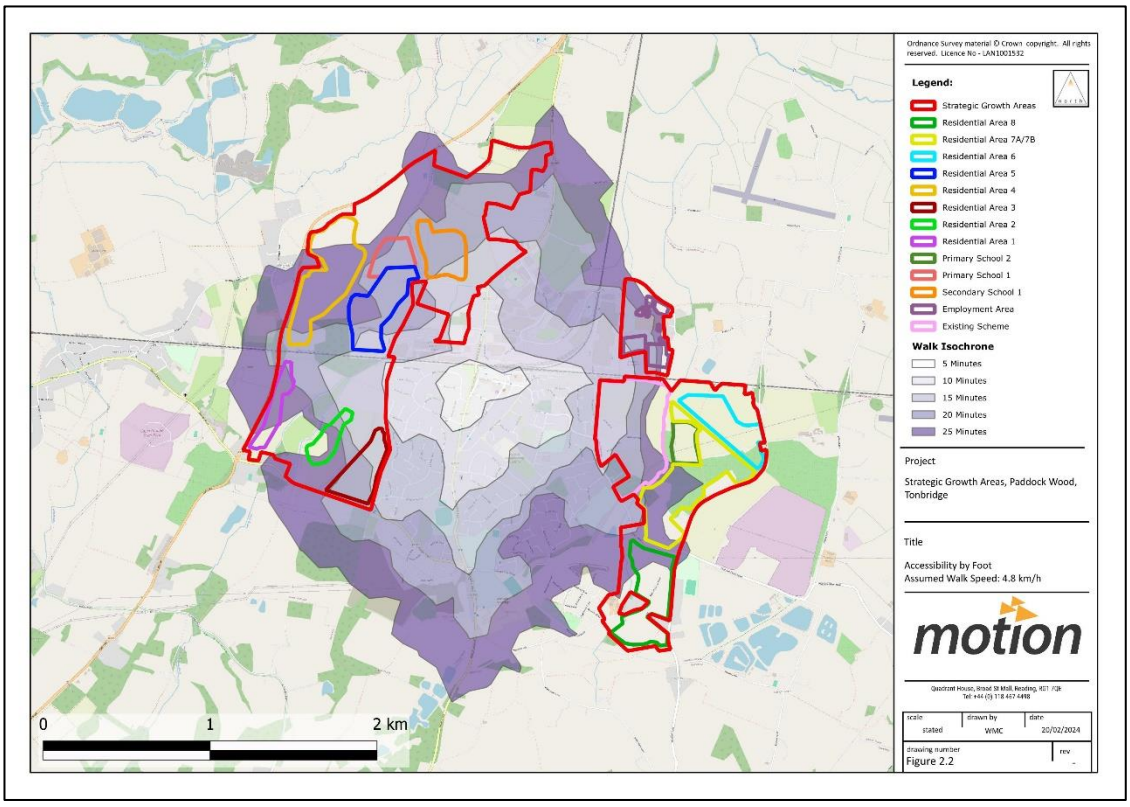


Figure 2.2: Accessibility by Foot

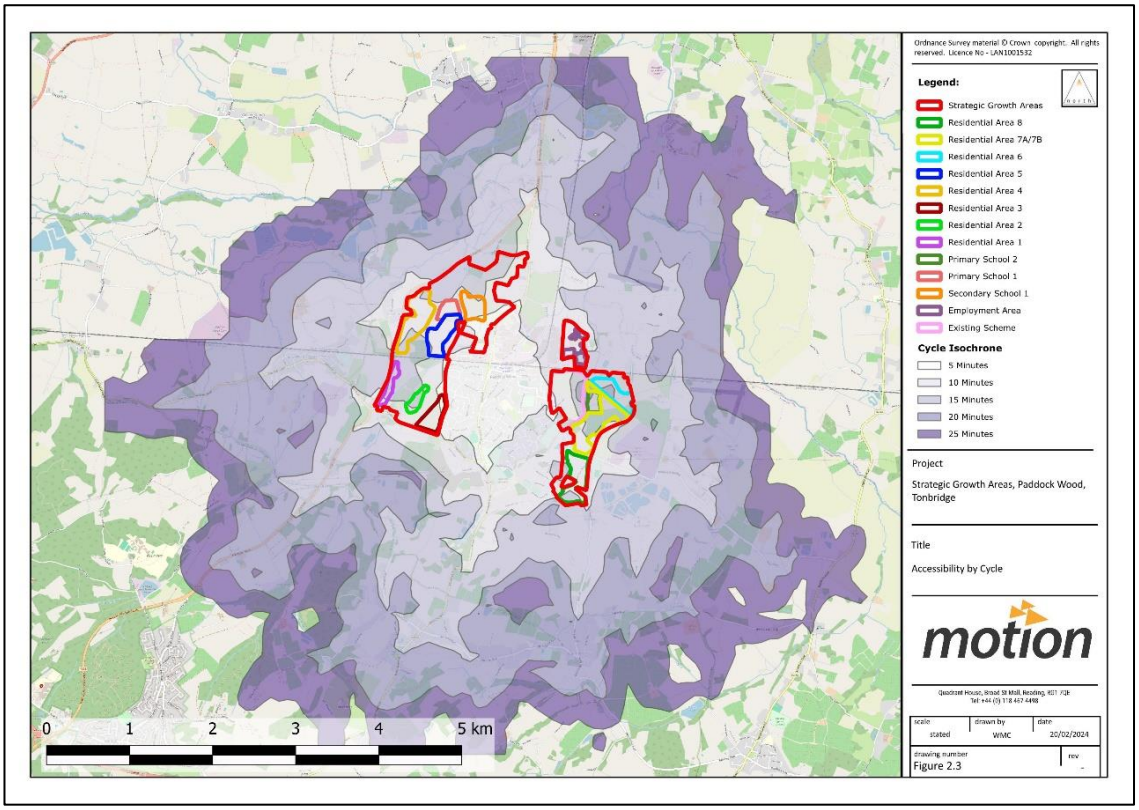


Figure 2.3: Accessibility by cycle

2.7 With regard to the above walk and cycle catchments, draft allocation STR/SS 1 spatially represents a reasonable balancing of land uses around the established centre of Paddock Wood.

2.8 However spatial strategy represents only one part of accessible development. It is critical for designers to build on the spatial advantages of development through the delivery of direct, safe and unambiguous connections in order to deliver transport sustainable development.

2.9 In this regard, document PS/046b demonstrates the connectivity restrictions faced by draft allocation STR/SS 1 primarily due to:

1. The east-west running railway line that severs Paddock Wood.
2. Flood risk within EC.

2.10 The impact of each of these constraints on developing a sustainable community is considered below.

Railway Line

Active Travel

2.11 The railway line forms an impenetrable barrier severing north and south Paddock Wood.

2.12 Currently there is only one crossing of the railway line within Paddock Wood which is the B2160 (Maidstone Road). Approximately 700m east of the centre of Paddock Wood there is a pedestrian bridge crossing the railway line. However, this is narrow, unlit and serves a private industrial estate located to the north of the railway line through which there is no clear public right of access. It is not a crossing that the general public would choose to utilise and is in any event, remote from the established centre of Paddock Wood and is not on any desire line between the various parcels of land that would be established by draft policy STR/SS 1.

2.13 The railway bridge on the B2160 represents the only connection between north and south Paddock Wood for all modes of travel including pedestrians, cyclists, and motor vehicles. This creates a bottleneck within Paddock Wood as all north-south movements are focussed on this single point. There is a narrow footway on one side of the crossing, but cyclists are required to share carriageway with motor vehicles. Policy STR/SS2 seeks to redevelop the centre of Paddock Wood. However, there is no indication of what this would comprise. Neither are there any indications of what transport interventions would be included. Moreover, the bottleneck of the B2160 railway bridge is not within the boundary of policy STR/SS2 and so whatever that policy ultimately achieves, improvements to accessibility over the railway will not form part of them.

2.14 Document PS/046c sets out the proposed movement strategy supporting draft allocation STR/SS 1. It shows a network of routes within the allocation areas. It does not, however, provide any indication about how cyclists would travel between EC and PW, a journey which requires pedestrians and cyclists to travel through the existing Paddock Wood. Moreover PS/046c shows the whole of the existing area of Paddock Wood as blank. Pedestrian and cycle routes lead out of the draft allocation areas and simply end. There is no connection between EC and PW which whilst grouped under the same draft policy of STR/SS 1, have no active travel connections proposed.

2.15 Exploring this fact further, land for a new secondary school is proposed to the northwest of the allocation in EC. This will require residents of the PW element of the allocation to cross Paddock Wood to reach the school. This is a journey of some 2.5 - 3.5km. Whilst suitable for cycling, it is farther than the recommended reasonable walk distance.

2.16 There are no improvements to cycle safety or amenity proposed to connect the PW and EC elements of the draft allocation. This means, for example, that a child living in the residential areas to the southeast of PW seeking to travel to the secondary school to the northeast of EC would need to cycle on carriageway with motorised vehicles. This does not meet the requirements of LTN1/20. Moreover, in the absence of

a new, LTN1/20 compliant crossing of the railway, it would make a journey between the two elements of STR/SS 1 unattractive to the majority of residents as well as dangerous.

2.17 The draft policy indicates, but does not require, that a new pedestrian and cycle connection is provided between north-west EC and south-east EC. This is too vague. Either a connection is required or not.

2.18 Overlooking the paucity of safe active travel crossings of the railway line, as an example, in the absence of such a connection, a child living in a house to the south of the railway line would be able to see the house of a friend to the north of the railway line with whom they go to school, and yet would need to make a significant detour to reach them. The shortest detour would involve walking along the A228 with motorised vehicles travelling at 60mph. The sustainable alternative is that the child takes a bus into the centre of Paddock Wood and out again as and when these busses operate. The reality in this example is that, based on Census and NTS data, the journey would be made by car.

2.19 A new bridge over a railway line is a major piece of infrastructure for which there is a presumption against. This is because it introduces a significant new safety risk to a Network Rail asset against which Network Rail has no benefits to balance. Simply drawing a line on a plan in a draft allocation is woeful to provide any certainty that such a link can be delivered. Moreover, even if network rail supported such a connection, having regard to network rail procedures for designing and delivering new infrastructure it is unlikely that such a bridge could be provided within a 5 – 10 year timescale.

2.20 The provision of such a link would assist in improving connectivity between the EC sites to the west of Paddock Wood. It would also provide some safe relief to the current bottleneck of the B2160. However, it is the minimum requirement to deliver safe connectivity for active travel modes and its absence would lead to an even more car based development. Its importance to sup[porting a sustainable community within Paddock Wood should be explicitly included within the draft policy together with a commitment to, and trigger points for, its delivery.

Vehicular Traffic

2.21 There is only one vehicular crossing point of the railway line in Paddock Wood which is the railway bridge on the B2160 in the centre of Paddock Wood. Draft policy STR/SS 1 propose no new crossings of the railway line notwithstanding that the draft allocation is severed by the railway line with residential development and facilities located either side of the railway line.

2.22 Specifically referring to the EC part of the draft allocation, this will result in residents utilising the A228 to travel between land uses within the allocation, with residents "junction hopping" i.e. pulling out of the development onto the A228 and then turning back into the development at the next junction. This will effectively make this section of the A228 part of the internal residential development street network which is wholly contrary to its current strategic function as a high-speed road (60mph limit at this location) connecting the Medway towns.

2.23 Importantly, an increase in local traffic turning on and off the A228 will increase the risk of road collisions along this stretch of the A228.

2.24 The draft local plan makes no reference to these impacts nor includes any mitigation for them.

Flood Risk within EC

2.25 As identified in separate submissions regarding flood risk and drainage, the EC portion of STR/SS 1 is significantly affected by hydrological constraints, which are expected to worsen as a result of climate change.

2.26 The consequence is that rather than a single, composite development area, EC is in fact a large, mainly undevelopable open expanse of land. Within this expanse of land are islands of residential development separated by open countryside which is liable to flooding.

2.27 The plan provided below is a composite of PS/046(b) and PS046(c) showing the locations of the islands of residential development and the proposed active travel connections.

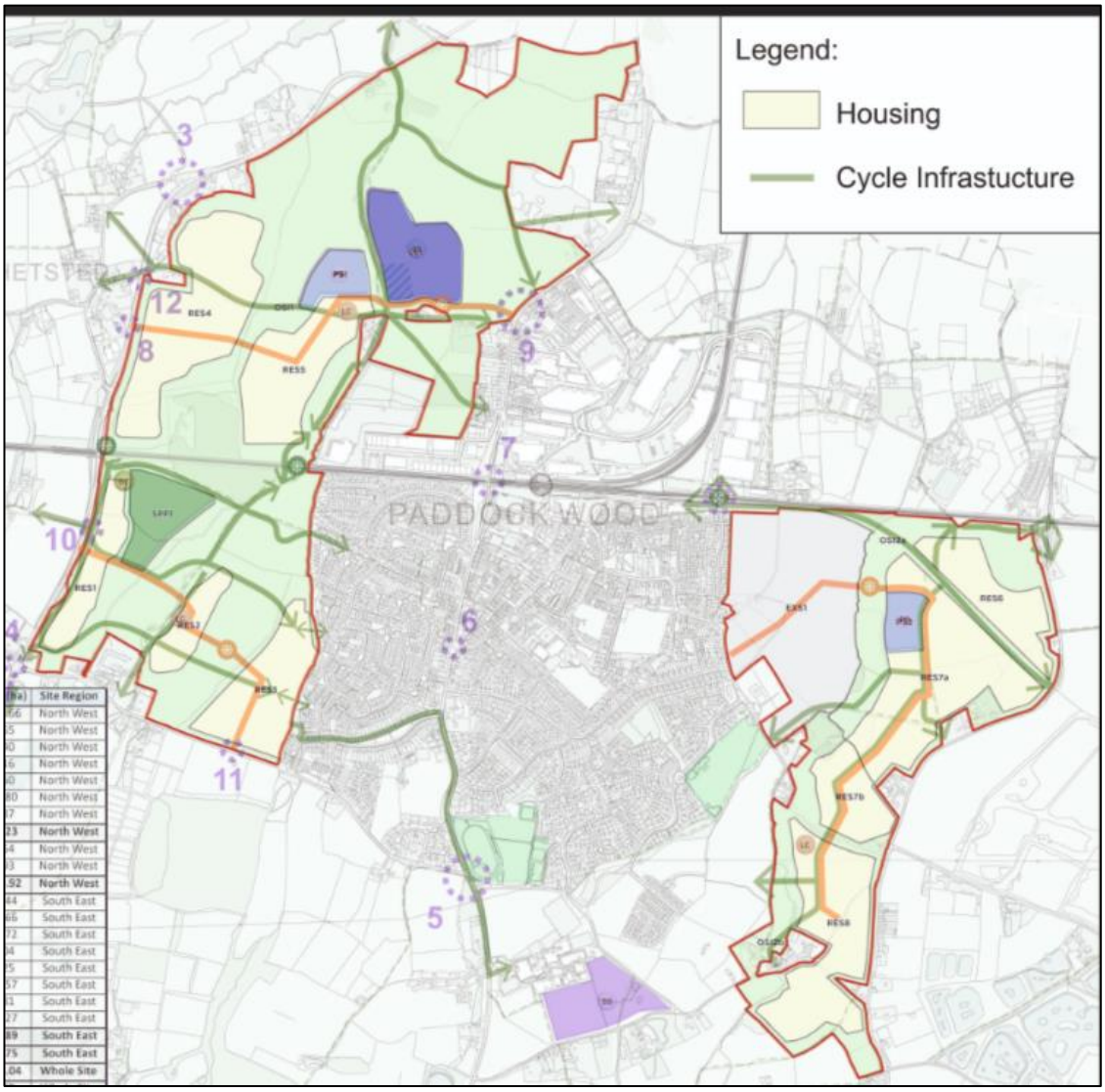


Figure 2.4: Residential Islands

2.28 The figure above illustrates the large gaps between residential islands and in particular the remoteness of parcels RES1 and RES2. The remoteness of these parcels is exacerbated by the severance effect of the railway line and indeed they could be considered as remote, isolated stand-alone communities with little in common with the remainder of the draft allocation.

2.29 What is also apparent is the significant lengths of active travel infrastructure required to connect these sparsely located islands of development. It is noted that in order to meet current design guidance, the connections will need to be well lit and surfaced, introducing urbanisation into what is otherwise a rural area.

2.30 Even in the event that this infrastructure is delivered, it is important to note that people walking or cycling between the islands of development will have to travel on long lengths of way which is not overlooked. This can lead to concerns regarding personal safety and make travelling by these modes, especially in the dark, unattractive. The result being that residents would choose to travel by car.

Existing Paddock Wood railway line bridge

2.31 There is reference made in document PS/046 to '*Shuttle signal bridge Paddock Wood High Street'*. There are no further details regarding what this would entail, neither is the scheme referred to within policy STR/SS 1 or policy STR/SS 2.

2.32 The reference to 'Shuttle' suggests that the existing railway crossing would be reduced to a single lane. Opposing traffic would then be held at traffic lights either side of the bridge to avoid conflicts with one stream of traffic being allowed to cross at a time.

2.33 The provision of such a scheme would have a significant impact on traffic movements through Paddock Wood along the B2160 due to significant delays to traffic travelling north-south. The outcome of this would be an increase in traffic travelling on alternative routes such as the A228 as drivers re-route seeking to avoid delays at the bridge.

2.34 Notwithstanding the significant impacts such a scheme would have on traffic movements, a review of PS/047 reveals that such mitigation scheme has not been included in the Council's traffic modelling.

2.35 On the basis of the above it is concluded that no such mitigation scheme forms part of the draft Local Plan because if it did:

1. It would be referred to in either policy STR/SS 1 or STR/SS 2; and
2. It would have been included in the Council's traffic modelling.

2.36 The Inspector is therefore invited to place no weight on this scheme and assess the sustainability of STR/SS 1 on the basis of the existing active travel infrastructure in the centre of Paddock Wood.

Conclusion

2.37 On the basis of the above, it is concluded that whilst the proposed spatial strategy for draft policy STR/SS 1 is reasonable, the Council has failed to recognise the significant impediments to sustainable travel between the various islands of development. These comprise:

1. The east-west running railway line that severs Paddock Wood.
2. Flood risk within EC.

2.38 Failure to recognise these significant impediments to movement and addressing them through policy requirements within STR/SS 1 will result in the development being dominated by car movements to the detriment of new residents and the existing community. This would result in development which does not meet policy requirements to create sustainable communities set out in the NPPF or indeed the draft polices within the local plan itself.

3.0 Active Travel

3.1 Section 2 above considered walking and cycling in the context of Paddock Wood itself and between the allocated islands of residential and other development. This section considers the active travel relationships between proposed allocations and existing centres of activity across the Borough as a whole in the context of the Borough wide evidence base.

3.2 When considering sustainable transport accessibility, it is important that this is considered in the context of functional trips i.e. the trips that need to be made at a specific time of day irrespective of weather conditions, for example a journey to school or work. These functional trips would make up the majority of trips generated by the development, and it is functional trips that my analysis below relates to.

Journeys by foot

Reasonable journey distances

3.3 The Chartered Institution of Highways and Transportation (CIHT) 'Guidelines for Providing Journeys on Foot' (2000) suggests acceptable, desirable, and preferred maximum walking distances ('acceptable' walking distances would vary between individuals). These walking distances are applied consistently when assessing the reasonable walking times whether a development is in a rural or an urban location.

3.4 Table 3.1 summarises the suggested walking distances for pedestrians without mobility impairment for some common trip purposes.

	Town Centres	Commuting/ Schools	Elsewhere
Desirable	200	500	400 (5 minutes' walk)
Acceptable	400 (5 minutes' walk)	1,000 (12.5 minutes' walk)	800 (10 minutes' walk)
Preferred Maximum	800 (10 minutes' walk)	2,000 (25 minutes' walk)	1,200 (15 minutes' walk)
Source: 'Providing for Journeys on Foot', CIHT, 2000			

Table 3.1: Reasonable Walking Distances (metres)

3.5 The guidance above advises that acceptable walk distances for commuting / elsewhere are between 800m and 1,000m with preferred maxima between 1,200m and 2,000m. The preferred maximum walk distance to a town centre is 800m.

3.6 The concept of an 800-metre walk being a reasonable distance to expect people to walk is developed further in Manual for Streets and CIHT guidance, both of which introduced the concept of walkable neighbourhoods of 800m.

3.7 Due to the distances involved, it is concluded that no functional journeys would be made on foot to destinations outside of Paddock Wood / East Capel for example to higher order retail in Tonbridge or Tunbridge Wells or to municipal services which are located in Tunbridge Wells.

Journeys by Cycle

Design Guidance

3.8 Local Transport Note 1/20 (LTN 1/20), Department for Transport, 2020 provides guidance on the design of cycle infrastructure. This is the government's current guidance on designing infrastructure for cyclists in order to encourage a greater uptake in cycling in accordance with the Government's adopted policy

'Gear Change A bold vision for cycling and walking' which was issued in July 2020. This was inspired by and endorsed by the then Prime Minister and remains supported by central government.

3.9 It is clear from the Government's current cycle policy and design guidance that the outcomes of cycle infrastructure interventions are to:

1. Create better streets for cycling and people.
2. Put cycling and walking at the heart of transport, place-making, and health policy.
3. Enable people to cycle and protect them when they cycle.

3.10 With regards to design principles *'Gear Change A bold vision for cycling and walking'* states that:

'In order to see the increases in cycling we want, the quality of cycling infrastructure installed on our roads must dramatically improve.'

and

'Cycling is or will become mass transit and must be treated as such. Routes must be designed for larger numbers of cyclists, for users of all abilities and disabilities.'

3.11 The design guidance contained within LTN 1/20 is intended to contribute towards delivering the government's policy aspiration regarding encouraging a mode shift away from the private car towards cycling. Some of the key design principles set out in LTN1/20 include:

1. Cycle infrastructure should be accessible to everyone from 8 to 80 and beyond: it should be planned and designed for everyone.
2. Cycles must be treated as vehicles and not as pedestrians.
3. Cyclists must be physically separated and protected from high volume motor traffic, both at junctions and on the stretches of road between them.
4. Cycle infrastructure should be designed for significant numbers of cyclists, and for non-standard cycles.
5. Surfaces must be hard, smooth, level, durable, permeable, and safe in all weathers.

3.12 What is clear from the above, is that current government policy is that cycling should be actively encouraged through the design and implementation of coherent, direct, safe, comfortable, and attractive routes which are accessible to everyone irrespective of age, physical ability or cycling confidence.

Proposed On-Site / Paddock Wood / East Capel Cycle Strategy

3.13 As described in Section 2 above, spatially the allocation is well related to existing and proposed services and facilities within Paddock Wood / East Capel. Subject to adequate infrastructure being provided to cater for cycle movements, it can be expected that within this local catchment, residents would consider undertaking journeys by cycle.

3.14 However as currently drafted, there is no policy requirement for a future planning application to consider and deliver cycle connections within Paddock Wood / East Capel that meet the minimum recommendations of LTN1/20 or any future equivalent. Failure to provide these off-site connections to meet the minimum recommendations of LTN1/20 or its future equivalent at the time of development being delivered. It is recommended that policy STR/SS 1 is modified to include wording to ensure that this is the case.

Proposed Off-Site Cycle Strategy

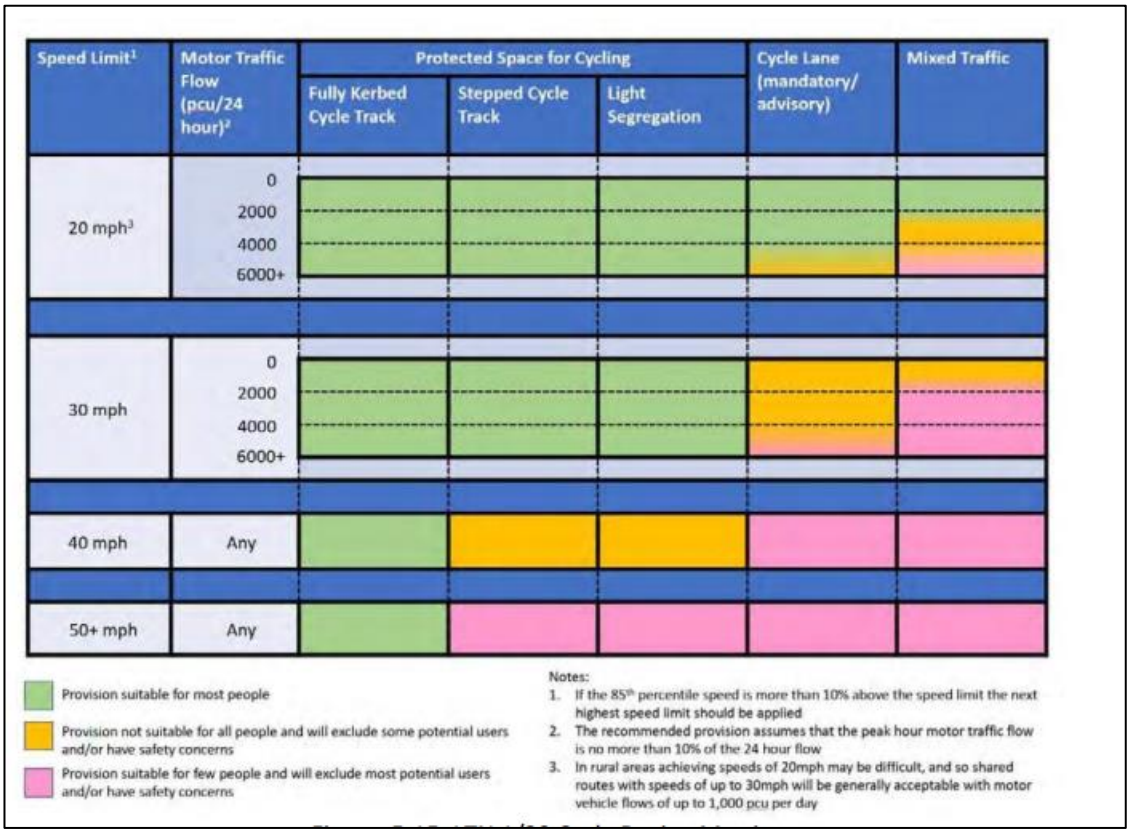
3.15 There is currently no cycle infrastructure provided on the network of rural lanes and main roads (including the B2017 and A228) surrounding Paddock Wood / East Capel.

3.16 The proposed off-site cycle infrastructure strategy underpinning policy STR/SS 1 and the wider draft local plan continues to be as set out in core document reference CD3.115 (and associated appendices). Of particular relevance to policy STR/SS 1 is that CD3.115 concludes that whilst main (both A and B) roads provide direct routes for cyclists between settlements, their use by cyclists is compromised by the poor cycling level of service (page 58).

3.17 CD3.115 in particular identifies that cycling is *'generally uncomfortable on these routes due* [to] *the lack of dedicated cycling infrastructure combined with narrow road widths and high vehicle speeds'*, specifically citing the A228 and B2017 as examples of poor cycling level of service.

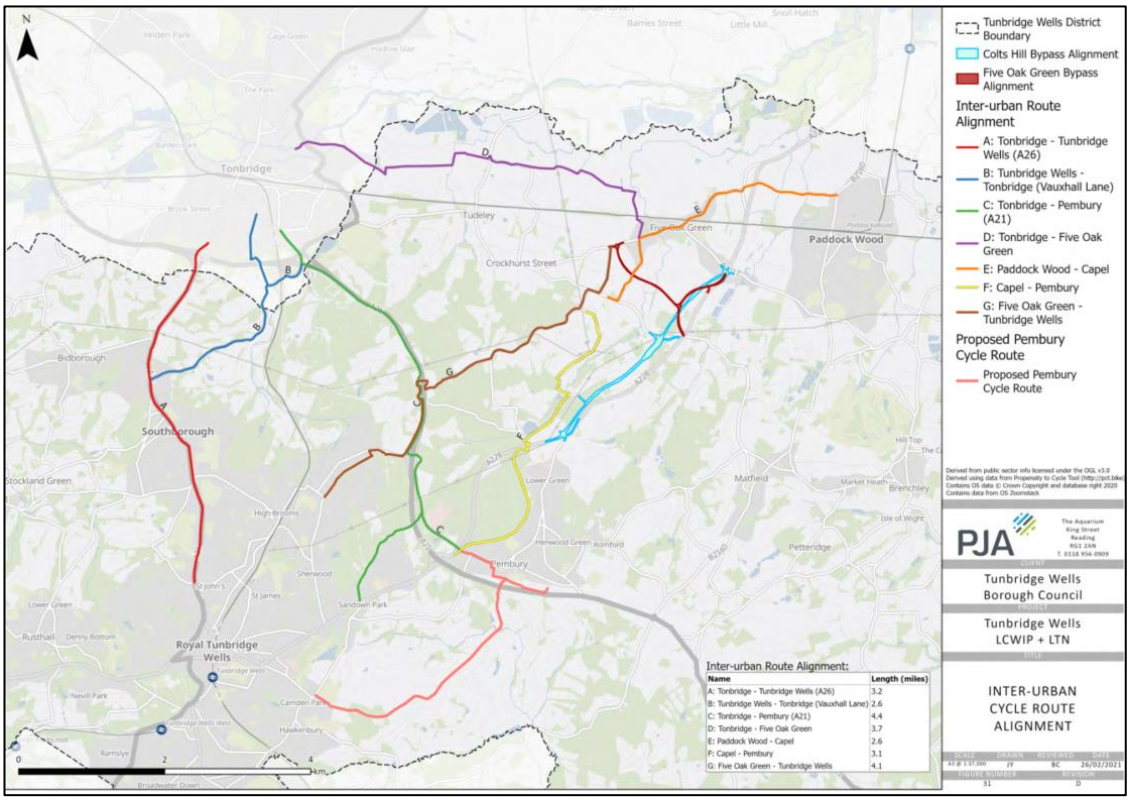
3.18 In this context and in the absence of infrastructure interventions, it is concluded that very few, if any functional journeys would be made by cycle.

3.19 Of relevance to the design of off-site cycle infrastructure is table 4.1 of LTN1/20 which is included withing CD3.115 and is reproduced below.



3.20 The table above is very clear that for roads on which the 85th percentile speed is greater than 30mph, protected space is required for cyclists. The posted speed limit on both the B2017 and A228 is 30mph or greater. The degree of segregation required is then reliant on daily traffic volumes however the principle remains that segregation is required if the infrastructure is to meet the government's policy regarding cycling.

3.21 CD3.115 continues by presenting a proposed cycle network to underpin the draft local plan in order to facilitate a mode shift away from the private car. This network diagram is copied below:



3.22 Notwithstanding the modifications now being promoted by the Council to the draft local plan, it can be immediately seen from the plan above that the Council has wholly failed to consider the implications of the modifications on the cycle strategy which underpins the draft local plan.

3.23 Specifically, attention is drawn to the following:

1. Route E. This route relies on traffic volumes and speeds on the B2017 between Paddock Wood and Five Oak Green reducing as a consequence of traffic diverting to use the Five Oak Green bypass (FOG Bypass) combined with traffic management interventions on the B2017 within Five Oak Green village. The Council now claim that the FOG Bypass is not required to support delivery of the draft Local Plan. The reductions in traffic volumes and speeds on the B2017 in Five Oak Green will therefore not materialise. As concluded by the Council in CD3.115, this will render route E *'generally uncomfortable…….due* [to] *the lack of dedicated cycling infrastructure combined with narrow road widths and high vehicle speeds'*.

2. The proposed cycle route along the FOG Bypass. In the absence of the FOG Bypass being provided (which the Council now claims is not required), it is assumed that the intention is to provide a stand-alone cycle route along the route of what would have been the FOG Bypass. If this is not the case, then the relevance and voracity of CD3.115 must be questioned and specifically if any of the document can be relied on as evidence supporting the draft Local Plan.

3. The Colt's Hill Bypass is illustrated on the plan in light blue. This is a wholly different scheme to that currently being suggested by the Council in the draft Local Plan.

3.24 Overlooking the failure of the Council to revise the cycle strategy underpinning the modified draft Local Plan, LTN1/20 provides the following guidance:

Paragraph 4.2.12 states: 'Cycle routes remote from roads may have other risks relating to crime and personal security. The risk of crime can be reduced through the removal of hiding places along a route,

by providing frequent access points, by providing lighting, and by passive surveillance from overlooking buildings and other users.'

Paragraph 8.1.2 bullet 4 states: 'For year-round utility cycling, a sealed surface is necessary…., and street lighting should be provided. Where the purpose of the route is primarily for leisure trips, typically in rural areas, these features may be less important. However, loose gravel surfaces can be difficult or inaccessible for people in wheelchairs and some types of adapted cycle.'

3.25 In the event that CD3.115 is accepted to be a robust and reliable strategy for supporting the draft Local Plan notwithstanding the deletion of key highway infrastructure interventions on which it relies, it still fails to meet the minimum recommendation of LTN1/20 with regards to surfacing and lighting of cycle routes.

3.26 On the basis of the above, it is concluded that the cycle strategy proposed by the Council to support the draft Local Plan comprises largely cosmetic interventions which will bring few or no benefits for cycling.

3.27 Specifically with regards to draft policy STR/SS 1, the strategy is entirely otiose because:

1. It relies on highway infrastructure interventions which no longer for part of the draft Local Plan.
2. It fails to meet the minimum recommended guidance in LTN1/20.

3.28 The cycle strategy as presented in CD3.115 will therefore entirely fail to attract cyclists travelling to and from allocation STR/SS 1.

Flood Risk

3.29 Notwithstanding the above, it is understood that whilst the parcels of land on which housing is proposed will be within flood risk zone 1, the connecting cycle and pedestrian infrastructure will need to cross areas of land within flood risk zones 2 and 3.

3.30 It is therefore critical that connecting cycle and pedestrian infrastructure is designed so that surfaces are maintained above the flood risk level in order to ensure year-round dry accessibility and connectivity for pedestrians and cyclists. It is recommended that policy STR/SS 1 is modified to include wording to ensure that this is the case.

4.0 Public Transport

Context

4.1 The public transport strategy underpinning the draft Local Plan has been amended with the amended strategy presented in document PS/040.

4.2 It is unclear what the housing assumptions are that underpin PS/040. The second paragraph from the top on Page 2 of PS/040 states:

"The revised growth scenario includes the removal of Tudeley Garden Village and reduced growth at Paddock Wood. The reduction in growth has included a reduction in housing numbers and the relevant impact on the bus network."

4.3 Modified policy STR1 claims that the draft Local Plan will *"….ensure a minimum of 12,006 dwellings…"*. This compares with the submitted draft Local Plan policy STR1 which refers to ensuring a minimum of 12,204 dwellings. The difference of some 198 dwellings (a less than 2% reduction) hardly seems material.

4.4 Further review of PS/040 reveals that despite the modified policy STR1 claiming that the draft Local Plan will ensure delivery of a minimum of 12,006 dwellings, Table 1-1 of PS/040 appears to only consider the housing trajectory between 2025/26 to 2034/35 which is a total of 3,875 homes.

4.5 Clarity is required regarding the actual number of dwellings that the public transport strategy is intended to cater for. Moreover, if this is not the minimum of 12,006 dwellings that the draft Local Plan claims it will ensure delivery of, how the remaining 8,131 dwellings will be catered for.

Proposed Public Transport Provision

4.6 PS/040 identifies a range of 5 potential options (with variants) to deliver a network of bus services. These options comprise a mixture of providing new services and alterations to existing services.

4.7 PS/040 includes an analysis of costs and revenues for the 5 potential options assuming a range of mode shares from 3% to 10%.

4.8 Table 3.2 of PS/040 demonstrates that for all the mode share scenarios, Options 1- 4 inclusive will require in-perpetuity subsidies to be delivered.

4.9 Turning to Option 5 (and variants), it is clear from Table 3.2 of PS/040 that the 3% and 5% mode share scenarios will require in-perpetuity subsidies to be delivered. Only the scenario in which 10% mode share is achieved is there a possibility of the bus strategy being commercially viable.

4.10 However, it is noted that none of the variants of Option 5 include a bus connection between Paddock Wood and Tonbridge, which is identified by the Council as the second highest demand movement corridor after Tunbridge Wells. Residents travelling between these destinations would therefore not have the option to travel by bus. Nor would Five Oak Green be accessible by bus. In this context, Option 5 does not provide the level of public transport connectivity necessary to achieve a sustainable development.

4.11 In the absence of an on-going annual service subsidy – which would need to be guaranteed in perpetuity – the level of service proposed in all Options, will not be provided. This will reduce the attractiveness of the public transport offer resulting in the likelihood of development being more car dependent.

Paddock Wood Circular Bus Route

4.12 PS/041, the Bus Study, identifies options for circular bus routes within Paddock Wood, following a figure of eight pattern linking the development parcels to the station. Table 9-1 of PS/041 indicates that none of the proposals developed would be financially viable without ongoing subsidy. This applies irrespective

of the mode shift assumptions applied. Indeed, even the most optimistic scenarios modelled indicate that losses of circa £670,000 would be accrued over the first 10 years of operation.

4.13 Two case studies are provided to justify proposal for a circular route. A review of both is provided below.

Hailsham Bus Services

4.14 Hailsham operates three bus services, the most frequent of which is hourly with the remainder running at a 1-1.5-hour frequency. Hailsham has a population of circa 22,000 relative to 7,611 at Paddock Wood. While it is claimed that the population of Paddock Wood may grow to circa 17,000, this is still circa 23% lower than the existing population of Hailsham.

4.15 The proposed Paddock Wood service is modelled at 15- and 20-minute frequencies, both of which exceed the combined frequency of all services at Hailsham. The smaller population of Paddock Wood is unlikely to be able to support a bus service of this frequency, a conclusion which is reinforced by the lower frequency of the Hailsham services and the predicted financial losses.

Guildford Bus Route 4/5

4.16 Guildford bus route 4/5 is provided as an example of a route with a similar structure. This route links Guildford Station, the University of Surrey, and the Royal Surrey Hospital along with a substantial part of the urban area of Guildford.

4.17 The above clearly indicates the level of demand required to make high frequency circular bus routes financially viable. Indeed, the University of Surrey has a total enrolment of over 15,000 students, a group particularly likely to use public transport compared to the general public. This part of the route alone would likely generate greater travel demand than the whole of Paddock Wood, even under the most optimistic forecasts.

Bus gates

4.18 PS/046c illustrates the proposed route of the circular bus route within the islands of development that form draft policy STR/SS 1. It shows the proposal to provide two bus gates within EC and one bus gate within PW.

4.19 Considering first the proposed bus gate to the south of EC. This is indicated as being located to the west of parcel RES3 (as referenced on document PS/046b). The effect of this would be sever a vehicular connection between RES3 and the adjacent RES1 and RES2. Such a severance would force near neighbours travelling by car to route via the B2017 Badsell Road in order to meet, for example to travel sustainably by car sharing[1]. The Badsell road would effectively take on the function of an internal development road to the detriment of existing users.

4.20 Of equal concern is the proposed bus gate indicated adjacent to the site allocated for a secondary school. The location of this as shown on PS/046c is between the secondary school and the B2160. Located in this position, all non-PSV vehicular trips between the residential islands of development across the whole of STR/SS 1 and the secondary school would need to be made via the A228. Whilst many pupils may choose active travel modes or bus (noting that pupils will need to pay to use the bus) to access the school, there will still be a significant number of pupils who will arrive by car for a variety of reasons including:

1. As part of a longer journey by car being made anyway; or
2. As part of a sustainable car sharing group.

4.21 Furthermore, it can be expected that a modern secondary school will also provide facilities which are accessed by the wider community outside of school hours. Such users are even more likely to travel by

[1] As defined on page 76 of the NPPF

car-sharing and as journeys may be made later in the evening, are less likely to be made by active travel modes or bus.

4.22 Notwithstanding the impacts that the provision of bus gates could have on traffic movements, especially the A228, a review of PS/047 reveals no reference that bus gates have been included in the Council's traffic modelling.

4.23 Clarity is sought from the Council regarding how bus gates have been included in the modelling and the specific traffic impacts of these.

Conclusion

4.24 It is concluded that the proposed bus strategy is not financially viable and would require ongoing subsidy. This is demonstrated by the council's own modelling, in which none of the scenarios considered result in a profitable bus service.

4.25 The case studies provided provide further evidence that this is the case. Those chosen either focus on areas with significantly larger populations and lower bus frequencies or large urban area with major trip attractors such as universities and hospitals which are not present in Paddock Wood.

5.0 Transport Modelling Review

Trip Generation

5.1 Trip generation is based on 'total vehicle' trip rates extract from TRICS. These are summarised in Table 13 of the Technical Note, while Table 14 provides a comparison with the trip rates used in the Tonbridge and Malling Local Plan. Two-way vehicle trips are forecast to be circa 0.520-0.530 in both the AM and PM peak periods.

5.2 TRICS sites located in Kent close to local centres are chosen. With respect to Paddock Wood, the largest single proposed allocation, the trip rates are in line with what would typically be expected for this type of development in the absence of measures to promote modal shift. However, it is noted that mode choice is already reflected in the TRICS rates used reflecting the availability of sustainable transport modes relevant to each site studied.

5.3 Notwithstanding the mode choice implicit to TRICS data, further evidence is provided in the Sensitivity Testing Technical Note indicating that modal shift modelling has been undertaken, with the Stage 3 Part 2 modelling relying on a 'Local Plan High Modal Shift' scenario. This indicates that further assumptions regarding mode choice have been applied on top of the mode choice implicit in the TRICS data used.

5.4 However, a review of the Local Plan Core Document list indicates that no evidence has been submitted demonstrating how this scenario has been developed. It is therefore not possible to assess whether or not the conclusions drawn are reasonable or robust. This evidence should be provided to the EIP.

5.5 The council's own analysis provides a summary of flow changes at a number of key junctions in the high modal shift scenario.

Table 3 Key junction flow changes between Base Case, Reference Case, and Local Plan

		Base Case (BC)		Ref Case (RC)		Local Plan Modal Shift (LPMS)		BC vs RC		RC vs LPMS	
Model ID	Junction	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
8	A26 / B2017	2,639	2,520	3,586	3,067	3,743	3,156	36%	22%	4%	3%
12	A228 / B2160	3,263	2,874	3,699	3,286	3,817	3,536	13%	14%	3%	8%
13	A228 / B2017	2,512	2,493	3,088	3,011	3,806	3,586	23%	21%	23%	19%
22	A21 SB / A228 / A264	1,586	2,193	2,351	2,908	2,571	3,037	48%	33%	9%	4%
21	A21 NB / A228 / A264	2,344	2,502	3,695	3,533	3,871	3,735	58%	41%	5%	6%
35	A21 / B2160	2,967	2,644	3,342	3,327	3,484	3,523	13%	26%	4%	6%
58	A21 / A268 / B2087	1,947	1,662	2,340	1,993	2,371	2,028	20%	20%	1%	2%

5.6 The table above implies that just 100-150 additional vehicles would pass through the A26/B2017 junction in the peak hours, whereas the Stage 2 reporting indicates that in excess of 1,000 vehicles would be expected to travel to and from Tonbridge in the AM peak period. The reduction in traffic associated with the modal shift modelling appears to be incredulously high and must be fully justified.

Modelling

5.7 Junction and link modelling has been conducted using a variety of methods and software packages. While the modelling approach generally appears to be reasonable, it simply is not possible to assess the modelling without a full understanding of how the scenarios used have been developed.

5.8 As set out above, large changes reductions in baseline flow appear to occur at some junctions, including routes into Tonbridge. It is unclear what measures will be implemented to achieve this level of modal

shift. Particularly given that the mitigation measures identified primarily aim to provide additional junction capacity for vehicular traffic.

Conclusion

5.9 The general approach to forecasting and traffic modelling appears to be reasonable. However, the Council has failed to publish key evidence explaining how the traffic forecasting data has been manipulated to reflect the Council's assumptions on mode choice.

5.10 The resulting traffic flows published from the traffic modelling suggest incredulously high mode shifts away from the car. In the absence of this key evidence and in the light of apparently incredulous shifts away from car use, no weight should be placed on the results of the traffic modelling undertaken.

6.0 Potential Highway Impacts and associated mitigation

Impacts

6.1 Notwithstanding the above failings in the Council's modelling evidence base, the council's modelling identifies a number of impacts on both links and junctions. Link impacts are assessed against the ratio of volume to capacity (V/C). A maximum target value of 90% is typically used in designing junctions / links, with a value of 100% indicating that a road or junction is unable to accommodate additional traffic and indeed may already be the subject of significant congestion.

6.2 The predicted V/C values for the A228 (Colt's Hill) and the B2017 through Five Oak Green are expected to meet or exceed 100% indicating that vehicular demand on these routes is exceeding the capacity of them.

6.3 Junctions are assessed initially using a similar V/C approach to identify problem areas. More detailed junction modelling is then conducted to assess the impact of proposed mitigation strategies. The following junctions are identified for mitigation:

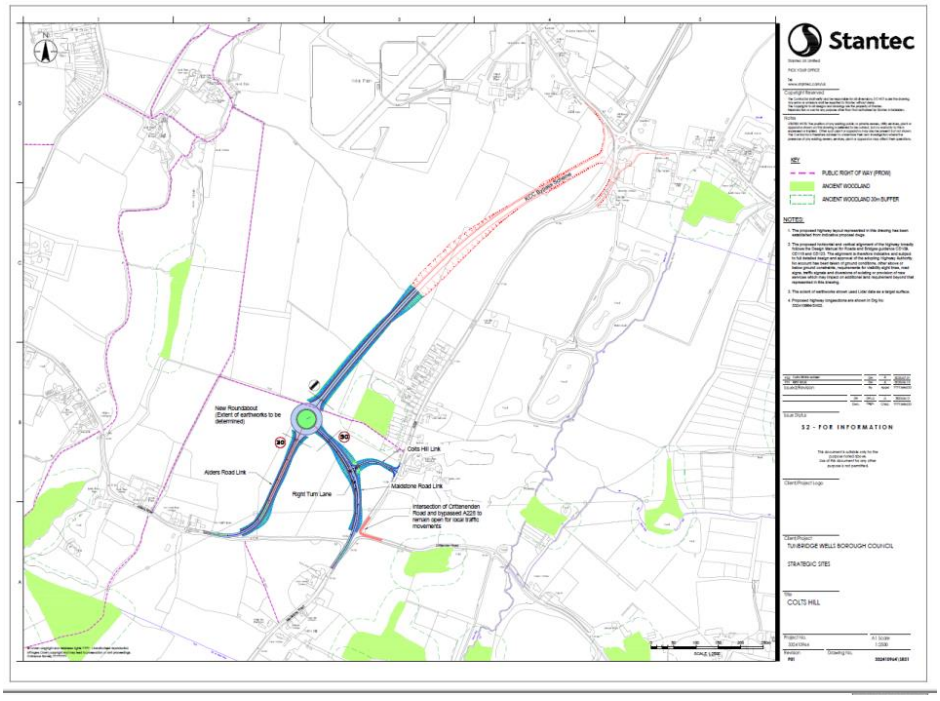
- A26/B2017 Roundabout
- A228/B2160 Roundabout
- A228/B2017 Roundabout
- A21/B2160 Roundabout (Kippings Cross)

6.4 A review of the proposed mitigation schemes is provided below.

Mitigation

Colt's hill bypass

6.5 Clarity is sought from the Council regarding what the "Colt's Hill Bypass" scheme is with regards to the draft Local Plan. Document PS/050 provides the following plan:



6.6 The plan above shows the Colt's Hill Bypass as two sections. The southern section is annotated in blue with some detail regarding speed limits and landscaping. The northern section is sketched in red and annotated "KCC Bypass Scheme".

6.7 Clarity is therefore sought regarding what appears to be the differing status of the northern and southern sections of the bypass. Clarity is also sought regarding the role of KCC in delivering the bypass.

6.8 Turning to the council's modelling, this indicates that the A228 (Colt's Hill) will be subject to V/C values in excess of 100% in both the reference case and Local Plan scenarios, indicating that the Colt's Hill Bypass will be required early in the plan period and even before housing at STR/SS 1 starts to be occupied.

6.9 Notwithstanding this, there is no requirement within STR/SS 1 for a Colt's Hill bypass to be delivered. The proposed policy wording only requires a financial contribution to be made as follows:

'j. Contributions towards the improvement of the highway network including the Colt's Hill Bypass and Kippings Cross.'

6.10 Indeed, the contribution requirement is primarily linked to "improvement of the highway network" and does not specifically require the money to be spent on the Colt's Hill Bypass. The bypass is only mentioned in passing as forming part of the highway network.

6.11 With regards to timescales, it is noted that should funding and responsibility for delivery of the Colt's Hill Bypass be resolved, the delivery mechanism includes several stages each of which is time consuming and incurs a risk of failing. At a high level these stages include:

1. Preparation and submission of planning application including environmental impact assessment; and
2. Compulsory Purchase Order inquiry.

6.12 The above activities, if no problems are encountered, would take in the order of 3-4 years at which point a further 18 months to 2 years might be expected for the construction phase (including contract preparation, tendering, etc).

6.13 A further risk to the delivery of the bypass is the indicated method of funding whereby the policy suggests that individual developers will be asked to contribute financially over time. The risk is that the value of the money collected erodes over time relative to rises in construction prices resulting in a shortfall in funding. This would mean that either the bypass is not built or else the Council will need to find money from other sources. There is no evidence indicating that such funding could be made available either from the Council or from KCC.

6.14 In the absence of a clear mechanism for funding and delivering the Colt's Hill Bypass, or even a clear policy requirement for the Colt's Hill Bypass to be delivered during the plan period, or any certainty that it will be delivered at all, it would be rationale to assess the robustness of the draft Local Plan in the absence of this infrastructure. In this context, and by the Council's own evidence, impacts on the A228 will be severe. It is difficult to see how a local plan can be found sound under these circumstances.

6.15 For the draft plan to be sound, the proposed policy wording must be revised in order to ensure early delivery of the bypass, both in terms of a development threshold and delivery mechanism.

B2017 Five Oak Green

6.16 No detailed mitigation scheme has been identified in this location. It is simply stated that the V/C forecasts do not justify a new road or similar.

6.17 In contrast to a new road, the suggested mitigation is a range of measures to ease traffic flow and promote walking, wheeling, and cycling. Fundamentally, capacity on links for traffic flow is correlated to carriageway width. In the absence of increasing the amount of highway space (for example through the compulsory or negotiated purchase of land adjacent to the highway), any additional walking, wheeling

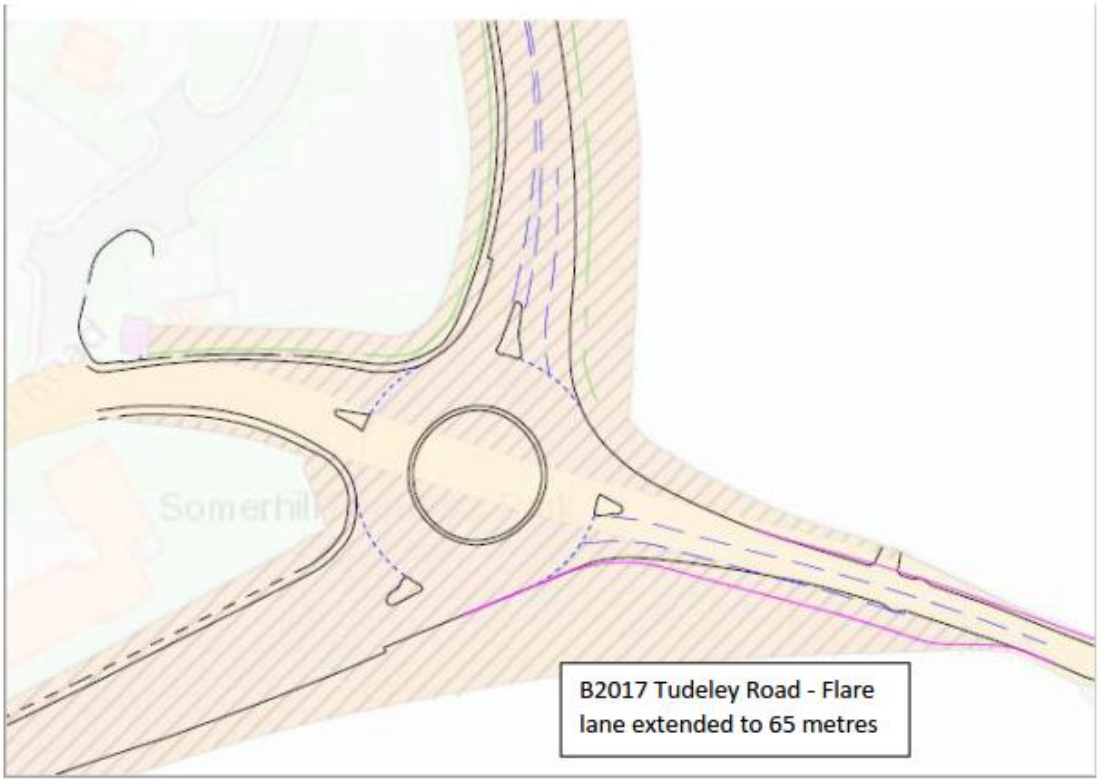
or cycling infrastructure provided within the carriageway width will simply reduce highway capacity thereby worsening traffic flow. The Council fails to provide any information on how both aims, which are mutually exclusive within the same space, will be achieved given the width constraints on many parts of this route.

6.18 At present, the mitigation proposed at Five Oak Green appears to be unachievable nor does the Council provide any explanation of what the mitigation will be or cost.

A26/B2017 Roundabout

6.19 An additional lane on the eastern approach is proposed in this location, as illustrated below.

Figure 4-2 Junction 8 – A26 / B2017 Mitigation Concept Design



6.20 No checks have been conducted to ensure the design complies with current design guidance or meets safety requirements. It is simply stated that the works are minor in nature and unlikely to result in issues. It should be noted that entry path curvature is a critical safety feature and can change dramatically with relatively small adjustments to entry geometry, an initial design check to ensure compliance with key safety standards should be carried out.

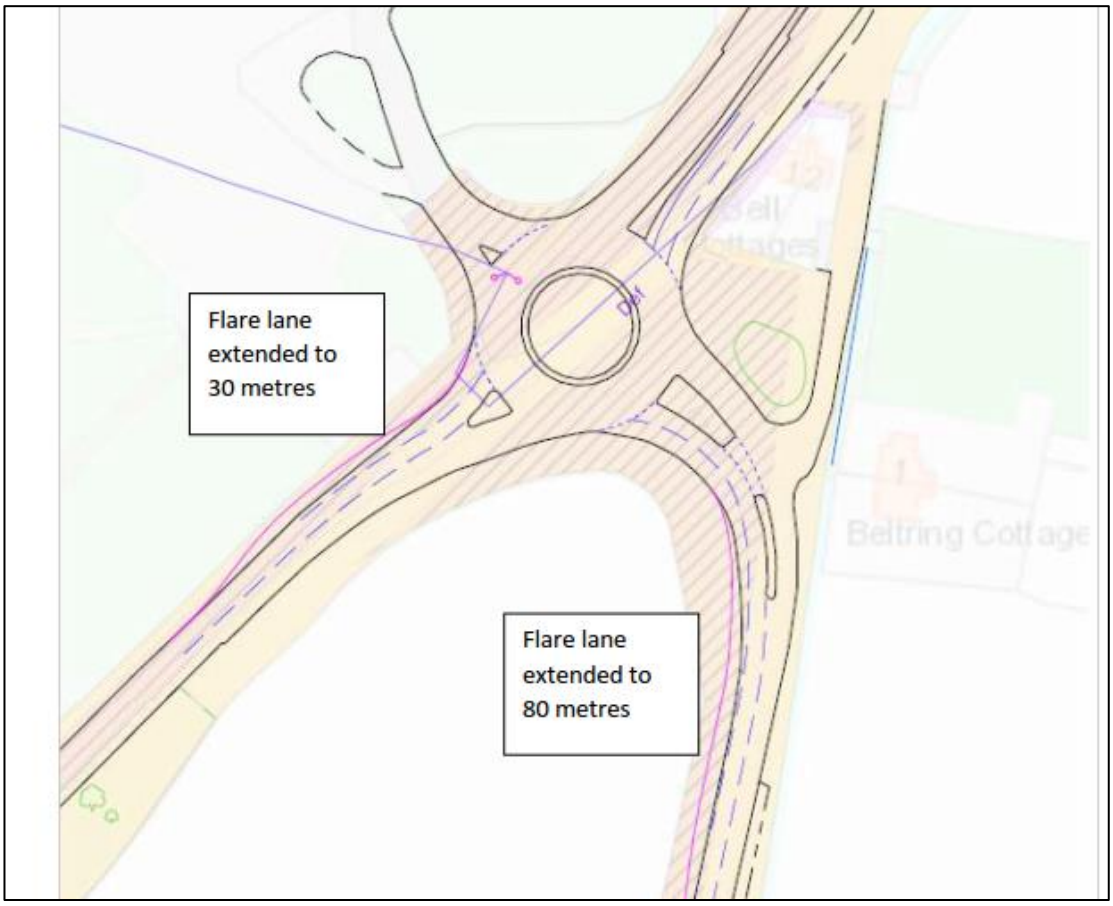
6.21 It is further noted that there is existing drainage infrastructure in the area widening is proposed, which can be seen in the image below.

Existing drainage Infrastructure

6.22 A diversion of the ditch and existing culvert would likely be required. It is unclear whether this is accounted for in the cost estimate provided or whether the Environment Agency would support such works. Information obtained from KCC through an FOI request states that KCC has no record of ditching or maintenance of ditching works in this location. So, while the ditch appears to be within adopted highway, according to KCC it is not their asset. It is therefore unknown who owns and maintains the ditching and if KCC would be able to undertake works to it.

A228/B2160 Roundabout

6.23 Extended flares are proposed on two approaches as illustrated below.



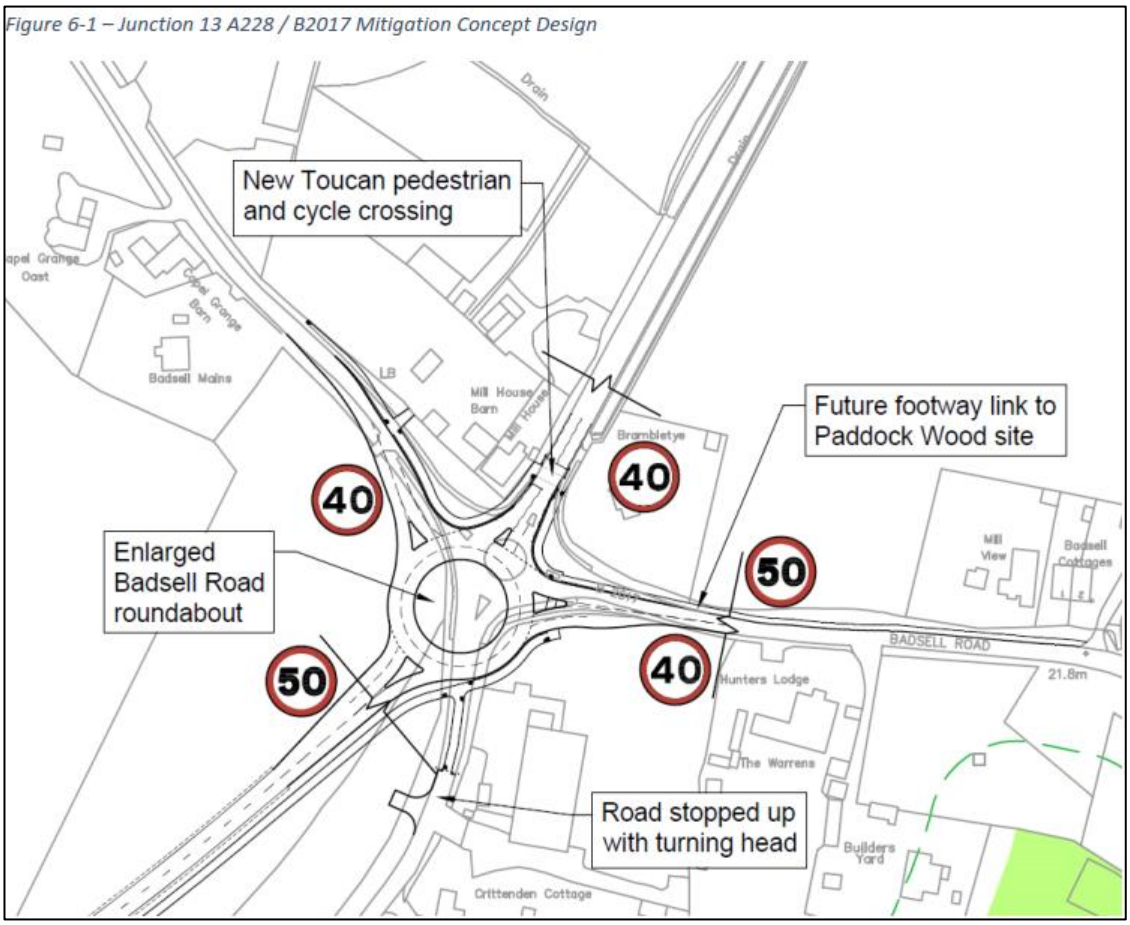
6.24 When considering the scheme above it should be noted that the ARCADY module of Junctions 9 (the computer modelling programme used in the assessment), used to assess the scheme, provides unreliable results when very long flare lengths are input. There is therefore a level of uncertainty as to whether the forecast improvements in junction performance can be realised in practice.

6.25 As with the A26/B2017 scheme discussed above, no design checks appear to have been conducted, introducing an additional level of uncertainty.

A228/B2017 – Replacement Roundabout

6.26 A replacement roundabout is proposed in this location, joining the Colt's Hill Bypass to the existing highway network.

Figure 6-1 – Junction 13 A228 / B2017 Mitigation Concept Design



6.27 The scheme illustrated above appears to require third party land to deliver, both to accommodate the Colt's Hill Bypass arm and to the east and northwest. Certainty that control of this land can be established is critical to the success of the plan. Moreover, there is no alternative proposed in the event that this roundabout cannot be delivered or in the event that it remains needed but that the Colt's Hill Bypass is not delivered.

6.28 As with the bypass itself, a delivery threshold and mechanism should be established.

Kippings Cross

6.29 Two mitigation options have been identified for Kippings Cross. Both require third party land to enable delivery.

Figure 8-3 – Kippings Cross Left Turn Slip Lane

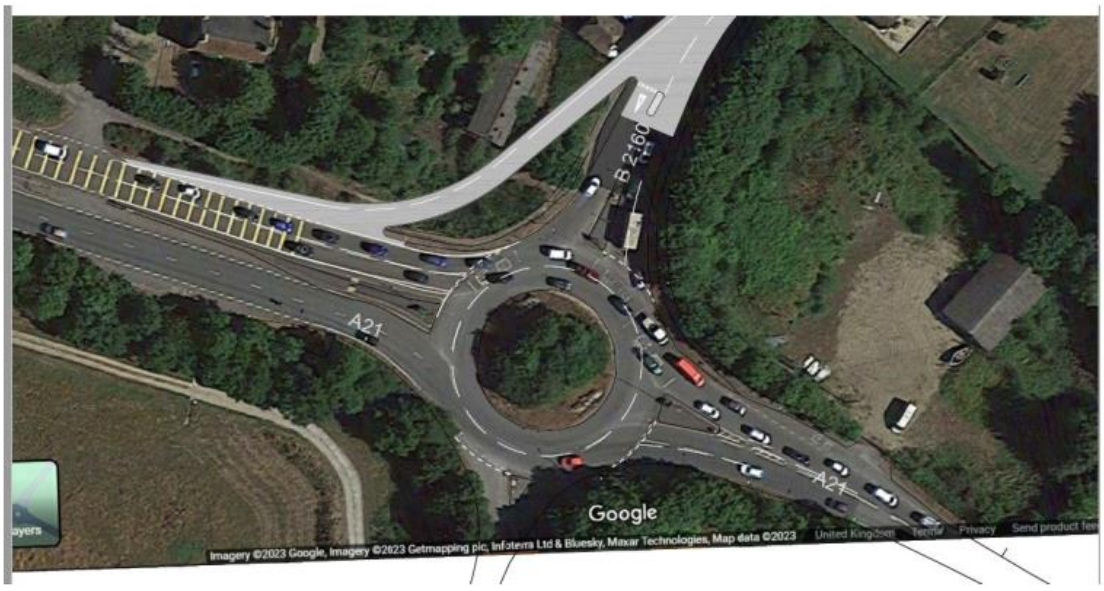


Figure 8-4 – Kippings Cross Partial Signalised Roundabout Junction

6.30 The options shown above differ significantly in terms of the land required and construction cost. It is therefore impossible at this stage to understand, even at a high level, whether either or both can be viably provided.

6.31 Moreover, as discussed above with regards to the Colt's Hill Bypass:

1. There is no policy requirement for any works to be delivered at this location.
2. There is no funding mechanism for securing the delivery of these works.
3. There is no indication of when the works are required.

4. There is no delivery mechanism identified.

6.32 As with the Colt's Hill Bypass, significant lead in times (4-6 years) are required for an infrastructure intervention such as this to be delivered including the need to obtain planning permission followed by a CPO inquiry (unless the necessary land can be obtained through negotiation).

6.33 In short, as with the Colt's Hill Bypass, in the absence of a clear mechanism for funding and delivering the improvements at Kippings Cross, or even a clear policy requirement for improvements at Kippings Cross to be delivered during the plan period, or any certainty that it will be delivered at all, it would be rationale to assess the robustness of the draft Local Plan in the absence of this infrastructure. In this context, and by the Council's own evidence, impacts will be severe. It is difficult to see how a local plan can be found sound under these circumstances.

6.34 For the draft plan to be sound, the proposed policy wording must be revised in order to ensure early delivery of improvements at Kippings Cross, both in terms of a development threshold and delivery mechanism.

Housing Trajectory and Infrastructure Development

6.35 PS/046 (para 4.5) specifies housing delivery as follows:

"A reduced number of homes (2532) based on the anticipated site capacity, and a reduced delivery rate to 250 homes/annum. This is based on 5 developer outlets, each delivering 50 homes per year. These are anticipated to be 2x in the east, 2x in the northwest, and 1x in the southwest".

6.36 This results in the following trajectory of housing completions:

Year	Annual Completions
2025/26	50
2026/27	206
2027/28	285
2028/29	290
2029/30	295
2030/31	295
2031/32	295
2032/33	295
2033/34	275
2034/35	103

6.37 The timescales identified above in this report for the delivery of the infrastructure interventions required to support the delivery of housing allocated in STR/SS 1 indicate a lead in period of between 4 and 10 years for just three major interventions (Colt's Hill Bypass, Kippings Cross and pedestrian / cycle crossing of the railway to connect the various islands of residential development together). This means that the earliest that meaningful numbers of sustainable occupations could occur following adoption of the plan is 2029, with a date in the early – mid 2030's more realistic.

6.38 In this context, the predicted housing trajectory has no prospect of being delivered for Policy STR/SS 1.

7.0 Conclusion

7.1 Having reviewed the Council's revised evidence base, the following matters have been determined.

7.2 The masterplan for PW / EC requires significant infrastructure interventions and there is insufficient evidence to demonstrate that there is a reasonable opportunity of these being deliverable.

7.3 The off-site active travel network not only does not meet minimum design recommendations, it relies on infrastructure elements which are not going to be provided.

7.4 The public transport strategy can only be delivered through the provision of an in-perpetuity subsidy. This cannot be secured and cannot possibly be considered as sustainable.

7.5 The general approach to forecasting and traffic modelling appears to be reasonable. However, the Council has failed to publish key evidence explaining how the traffic forecasting data has been manipulated to reflect the Council's assumptions on mode choice.

7.6 The resulting traffic flows published from the traffic modelling suggest incredulously high mode shifts away from the car. In the absence of this key evidence and in the light of apparently incredulous shifts away from car use, no weight should be placed on the results of the traffic modelling undertaken.

7.7 Notwithstanding the above failings in the Council's modelling evidence base, the council's modelling identifies a number of impacts on both links and junctions and suggests mitigation measures. The evidence base fails to demonstrate that this mitigation could be delivered and in the case of major interventions:

1. There is no policy requirement for the Colt's Hill Bypass and improvements at Kippings Cross to be delivered.
2. There is no funding mechanism for securing the delivery of the Colt's Hill Bypass and improvements at Kippings Cross.
3. There is no indication of when the Colt's Hill Bypass and improvements at Kippings Cross are required.
4. There is no delivery mechanism identified for the Colt's Hill Bypass and improvements at Kippings Cross.

7.8 In short, in the absence of a clear mechanism for funding and delivering the Colt's Hill Bypass and improvements at Kippings Cross, or even a clear policy requirement for the Colt's Hill Bypass and improvements at Kippings Cross to be delivered during the plan period, or any certainty that these schemes will be delivered at all, it would be rationale to assess the robustness of the draft Local Plan in the absence of this infrastructure. In this context, and by the Council's own evidence, impacts will be severe. It is difficult to see how a local plan can be found sound under these circumstances.

7.9 Furthermore, lead in times for the delivery of infrastructure interventions which are critical to the sustainable and acceptable delivery of policy STR/SS 1 are such that the predicted housing trajectory for policy STR/SS 1 has no prospect of being delivered.

7.10 For the above reasons which are based on the evidence presented by the Council, it is concluded that the draft plan is unsound.