

# **South Wealden and Eastbourne Transport Study**

Report by East Sussex County Council for  
Wealden District Council and Eastbourne Borough  
Council, based on technical reports by Transport  
Planning (International) Ltd

**South Wealden and Eastbourne Transport Study (SWETS) November  
2010**

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# **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

## **1.0 Introduction**

### **Overview**

1.1 The South Wealden and Eastbourne Transport Study (SWETS) is a study commissioned by Wealden District Council (WDC), Eastbourne Borough Council (EBC) and East Sussex County Council to assist in the preparation of the Wealden District and Eastbourne Borough Core Strategies as part of the respective Local Development Frameworks (LDF).

1.2 The study was carried out in three phases, reflecting changing circumstances nationally, due to the revocation of the South East Plan, the outcome of each phase of SWETS and the developing Core Strategies. SWETS therefore is part of the iterative process of the development of the Core Strategies.

1.3 The original study (SWETS phase I) also provides an evidence base to assist in identification in a range of packages of transport measures, which may include major and/ or minor infrastructure investment, and other wider measures, in the Polegate / Folkington area around the A22/A27 and A271 corridors. It also provides an evidence base and framework within which an updated Local Area Transport Strategy (LATS) for the area may be developed.

1.4 Transport modelling work was carried out by consultants Transport Planning (International) Ltd (TPI), managed on behalf of the commissioning authorities by East Sussex County Council (ESCC). The original brief (SWETS phase I) was overseen by a Steering Group comprising the three local authorities and representatives of the Highways Agency (HA) and the South East England Partnership Board (which has now recently been disbanded).

1.5 Two subsequent iterations of SWETS, Phase II and Phase III were commissioned by Wealden District Council, to further the development of the evidence base for the Core Strategy. The results of Phase II and III are incorporated in this report.

## **2.0 Phase I Study**

### **Background to Phase I**

2.1 The initial study required development of the existing Eastbourne multi-modal transport model sufficiently to:

- Inform the preparation of the Local Development Framework (LDF) Core Strategies for both Wealden District and Eastbourne Borough, enabling identification and testing of transport measures needed to deliver the respective Core Strategies;
- Provide an evidence base to assist in identification in a range of packages of transport measures, which may include major and / or minor

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- infrastructure investment, and other wider measures, in the Polegate/Folkington area around the A22/A27 and A271 corridors; and
- Provide an evidence base and framework within which an updated Local Area Transport Strategy (LATS) for the area may be developed

2.2 The initial study (phase I) was commissioned in January 2010 prior to the revocation of the Regional Spatial Strategy, the South East Plan, and whilst the respective Core Strategies were being developed. At this time a number of options were being considered by each authority and the purpose of the study was to assist in the determination, with other evidence, of the most appropriate spatial distribution.

2.3 The principal objectives for phase I SWETS were

- (from a WDC perspective) to advise whether the South East Plan requirements for growth (from 2006 to 2026) could be accommodated within existing transport networks, and whether additional deliverable infrastructure is necessary facilitate to growth required by the South East Plan;
- (particularly from an EBC perspective) to advise on the transport case for long standing new highways proposals in the Eastbourne Park area;
- to identify, if appropriate, preferred LDF housing and employment development allocation options for both EBC and WDC on the basis of a comparative transport appraisal; and
- to identify any causal linkages between the alternative LDF housing and employment development allocation options and improvement of the trunk road network to the west of Polegate (an intervention known as the Folkington Link or similar).

### **Scope of Phase I Study**

2.4 The project entailed the following main stages:

- Achieve an accurate model representation of current highway and public transport (PT) conditions at base year 2009 AM and PM peaks, in the Eastbourne / South Wealden modelled area;
- Prepare future year demand forecasts in the study area at 2016 and 2026 for a reference case<sup>1</sup> and combinations of nine alternative LDF housing and employment development allocation options to for both WDC and EBC<sup>2</sup>;
- Assign the future year demand forecasts to the highway and public transport networks at 2016 and 2026, to determine the likely impact upon existing transport networks;
- Identify appropriate transport interventions to mitigate the effects of the different development scenarios; and
- Undertake a comparative appraisal of the transport impacts of combinations of alternative LDF housing and employment development

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<sup>1</sup> Modelled using TEMPRO data (base case and usually lower traffic flows)

<sup>2</sup> Modelled using TRICS data (industry standard for LDF testing resulting in higher traffic flows than base case)



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allocation options for both WDC and EBC and identify, if appropriate, preferred options on that basis.

### **Modelling**

2.5 The study is based upon a base model which takes into account completions and commitments<sup>3</sup> as of June 2009 for the study area. The study area is shown in Appendix 1.

2.6 WDC and EBC provided three alternative distribution options for housing and employment development from this base date, showing the proposed additional development at 2016 and 2026. These alternative distributions are shown in Appendix 2. The WDC and EBC alternative options combined provided for nine scenarios.

2.7 WDC alternatives included one scenario meeting the South East Plan requirements for 7,000 dwellings in the part of Wealden within the Sussex Coast Sub Region<sup>4</sup>. The other two WDC alternatives resulted in housing numbers lower than the South East Plan requirement in the part of Wealden within the Sussex Coast Sub Region and provided two alternative spatial distribution, around the towns of Hailsham and Polegate. A windfall allowance, based on previous trends, was included in addition to the allocations being tested. It was considered at the stage of Core Strategy development reached at the initiation of phase 1 that testing these configurations would assist in providing evidence as to the most appropriate distribution, taking into account concerns raised regarding the deliverability of 7,000 homes in south Wealden and the pressure on transport infrastructure.

2.8 EBC alternatives included three alternative spatial distributions within Eastbourne, based on developing scenarios. Each distribution required windfalls to meet the South East Plan requirements, and these were taken into account in the modelling.

2.9 The work carried out for Phase I included demand forecasting and assignment work on forecasting the impacts on the existing transport networks of the alternative nine LDF housing and employment development allocation options to 2016 and 2026 for both WDC and EBC. From this initial stage it was agreed to test the Wealden South East Plan option with the three EBC alternative options with a range of appropriate packages of transport interventions. The packages of transport interventions are shown on page 9.

### **Base Model**

2.10 The multi-modal transport model in existence prior to this study has been updated to 2009 weekday AM and PM peak conditions in an expanded study area extending west to east between East Dean and Pevensey and from south to north from the coast to Hailsham as shown in Appendix 1.

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<sup>3</sup> Extant Planning Permissions for both housing and employment as of June 2009

<sup>4</sup> A region defined by the South East Plan including Hailsham and Polegate

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2.11 In order to create a model which is fit for purpose the base year trip origin to destination (O-D) matrices have been updated using Census data and matrix estimation, together with traffic count data from the last three years and new bus boarding and alighting counts from 2010. The resultant highway matrices contain three vehicle types: Car, Light Commercial Vehicle and Heavy Commercial Vehicle. The public transport matrices contain two passenger types: bus and rail.

2.12 Model calibration notes have been prepared by TPi (Technical Note 1, SATURN Model Calibration, and Technical Note 2, Public Transport Model Calibration). These are available on request from ESCC.

2.13 The SATURN highway model achieved a flow calibration in which 84% of assigned flows in the AM peak and 86% of flows in the PM peak are within an accuracy level ('GEH statistic') of 5.0 or less, compared with observed flows (The 'GEH statistic' target set by Department for Transport (DfT) is 85% within 5.0 or less). Similarly, the model achieved a journey time calibration in which 86% of routes in the AM peak and 92% of routes in the PM peak showed a modelled time within 15% of observed (the target set by DfT is 85% within 15% of observed).

2.14 In the public transport model, 85% of assigned passenger flows in the AM peak and 88% of flows in the PM peak are within an accuracy level ('GEH statistic') of 5.0 or less, compared with observed flows (the 'GEH statistic' target set by DfT is 85% within 5.0 or less).

2.15 The model therefore provides an acceptable overall level of calibration accuracy and is considered to be sufficiently robust to be used as the basis for the forecasting purposes of this study. There are, however, some aspects which will need to be considered and addressed, if appropriate, in any future use of the model which are outlined in Appendix 3.

### **Forecast Model**

2.16 Forecast AM and PM peak period travel demand O-D matrices were assembled for a 'Reference Case' and for all LDF scenarios at both 2016 and 2026. The reference case is in line with nationally recognised trip generating databases and the specific approach for forecasting the reference case and the LDF scenarios are shown in Appendix 4.

### **Assessment**

2.17 *Development Options* are defined as alternative LDF housing and employment development spatial and quantum allocations to 2016 and 2026 prepared for the purposes of this study by both WDC and EBC for their respective areas.

2.18 *Development Scenarios* are defined as combinations of *Development Options*.

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2.19 The broad components of the *Development Options* as used in this study are summarised below. Specific locational allocations for testing purposes are shown in Appendix 2.

2.20 For both WDC and EBC, it was assumed that 'windfall' residential completions would occur evenly across all model zones within their respective parts of the combined study area.

2.21 Spatial allocations in the WDC *Development Options* were focussed upon Hailsham, Polegate and Stone Cross, with some additional development in Herstmonceux, Berwick, Ninfield, Magham Down and Upper Dicker. WDC Option 1 fully complies with the South East Plan (SE Plan) allocation for south Wealden and assumes that 1,000 more dwellings are allocated in the south of the District than in WDC Options 2 and 3 which only partly meet the SE Plan.

**Table 1: South Wealden Development Options**

Land Use	WDC Development Options		
	WDC Option 1	WDC Option 2	WDC Option 3
	'Hailsham Focus'	'North and East Hailsham Focus'	'East and South East Hailsham Focus'
<b>2009-2016</b>			
Residential	847 units	681 units	683 units
Employment & Retail	5,788 sqm	5,795 sqm	5,788 sqm
Residential Windfalls	140 units	140 units	140 units
<b>2016-2026</b>			
Residential	3,977 units	3,144 units	3,142 units
Employment & Retail	28,932 sqm	28,925 sqm	28,932 sqm
Residential Windfalls	200 units	200 units	200 units
<b>2009-2026</b>			
Residential	4,825 units	3,825 units	3,825 units
Employment & Retail	34,720 sqm	34,720 sqm	34,720 sqm
Residential Windfalls	340 units	340 units	340 units

**Table 2: Eastbourne Development Options**

Land Use	EBC Development Options		
	EBC Option 1	EBC Option 2	EBC Option 3
	'Creating	'Sustainable	'Greenfield

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	Sustainable Centres'	Neighbourhoods'	extensions'
<b>2009-2016</b>			
Residential	1,358 units	1,358 units	1,358 units
Employment & Retail	0 sqm	0 sqm	0 sqm
Residential Windfalls	0 units	0 units	0 units
<b>2016-2026</b>			
Residential	1,254 units	1,049 units	1,011 units
Employment & Retail	138,625 sqm	135,685 sqm	193,685 sqm
Residential Windfalls	1,154 units	1,359 units	1,397 units
<b>2009-2026</b>			
Residential	2,612 units	2,407 units	2,369 units
Employment & Retail	138,625 sqm	135,685 sqm	193,685 sqm
Residential Windfalls	1,154 units	1,359 units	1,397 units

### Infrastructure Issues

2.22 *Infrastructure Issues* testing modelled the impacts of each *Development Scenario* on the existing transport networks at the longer term 2026 planning horizon. Initial *Infrastructure Issues* testing was carried out for all nine possible *Development Scenario* combinations at 2026.

2.23 Subsequently it was agreed that further model assessments should be carried out only for those *Development Scenarios* based on full compliance with the SE Plan. No further testing was therefore carried out using WDC Options 2 and 3. In addition, the employment forecast in EBC Option 3 was amended to be the same as in EBC Option 2 (the difference being the removal of new 'greenfield' development in the Eastbourne Park area which would be expected to be conditional on the Eastbourne Park road proposals).

2.24 Combined *Development Scenarios* subject to testing through transport intervention stage were therefore:

- 2016 *Scenario 1* (WDC Option 1 and EBC Option 1);
- 2026 *Scenario 1* (WDC Option 1 and EBC Option 1);  
*Scenario 6* (WDC Option 1 and EBC Option 2); and  
*Scenario 10* (WDC Option 1 and EBC Option 3a – as 3 but excluding additional Greenfield site employment allocations)

2.25 An additional scenario has been included, which is described as scenario 1 minus 10%. This scenario modifies scenario 1 and reduces traffic

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generation by 10% through the provision of 'smarter choices'. Smarter choices are a package of measures which seeks to change the behavior of motorists to more sustainable modes of transport. These measures have not yet been determined, but would require the behavior change of not just only residents in new developments but the existing workforce and resident population.

### Transport Interventions

2.26 The assessment considered the transport impacts of growth under the test *Development Scenarios* without any complementary changes to the existing transport networks, and the impacts of a range of packages of *Transport Interventions*. *Transport Interventions* tested were based on strategic measures identified within the relevant Local Area Transport Strategy and appropriate variants and additions, and comprise:

- Public transport improvements
  - A2270 and A259 Quality Bus Corridors (QBCs); plus
  - Eastbourne – Hailsham express bus service
- A27 Folkington Link
- A22/A27 Cophall roundabout signals
- A22 junction improvements (signals) at
  - A27(Polegate bypass)/ A22/ A27(Pevensay bypass) roundabout; and
  - A22/Dittons Road roundabout
- Eastbourne Park highway proposals

2.27 Those individual measures have been combined into *Transport Intervention Packages (TIPs)* for testing. The packages tested are shown in table 3:

**Table 3: Transport Intervention Package**

Transport Intervention	1	2	3	4	5
<b>Folkington Link</b>	✓		✓		✓
<b>A22 / A27 Cophall signals</b>		✓		✓	
<b>A22 junction improvements</b>	✓	✓			✓
<b>Public Transport improvements</b>	✓	✓	✓	✓	✓
<b>Eastbourne Park road Proposals</b>			✓	✓	✓

### Intervention Testing

2.27 *Intervention Testing* was carried out for range of combinations of *Development Scenario* and *Transport Intervention Package*. The range was selected and designed to provide sufficient evidence to support the objectives of the study without testing every combination possible. The Combinations tested are shown in the following table.

**Table 4: Intervention Testing**

Year	Development Scenario	Transport Intervention Package					
		None	TIP 1	TIP 2	TIP 3	TIP 4	TIP 5
2016	Reference Case	✓					
	Scenario 1	✓	✓				
2026	Reference Case	✓					
	Scenario 1	✓	✓	✓			
	Scenario 6	✓	✓				
	Scenario 10	✓			✓	✓	✓
	Scenario 1 - 10%		✓				

### Assessment Results

#### Context

2.28 Growth in vehicle trips across the combined SWETS area from the 2009 base year to 2016 and 2026 forecast years has been estimated using two different methodologies. The TEMPRO/NTM model based approach is required by Department for Transport when considering transport schemes in competition for funding with others nationally and regionally. The alternative TRICS model is a standard approach to estimating the number of trips from new development, based on a database of observed data covering all types of development. It is an industry standard for use in the assessment of the transport impacts of individual developments. These two scenarios will provide for different figures for growth in vehicle trips due to the different methods used and provide a good comparison for determination of growth.

2.29 Comparison of the results from the two methodologies shows that the degree of variance in trip matrix growth is small in 2016 (about 7% to 8.5% difference), but is much larger, at about 18% to 38% difference, in 2026.

2.30 At 2026, the TEMPRO/NTM based approach provides the lower estimate. TEMPRO implied household trip rates are on the whole low compared to other sources (e.g. TRICS) and may be better suited to strategic studies where short distance trips are not significant and/or important. In an urban LDF development scenario testing context, this approach may tend to produce a lower estimate of total new trips. In applying the TEMPRO based growth across the area in proportion to existing trips, new development is assumed to be more widely and evenly spread than may be the case in any particular spatial development option under consideration.

2.31 The lower TEMPRO/NTM growth estimate provides a reference against which to judge the likely impacts of development scenarios and

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packages of transport interventions at the most favourable extreme of the possible range. Testing of the transport implications of growth at this level without transport intervention is represented by the 'Reference Case'.

2.32 The higher 2026 estimate results from application of TRICS derived trip rates for all proposed new development, with TEMPRO/NTM used only for through trips.

2.33 This approach may produce an upper estimate when applied as it reflects current travel practices. Therefore the impact of any proposed new development designed to promote the use of alternative transport methods is not taken into account. In addition, it is unable to take into account of possible (downward) changes in trip rates over time in response to demographic, economic and attitudinal factors outside its scope. It does, however, enable more spatially exact forecasts of where growth in transport demands are actually likely to arise in response to any particular spatial development strategy.

2.34 The higher, worst case, growth estimate has been used in all comparative testing carried out in this study. All conclusions are therefore robust at the higher extreme of the possible range of growth outcomes, and is taken into account when undertaking analysis of results.

2.35 A further test was carried out at 2026 for *Development Scenario 1 + TIP 1* with the matrix reduced by 10% (i.e. the upper end of the possible range – approx +18 to +38% - reduced to approx +24%). This test was undertaken to assess the sensitivity of conclusions at the upper growth level to a more central estimate of growth (also allowing for about 3-4% reduction resulting from area-wide promotion of other non-infrastructure 'Smarter Choices' initiatives).

2.36 Transport impacts have been expressed using a range of transport network statistics, including:

- private / public transport modal share;
- highway network total travel time, distance and fuel consumption, and average vehicle speed;
- 'junction stress' – expressed as the percentage of key junctions on major routes that have one or more arm(s) approaching or at capacity (key junctions are those which are either important nodes in the network or those which are significant means of access to/from adjacent areas); and
- Increase / decrease in flow (compared to 2009 base year) on major routes.

2.37 Appendix 5 shows the summarised results.

2.38 Appendix 6 shows the detailed model outputs for junction traffic loadings, with those showing 'junction stress' being identified using a traffic-light colour coding system.

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2.39 Appendix 7 shows 'dot diagrams' of junctions under stress, mapped on an Ordnance Survey base of the study area.

2.40 Detailed reviews of the results and their implications for EBC and WDC separately are presented below.

### **Eastbourne (EBC)**

2.41 In 2009 base year, 10-20% of junctions are stressed (depending on peak hour), and average network speed is about 38 kph (24 mph). Overall this is not unacceptable for such an urban area.

2.42 By 2016, in both *Reference Case* and *Development Scenario 1*, there is a slight deterioration but overall network average speeds, and the percentage of key junctions on major routes experiencing stress, are similar to 2009.

2.43 By 2026 (Low growth estimate – the *Reference Case*), the number of junctions that are stressed has broadly doubled to 20-35%, but average network speed is less changed at about 35 kph (22 mph).

2.44 By 2026 (High growth estimate), and with no transport interventions, the transport impacts of the three *Development Scenarios* are more substantial. Average network speeds reduce to about 25-28kph (16-18 mph) and the percentage of junctions showing stress increases to 40-50%. The overall network impacts of the three *Development Scenarios* are similar, although Scenario 1 performs slightly less well than both Scenarios 6 and 10 in the PM peak.

2.45 With a *Transport Interventions Package* (TIP 1) including the A2270 and A259 Quality Bus Corridors QBCs, junction improvements at the northern end of A22 Jubilee Way, and the A27 Folkington Link, average speeds can be improved to about 30kph (19 mph) and junctions at stress reduced to 35-40%. Inclusion of signals at Cophall roundabout (as in TIP 2) instead of the Folkington Link (as in TIP 1) would only give about half of this improvement. Scenario 6 remains slightly the better performer compared to Scenario 1.

2.46 Including the Eastbourne Park road proposals in Scenario 10 (+ TIP 5) improves its performance to equal or slightly better than Scenario 6 (+ TIP 1) depending on peak hour. Both Folkington Link and the A22 Jubilee Way junction improvements contribute to the improved Scenario 10 (TIP 5) performance compared to Scenario 10 alone.

2.47 Regardless of *Development Scenario* and *Transport Interventions Package*, outstanding highways issues at 2026 include traffic volumes on the town centre ring road, and the competing demands for capacity (public transport / private) on the identified QBC corridors.

2.48 A 10% matrix reduction at 2026 (equivalent to just under the mid-point of the low / high forecasting range) would have a roughly pro-rata effect on



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impacts (i.e. transport impacts lie just under halfway between those arising from low and high growth).

### 2.49 Key conclusions for Eastbourne are:

- In 2009 base year, 10-20% of junctions are stressed (depending on peak hour), and average network speed is about 38 kph (24 mph). Overall this is not unacceptable for such an urban area.
- Additional trips in both forecast years increase traffic pressures on the highway network. By 2016 there is a slight deterioration in overall network average speeds, and in the percentage of key junctions on major routes experiencing stress. By 2026 (high growth), average highway speeds drop to about 25 kph (from about 38 kph in 2009) with about half of all key junctions on major roads showing stress.
- The network performance indicators used suggest that, within the range of development tested, the highway network responds in a fairly consistent manner, i.e. there does not appear to be a development quantum 'tipping point' beyond which additional development gives rise to disproportionately large highway performance consequences.
- There is no clear front runner in the choice between the three Eastbourne *Development Options*. Option 1 performs least well overall and Option 3a slightly the best, but the differences are small and often limited to only one of the peak hours.
- All *Transport Intervention Packages* tested can partially address the issues arising in 2026.
- It is unlikely that the marginal transport impact advantages of Scenario 10 (EBC Option 3a) + TIP 5 compared to Scenario 6 (EBC Option 2) + TIP 1 would outweigh the considerably greater cost of the Eastbourne Park road proposals in TIP5 in a more comprehensive cost-benefit analysis.
- The preferred choice would therefore appear to lie between *Development Scenarios* 1 and 6 (i.e. EBC Development Options 1 and 2), together with *Transport Intervention Packages* 1 or 2. The assessment indicates that Scenario 6 has an overall network advantage, and that TIP 1 (which includes Folkington Link) is better than TIP 2 (which includes signals at Cophall roundabout instead). The preferred combination is therefore EBC Development Option 2 plus Transport Intervention Package 1.
- In the absence of the Folkington link, or equivalent, in any regional funding then Transport Intervention Package 2 would mitigate the impact on the transport network sufficient to allow development to progress.
- Regardless of *Development Scenario* and *Transport Intervention Package*, outstanding issues at 2026 include traffic volumes on the town centre ring road, and the competing (public / private transport) demands for available capacity on the identified QBC corridors.

## **South Wealden (WDC)**

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2.50 In 2009 base year, only 7-15% of junctions are stressed, and average network speed is about 50-55 kph (31-34 mph). Overall this indicates a network generally able to accommodate current flows.

2.51 By 2016, in both *Reference Case (lower case scenario)* and *Development Scenario 1 (higher case scenario)*, there is a slight deterioration in overall network average speeds. The percentage of key junctions on major routes experiencing stress increases markedly, particularly in the PM peak, but often as a result of relatively small changes in performance around the threshold values of flow: capacity ratio adopted in the assessment.

2.52 These changes in 2016 PM peak network performance concentrate where the A27 and A22/A2270 corridors intersect. The major component of housing growth 2009-2016 in south Wealden is in Hailsham, but traffic growths on the A22N and A27 are not only higher than the average network growth 2009-2016, but are consistently higher in the *Reference Case* than in *Scenario 1*. This indicates that both strategic and local factors contribute to change at this critical part of the network with strategic growth the more important.

2.53 Inclusion of *Transport Interventions Package 1* at 2016 substantially improves overall network performance to as good as or better than (depending on peak hour) the 2009 base year. The main contributor in *TIP 1* being the Folkington Link, which resolves capacity issues in 2016 at the A22/A2070.

2.54 By 2026 (Low growth estimate – the *Reference Case*), the number of junctions that are stressed has substantially increased to 22-38%, but average network speed remains relatively high at about 45-50 kph (28-31 mph).

2.55 By 2026 (High growth estimate), and with no transport interventions, the transport impacts of the three *Development Scenarios* increase. Average network speeds reduce to about 40-44 kph (25-27 mph) and the percentage of junctions showing stress increases to 50-57%. The overall network impacts of the three *Development Scenarios*, with no *Transport Interventions*, are similar. Without *Transport Interventions*, nearly all major junctions in and around Hailsham and Polegate suffer stress.

2.56 With a *Transport Interventions Package (TIP 1)* including the A2270 (and in Eastbourne the A259) Quality Bus Corridors, junction improvements at the northern end of A22 Jubilee Way, and the A27 Folkington Link, average speeds for *Development Scenarios 1* and 6 can be improved to about 45-50 kph (28-31 mph) and junctions at stress reduced to 32-35%. Junctions within Polegate no longer suffer stress and the number in Hailsham town is halved. Inclusion of signals at Cophall roundabout (as in *TIP 2*) instead of the Folkington Link (as in *TIP 1*) would only give about half of this improvement.

2.57 Including the Eastbourne Park road proposals in *Development Scenario 10* (and *TIP 5*) improves its performance in the south Wealden area

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to equal that of *Development Scenarios 1 or 6 (with TPI 1)*. Both Folkington Link and the A22 improvements contribute to the improved Scenario 10 performance.

2.58 Regardless of *Development Scenario* and *Transport Interventions Package*, outstanding issues include traffic volumes on the A271 and A22 around Hailsham, and on Ersham Road.

2.59 A 10% matrix reduction at 2026 (equivalent to just under the mid-point of the low/high forecasting range) would have a roughly pro-rata effect on impacts (i.e. transport impacts lie just under halfway between those arising from low and high growth).

2.60 Key conclusions for south Wealden are:

- In 2009 base year, only 7-15% of junctions are stressed, and average network speed is about 50-55 kph (31-34 mph). Overall this indicates a network generally able to accommodate current flows;
- Additional trips in both forecast years increases traffic pressures on the highway network. However, the range of network performance indicators used suggests that, within the range of development tested, the highway network responds in a fairly consistent manner, i.e. there does not appear to be a 'tipping point' beyond which additional development gives rise to disproportionately large highway performance consequences.
- Without any *Transport Interventions*, transport issues in 2016 concentrate where the A27 and A22/A2270 corridors intersect, principally in the PM peak and largely as a result of relatively small changes in performance around the threshold values of flow: capacity ratio adopted in the assessment. Both strategic and local factors contribute to change at this critical part of the network. The full *Transport Intervention Package 1 (TIP 1)* resolves those issues. Whilst, on the basis of this work, delivery of the *WDC 2016 Development Option* cannot be said to be contingent on delivery of *TIP 1*, the travel demands of those developments contribute significantly to the need to provide a range of transport interventions, including an improvement at Polegate, within the 2009-2026 period;
- Without any *Transport Interventions*, transport capacity issues in 2026 would be widespread throughout Hailsham and Polegate. As far as can be determined from this work, the full SE Plan housing allocation to 2026 can be accommodated within south Wealden with an appropriate *Transport Interventions Package* including an improvement at the A27/A22 crossing. Signals at Cophall roundabout (as in *TIP 2*) would only give about half of the potential mitigation of the Folkington Link (as in *TIP 1*). Folkington Link (or something similar) is desirable not only to respond to increasing strategic transport demands and to ensure delivery of the *WDC 2026 Development Option*, but also to maximise opportunities for reallocation of highway network capacity to buses along the intended Quality Bus Corridor. If Folkington Link is not able to be provided, a less effective alternative such as signals at Cophall roundabout may allow delivery of the *WDC 2026 Development Option*, albeit with more residual transport issues (such as at the signalised

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junctions of A27/A22/A2270 and, important for Quality Bus Corridor delivery, A2270 / Wannock Road / Polegate High Street ).

- In respect of their impacts on south Wealden, there is no clear preference in the choice between the three Eastbourne *Development Scenarios*. The differences are small and often limited to only one of the peak hours.
- Regardless of *Development Scenario* and *Transport Interventions Package*, outstanding issues at 2026 include traffic pressures on the A271 and A22 around Hailsham, on B2104 Ersham Road and its junction with B2247 Dittons Road, and the junction of A259 / Pevensey High Street.

### Issues relating to Phase I SWETS

2.61 The work undertaken for the Phase I study does not provide for:

- Identification of all the transport implications of individual developments.

The exercise looks at the aggregate impacts of a particular *Development Scenario* and best represents those impacts in a strategic network-wide sense. The specific contributions of an individual development site allocation to the need for particular transport improvements cannot generally be identified. Other more local impacts, and consequential needs for more local transport network improvements, including improvements to pedestrian and cycle networks cannot be identified.

Identification of transport issues and programming of *Transport Interventions* other than within the two broad assessment periods of 2009-2016 and 2016-2026. More detailed timescale advice would be dependent on the modelling process being repeated for other forecast years, i.e. 2021 if 3 broad assessment / programming periods (2009-2016, 2016-2021 and 2021-2026) was sufficient. If required, for each such new forecast year the whole modelling process would have to be replicated, from and including the preparation of suitable planning data by both WDC and EBC for that forecast year.

Advising on the transport impacts of new development spatial distributions representing significant changes to those included in the *Development Options* tested as part of this work. Any such changes would require re-testing as a new *Development Option*. If required, for each such new development option the whole modelling process would have to be replicated, from and including the preparation of suitable planning data by both WDC and EBC for each required forecast year.

Other transport related costs and benefits, including safety, environmental, economic and social. Other than the extent to which such aspects have a proportional relationship with differences in transport network performance impacts, this is outside the scope of the exercise undertaken.

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- Full Business Case support for promotion or rejection of identified highway schemes (e.g. Folkington Link and Eastbourne Park road proposals).

The work undertaken provides part of the evidence base for any such Business Case, but further work would be necessary to provide an appropriate level of support for detailed scheme assessment.

### **3.0 Phase II Study**

#### Background to Phase II

3.1 Between January 2010 and August 2010 WDC developed the spatial distribution of growth based upon the outcome of SWETS Phase I, the completion of the Wealden Strategic Housing Land Availability Assessment (SHLAA), the sustainability appraisal of broad locations and the revocation of the Regional Spatial Strategy the South East Plan (in July 2010).

3.2 As a result, the overall housing and employment provision was reduced, and the preferred locations for development were refined. In addition it was also necessary to increase the plan period by one year to 2027, in order to provide a plan period of 15 years from anticipated adoption.

3.3 EBC had also undertaken further work by refining employment options, extending the plan period by one year and agreeing an approach to proposed housing distribution.

3.4 As a result of the change in strategy, especially with particular regard to the revocation of the South East Plan, WDC commissioned further work by TPI to test the new emerging proposed spatial strategy. In addition, WDC sought to build upon Phase I and sought to resolve concerns raised at Hailsham Town Centre and the A271. East Sussex County Council assisted in the management and the interpretation of the modelling, and EBC supplied a further iteration of their spatial distribution.

#### Scope of Phase II Study

3.5 The study was solely required to inform the preparation of, and to provide an appropriate evidence base for, the LDF Core Strategy for Wealden District. The study was commissioned in order to:

1. Provide advice, based on modelling, of the ability of the highway network, with prescribed interventions, to accommodate the levels and distributions of development being considered for the Core Strategy taking into account the proposed development in the emerging Eastbourne Core Strategy; and
2. Provide advice on the opportunities that may exist for mitigating any particular adverse transport impacts that are highlighted by the modelling, and their likely effectiveness.

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3.6 The brief specifically required advice on the transport impacts of development, and potential transport interventions necessary to support growth, in the following parts of the study area highway network:

1. Hailsham town centre;
2. The A271 to the north of Hailsham (Boship roundabout to Battle Road);
3. The A22 to the west of Hailsham, including Hempstead Lane junction;
4. North/south routes between Hailsham and the Polegate / Eastbourne area (A22 and B2104 Hailsham Road)
5. The crossing of the north/south A22 and the east/west A27.

### Scope of the Study

3.7 The WDC and EBC scenarios were required to be tested for two time scenarios one medium term and one long term with:

- No transport interventions; and
- A standard package of transport interventions (*to be agreed*)

3.8 For the longer term assessment year, work was also required to provide advice on:

- the individual transport impacts of disaggregated elements of the development data (north Hailsham, east Hailsham and Polegate);
- associations between those impacts and elements of the standard transport interventions package;
- transport impacts, and consequences for delivering the longer term development scenario, of a range of additional potential highway transport interventions.

### Development Proposals

3.9 The revised south Wealden area development proposals tested are shown in Table 5. The spatial distribution and quantum of growth for both Eastbourne and Wealden are shown in Appendix 8.

**Table 5: South Wealden Development Proposals (post April 2010)**

Location	Type	2009-2019	2009-2027
<b>Housing</b>			
Hailsham	Dwellings	700	1550
Polegate	Dwellings	270	700
Stone Cross	Dwellings	250	650
Herstmonceux	Dwellings	50	150
Berwick	Dwellings	50	50
Ninfield	Dwellings	100	100
Upper Dicker	Dwellings	10	10
Windfalls	Dwellings	140	340
<b>Total</b>		<b>1570</b>	<b>3550</b>

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Location	Type	2009-2019	2009-2027
<b>Employment</b>			
East Hailsham	Office	4000 sqm	4000 sqm
	School, Library and GP Services	7600 sqm	7600 sqm
North Hailsham	General Industrial and Warehousing	-	8650 sqm
	Retail	300 sqm	300 sqm
	Primary School	-	4000 sqm
Central Hailsham	Retail	2500 sqm	6500 sqm
South Polgate	General Industrial and Warehousing	-	8300 sqm
West Polegate	Office, General Industrial and Warehousing	8600 sqm	8600 sqm
<b>Total</b>		<b>23000 sqm</b>	<b>47950 sqm</b>

3.10 Earlier work had concluded that across a wide range of scale of development options, the highway network responds in a fairly consistent manner, i.e. there does not appear to be a 'tipping point' beyond which additional development gives rise to disproportionately large highway performance consequences.

3.11 The current development assumptions lie within that range. The appraisal has therefore concentrated on the longer term 2027 planning horizon.

3.12 The SWETS model also covers development within Eastbourne borough. Development assumptions for Eastbourne over the same periods were based on information supplied by EBC relating to their preferred option. Earlier SWETS (Phase I) work had concluded that in respect of their impacts on south Wealden, there was no clear preference in the choice between the three Eastbourne development options under consideration.

### Methodology

3.13 The earlier Phase I work had concluded that the standard transport interventions package excluding the major scheme A27 improvement (Folkington Link or similar) would not have substantial overall impacts on the south Wealden highway network. Inclusion of signals at Cophall roundabout would give some limited improvements to north/south connectivity but no material overall highway network benefits. Otherwise, highway network performance in south Wealden was relatively insensitive to the remainder of the standard area-wide transport interventions package, which was largely based around the promotion of the two Quality bus Corridors which were centered on access to Eastbourne town centre and would give most traffic

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benefits to those corridors within Eastbourne. Unresolved issues in the south Wealden area included traffic pressures on the A271 and A22 around Hailsham, on B2104 Ersham Road and its junction with B2247 Dittons Road, and the junction of A259 / Pevensey High Street.

3.14 In light of earlier Phase I work, the assessment of impacts and the contributions of development proposals and more local highway proposals in this study have been carried out by comparison to forecasts assuming no other transport interventions in place, with associated commentary where necessary on the potential effects of the latter.

3.15 Using the model, development related transport impacts are measurable as changes in network performance for a given forecast year plus development option compared to the base year (or to a different development option for the same forecast year). Network performance indicators can reflect overall levels of service through to specific impacts at individual locations. The mitigation afforded by transport enhancements / improvements can be assessed by comparing network performance with and without those measures.

3.16 In this report, network performance has principally been demonstrated by considering:

- General highway network summary statistics, including overall network total travel time, distance and fuel consumption, and average vehicle speed;
- Route statistics, including journey times and levels of traffic flow on important routes in the highway network; and
- Junction statistics, measuring the levels of 'junction stress' – expressed as the percentage of key junctions on major routes that have one or more arm(s) approaching or at capacity (key junctions are those which are either important nodes in the network or those which are significant means of access to/from adjacent areas).

3.17 The model can also broadly estimate the extent to which individual development areas contribute to traffic increases at identified junctions – the 'attributable effects'. This has been carried out for this report, the junctions used being those included in the above 'junction statistics' assessment.

3.18 In Phase II, the modelling has been based on the TRICS model (high estimates of traffic), as opposed to the TEMPRO or indeed using the scenario of a 10% reduction due to smarter choices. This relies upon previous trends and is not modified to take into account any behavioural change created by sustainable development, and provides the worst case scenario of traffic impact, which needs to be considered when undertaking analysis and drawing conclusions. Therefore any behavioural change in use of transport, including by the implementation of the Quality Bus Corridor will have a positive contribution of the transport network.

## **Appraisal Results**



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### Network summary statistics

3.19 Summary overall highway network statistics are shown in Table 6 for base year 2009 and forecast year 2027 for both AM peak and PM peaks.

**Table 6: Network Summary Statistics (South Wealden)**

Criteria	2009 Base Year		2027	
	AM	PM	AM	PM
Total time (pcu hrs per hr)	1972	2340	3160	3456
Total distance (pcu kms per hr)	105659	109106	136400	134147
Queuing Delay (pcu hrs per hr)	303	312	577	496
Av. Speed (kph)	54	47	43	39
Total fuel consumption (ltrs per hr)	8211	8863	11628	11711

### Review

3.20 Through the assessment period, general network performance will degrade with more than 30% growth in the number of trips between the 2009 base year and the 2027 forecast year. Forecast South East regional growth in car trips is about one half of that, indicating that the more major contributor to traffic growth in the south Wealden area is growth in south Wealden itself. Overall average network speeds will reduce as a result of increases in travel time being about twice the increase in travel distance, reflecting a continuing decline in performance on both local and strategic routes in south Wealden. Locally focussed transport mitigation measures may address particular 'hot-spot' issues but it is inevitable that a measure of overall decline in level of service would result from future traffic growth.

### Route statistics

3.21 Journey time comparisons were extracted for the following important routes in south Wealden, with the results shown in Table 7:

- **A267** *Horam to Lower Horsebridge;*
- **A22** *Golden Cross to Polegate;*
- **A27(T)** *Wilmington to Pevensy;*
- **A271** *Lower Horsebridge to Herstmonceux;*
- **A295** *A271 to A22;*
- **A2270** *Polegate to Gildredge Park;*
- **B2104** *Upper Horsebridge to Langney Bridge; and*
- **B2247** *Polegate to Stone Cross.*

**Table 7: Journey Times (routes in south Wealden)**

Route	Direction	Model Outputs (Seconds)				Change from 2009 Base Year (Seconds)	
		Base Year 2009		2027		2027	
		AM	PM	AM	PM	AM	PM
A267	SB	92	90	93	91	1	1
	NB	91	92	94	94	3	2
A22	SB	535	864	718	1685	183	821
	NB	581	465	849	478	268	13
A27 (T)	SB	831	1508	1375	2006	544	498
	NB	737	704	810	732	73	28
A271	EB	787	806	855	825	68	19
	WB	807	783	872	805	65	22
A295	SB	370	375	571	426	201	51
	NB	354	366	400	483	46	117
B2104	SB	845	793	1129	885	284	92
	NB	735	727	918	847	183	120
B2247	EB	351	352	360	364	9	12
	WB	359	356	621	361	262	5

3.22 Percentage changes in flow relative to 2009 are shown in Table 8, the results being highlighted in accordance with identified ranges, as follows;

- -4.9% to 4.9% - no highlighting;
- -5.0% to -100% - Green;
- 5% to 50% - Amber; and
- > 50% - Red.

**Table 8: Percentage Increase/Reduction in Traffic by Route (south Wealden)**

Route	2027	
	AM	PM
A22 N	16%	25%
A267	26%	19%
A27	26%	22%
A271	40%	50%
A295	80%	51%
B2104	66%	53%
B2247	32%	34%

Review

## South Wealden and Eastbourne Transport Study (SWETS) November 2010

3.23 Links with the highest percentage difference in flow compared with the base year scenario include A271, A295 and B2104, reflecting increased pressures on the network serving Hailsham during the plan period. The analysis highlights that by 2027, the majority of A class roads within the study area will contain significantly more traffic compared with the base year and substantially greater travel times. The analysis has also indicated that the B road network will also witness a considerable increase in traffic volumes. This would suggest that capacities on parts of the major routes would be approached or exceeded within the plan period, encouraging traffic to re-route and use alternative more minor links.

### Junction statistics

3.24 Table 9 shows the junction capacity results. Figures quoted are the ratio of flow to capacity (RFC) for the worst arm of the junction. These RFC percentages are highlighted in the table depending on identified ranges, as follows;

- 0% to – 84.9% - Green;
- 85% to 99% - Amber; and
- >100% - Red

3.25 Conventionally, an RFC of >85% is taken as an indication of a junction operating at its practical maximum without excessive queues and delays. An RFC of >100% would indicate a junction under severe stress.

**Table 9: Junction Capacity Analysis (RFC%) (South Wealden)**

Junction Route/Description	Base Year 2009		2027	
	AM	PM	AM	PM
A22 N/Diplocks Way	100	105	109	111
A22 N/Hempstead Lane	62	33	94	76
A22 N/South Road	85	102	102	109
A27(T)/A22 N	91	87	108	100
A22 S/Dittons Road	60	53	110	91
A259/Pevensy Bay	63	58	77	66
A259/Pevensy High Street	88	83	99	108
A22 N/A267/A271	103	113	117	141
A27(T)/A22 S	59	70	51	84
A27(T)/A2270	60	58	64	62
A27(T)/A259	60	52	88	68
A27(T)/Thornwell Road	58	76	74	90
A2270/Wannock Road	68	78	103	86
A271/Battle Road	27	30	55	32
A271/Hawks Road	33	36	104	95
A271/London Road	66	60	97	84
A271/New Road	29	33	63	36
A271/North Street	75	42	100	81
A295/Diplocks Way	85	78	91	73

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A295/Ersham Road	56	51	93	76
A295/Harebeating Drive	74	27	105	33
A295/Harmers Hay Road	96	37	89	38
A295/Hawthylands Road	28	23	51	30
A295/High Street	93	82	104	92
A295/London Road	86	94	109	103
A295/North Street	67	54	88	63
A295/Station Road	47	42	81	76
A295/Tesco	63	92	94	113
A295/Western Road	101	87	112	101
B2104/A267	35	29	65	35
B2104/Church Road	18	10	101	18
B2104/Dittons Road	92	81	105	106
B2104/Hawks Road	64	65	111	87
B2104/London Road	45	62	36	102
B2191/Rattle Road	18	16	38	24
B2247/High Street	26	26	102	43
A2270/Broad Road	53	66	101	102
A2270/Church Street	73	59	81	73
A2270/Huggetts Lane	97	96	109	102
A2270/The Triangle	81	72	82	92
South Wealden Number of Junctions RFC >= 85%	<b>12</b>	<b>8</b>	<b>27</b>	<b>19</b>
South Wealden %age of Junctions RFC >=85%	<b>30%</b>	<b>20%</b>	<b>67%</b>	<b>47%</b>

**Review**

3.26 The number of junctions approaching, at, or over capacity increases significantly between 2009 and 2027. Worst affected routes are A22, A295, A2270 and B2104.

Attributable Effects

3.27 Table 10 shows the proportion of total junction inflow attributable to each broad development area for key junctions within South Wealden. The results are colour coded to coincide with the junction capacity analysis in Table 9, namely:

- RFC 0% to – 84.9% - Green;
- RFC 85% to 99% - Amber; and
- RFC >100% - Red

**Review**

3.28 Generally, the attributable impacts are predictably larger the closer to the development area in question. All development areas in Hailsham also contribute to a significant extent to increasing traffic problems in the town centre, and to varying extents to problems elsewhere in and around the town.

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**Table 10: Attributable Impact of Development Sites (South Wealden)**

Junction Route/Description	North Hailsham		Central Hailsham (retail)		South Polegate		West Polgate		Stone Cross		East Hailsham North of Harebeating Drive		East Hailsham South of Harebeating Drive		East Hailsham South of Harmers Hay Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A22 N/Diplocks way	6.8%	5.2%	0.0%	0.0%	1.5%	1.3%	0.1%	0.1%	0.3%	0.2%	0.6%	1.4%	0.2%	0.5%	0.2%	0.1%
A22 N/Hempstead Lane	5.6%	6.1%	0.2%	0.3%	1.4%	1.2%	0.1%	0.1%	0.3%	0.2%	1.1%	1.3%	0.5%	0.7%	0.3%	0.2%
A22 N/South Road	5.2%	3.9%	1.7%	1.8%	1.6%	1.2%	0.1%	0.1%	0.2%	0.2%	2.5%	1.5%	2.0%	1.0%	2.1%	1.3%
A27(T)/A22 N	4.3%	3.0%	1.4%	1.4%	2.1%	2.8%	0.1%	0.0%	0.2%	0.2%	2.1%	1.1%	1.6%	0.8%	1.7%	1.0%
A22 S/Dittons Road	2.6%	2.1%	0.4%	0.4%	1.9%	0.8%	1.0%	0.8%	0.5%	0.4%	1.1%	0.9%	0.8%	0.5%	0.7%	0.5%
A259/Pevensey Bay	0.2%	0.1%	0.2%	0.2%	0.5%	0.6%	0.1%	0.2%	0.3%	0.1%	0.6%	0.2%	0.2%	0.1%	0.2%	0.1%
A259/Pevensey High Street	0.2%	0.1%	0.2%	0.2%	0.7%	0.6%	0.1%	0.2%	2.3%	2.5%	0.5%	0.2%	0.2%	0.1%	0.2%	0.1%
A22 N/A267/A271	3.8%	5.3%	0.3%	0.5%	1.0%	0.7%	0.0%	0.0%	0.3%	0.2%	1.8%	1.5%	0.7%	0.8%	0.6%	0.5%
A27(T)/A22 S	2.6%	2.1%	0.9%	0.5%	1.6%	2.4%	0.3%	0.2%	0.3%	0.3%	1.3%	0.9%	0.8%	0.6%	0.8%	0.6%
A27(T)/A2270	2.3%	1.4%	0.7%	1.2%	3.7%	4.2%	0.1%	0.0%	0.1%	0.1%	1.3%	0.6%	1.2%	0.4%	1.1%	0.7%
A27(T)/A259	0.2%	0.1%	0.7%	0.2%	2.1%	2.1%	0.3%	0.2%	0.9%	1.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
A27(T)/Thornwell Road	2.6%	1.7%	0.5%	0.9%	1.4%	0.9%	0.1%	0.1%	0.1%	0.1%	1.6%	1.1%	1.0%	0.7%	1.0%	0.7%
A2270/Wannock Road	2.2%	1.7%	0.5%	0.9%	8.3%	6.6%	0.2%	0.2%	0.2%	0.1%	0.8%	0.5%	0.5%	0.3%	0.5%	0.3%
A271/Battle Road	4.2%	1.4%	3.0%	5.1%	0.6%	0.6%	0.0%	0.0%	0.4%	0.0%	12.6%	12.3%	6.2%	6.0%	5.3%	4.8%
A271/Hawks Road	21.0%	23.6%	0.8%	0.0%	0.1%	0.4%	0.0%	0.0%	1.3%	0.3%	8.6%	8.1%	3.8%	3.5%	3.0%	2.5%
A271/London Road	13.5%	12.7%	1.1%	2.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	6.8%	5.5%	2.8%	3.2%	2.3%	2.3%
A271/New Road	10.7%	7.0%	2.3%	5.8%	0.7%	0.5%	0.0%	0.0%	0.3%	0.0%	4.4%	4.0%	2.6%	2.5%	2.5%	2.4%
A271/North Street	2.1%	11.4%	1.5%	2.6%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	6.8%	5.6%	3.4%	3.3%	3.1%	2.5%
A295/Diplocks Way	0.6%	0.3%	4.2%	6.1%	1.1%	0.7%	0.0%	0.0%	0.1%	0.1%	5.3%	3.2%	4.9%	2.4%	5.3%	4.3%
A295/Ersham Road	1.9%	0.9%	4.4%	6.4%	0.9%	0.5%	0.0%	0.0%	1.8%	0.6%	5.9%	5.3%	5.0%	3.7%	5.4%	5.1%
A295/Harebeating Drive	5.2%	2.1%	4.0%	8.2%	1.0%	0.5%	0.0%	0.0%	0.5%	0.0%	13.3%	14.3%	8.1%	9.5%	6.9%	7.6%
A295/Harmers Hay Road	4.6%	1.7%	4.1%	8.8%	1.0%	0.3%	0.0%	0.0%	0.4%	0.0%	11.9%	13.9%	9.7%	9.5%	7.2%	8.7%
A295/Hawthylands Road	4.9%	1.9%	4.2%	9.2%	1.0%	0.3%	0.0%	0.0%	0.5%	0.0%	13.0%	15.4%	10.9%	12.8%	7.5%	9.3%

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A295/High Street	3.5%	2.0%	3.4%	7.6%	0.7%	0.2%	0.0%	0.0%	0.5%	0.1%	7.7%	6.1%	6.6%	4.1%	7.1%	6.0%
A295/London Road	3.9%	2.0%	3.7%	7.7%	0.8%	0.2%	0.0%	0.0%	0.4%	0.0%	10.1%	8.4%	8.3%	5.8%	9.0%	7.9%
A295/North Street	1.6%	0.7%	6.0%	13.1%	0.8%	0.4%	0.0%	0.0%	0.8%	0.3%	5.8%	5.0%	5.2%	3.4%	5.6%	5.1%
A295/Station Road	1.3%	0.0%	6.5%	10.8%	0.9%	0.5%	0.0%	0.0%	0.9%	0.4%	6.1%	5.5%	5.5%	3.7%	6.0%	5.8%

**Table 10: (Continued) Attributable Impact of Development Sites (South Wealden)**

Junction Route/Description	North Hailsham		Central Hailsham (retail)		South Polegate		West Polgate		Stone Cross		East Hailsham North of Harebeating Drive		East Hailsham South of Harebeating Drive		East Hailsham South Harmers of Hay Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A295/Tesco	2.5%	1.4%	8.2%	9.2%	0.7%	0.3%	0.0%	0.0%	0.8%	0.3%	6.4%	5.4%	5.6%	3.7%	6.0%	5.4%
A295/Western Road	2.0%	0.9%	5.3%	7.8%	0.9%	0.5%	0.0%	0.0%	1.8%	0.5%	6.1%	5.5%	5.2%	3.9%	5.7%	5.4%
B2104/A267	9.9%	4.5%	0.9%	2.1%	0.6%	0.3%	0.0%	0.0%	0.0%	0.3%	2.7%	2.7%	1.8%	1.7%	1.7%	1.7%
B2104/Church Road	16.0%	9.5%	1.4%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	4.2%	5.8%	2.8%	3.7%	2.7%	3.7%
B2104/Dittons Road	0.7%	0.4%	1.1%	1.8%	1.4%	1.6%	0.2%	0.2%	4.4%	2.1%	1.2%	3.0%	0.9%	1.9%	1.0%	2.0%
B2104/Hawks Road	12.9%	8.7%	1.1%	3.7%	0.2%	0.6%	0.1%	0.0%	1.3%	0.3%	2.2%	2.4%	0.6%	1.5%	0.4%	0.6%
B2104/London Road	3.1%	3.0%	2.5%	5.0%	0.4%	0.1%	0.0%	0.0%	3.4%	0.4%	4.0%	3.3%	2.5%	2.4%	3.0%	2.7%
B2191/Rattle Road	0.1%	0.0%	0.3%	0.0%	0.6%	0.3%	0.2%	0.1%	4.1%	5.3%	0.4%	0.0%	0.3%	0.0%	0.3%	0.0%
B2247/High Street	0.9%	0.7%	0.1%	0.1%	9.9%	2.6%	1.1%	0.7%	0.8%	0.6%	0.3%	0.1%	0.2%	0.1%	0.2%	0.1%
A2270/Broad Road	2.6%	1.8%	0.5%	0.9%	6.9%	6.2%	0.0%	0.0%	0.0%	0.0%	1.0%	0.6%	0.6%	0.4%	0.6%	0.4%
A2270/Church Street	1.9%	1.6%	0.4%	0.8%	3.7%	4.2%	0.0%	0.0%	0.0%	0.0%	0.7%	0.5%	0.5%	0.3%	0.5%	0.3%
A2270/Huggetts Lane	1.9%	1.5%	0.4%	0.7%	5.3%	5.2%	0.0%	0.0%	0.0%	0.0%	0.7%	0.5%	0.5%	0.3%	0.5%	0.3%
A2270/The Triangle	2.1%	1.7%	0.4%	0.8%	5.9%	5.6%	0.0%	0.0%	0.0%	0.0%	0.8%	0.5%	0.5%	0.3%	0.5%	0.3%

## South Wealden and Eastbourne Transport Study (SWETS) November 2010

### Highway Network Issues

#### A271 / A22

3.29 The development option tested includes major housing allocations in north and east Hailsham that would place increased traffic pressure on A271 from Battle Road to the Boship roundabout. Without any additional measures to increase traffic flows on A271 or elsewhere, capacity would become an issue at the junctions of A271 with Hawks Road, London Road and North Street, and the existing queuing problems at A22/A267/A271 Boship roundabout (particularly on the A271 in the PM peak) would be exacerbated. Whilst new on-site highway provision may be a mitigating feature of development in north Hailsham, the issues arising on the western part of A271 would remain unresolved. Other junctions on the A22 at Diplocks Way and South Road would increasingly suffer congestion. The possibility of opening up the junction of A22 with Hempstead Lane has been considered. Currently a restricted 'left in / left out' junction, its conversion to 'all moves' by construction of a roundabout has been tested. The results indicate that this would have widespread benefits without significant area or local disbenefits. By providing an additional connection between the town and the A22 corridor, traffic redistributions would reduce the incidence of queuing on A271 at Boship (the worst performing arm), reduce pressures on Diplocks Way and South Road junctions with the A22, and improve the accessibility of development proposals in north and east Hailsham. The implications of such a solution would require further consideration, in order to test physical and financial deliverability. If the reconfiguration of the junction at Hempstead Lane could not be achieved it would be necessary to consider an alternative, but less effective solution, involving the reconfiguration of the Boship roundabout itself. Different design solutions would need to be tested and the most appropriate solution sought. However, it is critical that the potential future incidence of queuing on the A271 created by additional development is resolved. Notwithstanding any solution modelled queuing on A22 south into the junction in the AM peak would remain a problem at Boship roundabout. No solution implementable within the highway boundary is apparent, including one or more slip lanes.

#### Hailsham Town Centre

3.30 Given the amount of development proposed for Hailsham, some intensification of traffic pressures on the town centre highway network is inevitable. The principal capacity issues now and in the future would arise at the London Road / Battle Road and High Street / North Street junctions. A small measure of relief would result from the previous proposal to open up Hempstead Lane / A22 junction. Further relief could only stem from lower traffic demands, either a general reduction of town traffic through, as yet unidentified, demand management measures, and by increasing use of the existing B2104 via Summerheath Road. Initial testing of a scheme including traffic signals at the northern and southern ends of Summerheath Road, encouraging its use by north / south traffic avoiding the town centre and providing an alternative means of accessing the southern part of the town centre from the north, suggest that this could help to resolve the capacity

## **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

issues at London Road / Battle Road and High Street / North Street junctions. Further consideration will be required with respect to the impact of measures on the Battle Road and North Road Junctions within the Town Centre and the need to improve the High Street. The overall movement of traffic would benefit from demand management measures, as demonstrated through the 10% matrix reduction in SWETS 1, and would be part of the package to resolve town centre capacity issues.

### **A2270**

3.31 Commencing south of the A22/A27 signalised junction, this is an important access corridor from the north (including Hailsham) and west to Eastbourne. Previous work has identified that substantial traffic benefits could arise only from provision of a new A27 link west of Polegate to Cophall roundabout which would encourage a greater proportion of traffic between the west and central Eastbourne to use Polegate bypass and Jubilee Way. An alternative of signalling Cophall roundabout would only give more limited benefits overall and delivers significantly less traffic reduction on A2270. The A2270 is identified as top priority Quality Bus Corridor. Importantly for this SWETS investigation, the current work has made no specific provision for the inevitable impacts of capacity reduction for general traffic as a consequence of roadspace reallocation to achieve bus priority. Taking this into account, in the forecast year junction capacity would become an increasingly important issue not only at A2270 / Polegate High Street / Wannock Road and at Huggets Lane / A2270, but also at intermediate junctions providing access to adjacent areas (e.g. Broad Road and The Triangle).

### **B2104 / B2247 Stone Cross crossroads**

3.32 This junction appears in Table 10 as a junction currently approaching capacity and over-capacity in the forecast year. The arm least effectively working, in both cases is the B2104 towards Hailsham. The junction appears to be able to satisfactorily accommodate present and future flows on other arms. The capacity issue on B2104 north would tend to inhibit its use as an alternative route (to the A22) for traffic between Hailsham and parts of Eastbourne, and therefore increase trips on the A22.

### **Development Consequences**

3.33 From the work carried out to date, the following observations can be made about the suitability, from a transport perspective, of individual major development proposals tested. References to particular transport measures investigated in this stage of SWETS should not be taken to preclude any potential other(s) not yet identified or tested.

### **Hailsham**

3.34 Development to the scale and location proposed in north and east Hailsham could be accommodated subject to improvement to the town centre network as identified and to the A22 / Hempstead Lane junction. Without the



## **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

latter, the consequences of development at north Hailsham for the satisfactory operation of the Boship roundabout would be severe.

### **South Polegate and East Willingdon**

3.35 This site would access directly onto the A2270 south of the Wannock Road / Polegate High Street junction. It would be a major contributor to traffic flows at that junction, and at the junction of A2270 with Huggets Lane to the south. Junction capacity will be an increasingly important issue at both sites in the future, particularly in light of the need to accommodate bus priority measures in support of the QBC proposal for this highway corridor. Concern is therefore raised with respect to residential development at the scale envisaged.

### **Stone Cross**

3.36 The assessment has not identified any transport issues of consequence associated with this development proposal.

## **4.0 Phase III SWETS**

### **Context**

4.1 The significant difference between the distribution of spatial options in Phase I and Phase II SWETS is in Polegate. Scenario 1 in Phase I was focussed upon land north of Dittons Road, whereas Phase II focussed on an alternative location on land south of Polegate and east of Willingdon. The results of Phase II was in conclusive in relation to development in this area. Therefore, based on the Phase I approach, that development of 700 dwellings could be accommodated in north of Dittons Road, Phase III seeks to clarify how much development can be accommodated in south of Polegate and East of Willingdon.

4.2 A further iteration of the development option increased the time scale for delivery at Wealden District from 2027 to 2030 and made some minor amendments to the quantum of development in outlying villages, with an overall reduction in development to that tested. For the purpose of SWETS this is not considered to be a material factor in the assessment of results.

### **Methodology**

4.3 The principal highways concern relating to the potential allocation on land south of Polegate and east of Willingdon is the ability of that part of the A2270, which would form the access to/from the main highway network, to accommodate the traffic demands of the site. The principal issue was accommodating those demands on a major route which will remain heavily trafficked in the future, and within which it is intended to provide capacity-allocation measures consistent with its intended role as part of the QBC.

4.4 The approach adopted for Phase III was therefore to compare assignment results with and without the allocation on this site, to determine

## **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

whether the site allocation was capable of being accommodated in full or, if not, to what extent.

### **Results**

4.5 This section of the A2270 serves as part of the principal accesses between Hailsham and Eastbourne, and between areas served by the A27 west of Polegate and Eastbourne. Both have a choice of routes (A2270 or A22 Jubilee Way) influenced by trip end location in Eastbourne and by the overall cost of using either route. The cost difference is greater for traffic to/from the A27 west of Polegate and this contributes to the observation that, in the base year, whilst about 60% of traffic on the A27 west of Polegate has an origin or destination in Eastbourne, of that, about three quarters uses the A2270.

4.6 This part of the A2270 is heavily trafficked in base year. As traffic demands grow over the assessment period, the 'natural' demand to use this route will also increase, and the ability of the route to accommodate growth will decrease. The usual network response would be for traffic to reassign to other parts of the network, spreading the impact. Without a major improvement to the A27 west of Polegate (e.g. Folkington Link), the time and cost penalty associated with the use of A22 instead of A2270 by traffic to/from the west is substantial.

4.7 The assignments comparison nonetheless showed that the degree and extent of traffic capacity problems on this section of the A2270 are similar with or without the allocation on this site. Other traffic is therefore reassigning to second choice routes as a result of this allocation. As traffic flows on the section are broadly similar, the scale of reassignment appears to be directly related to the scale of the development in this location. Not only would total network time, distance and fuel consumption increase, so would the need for improvements at critical junctions on both first and alternative route choices, including parts of the standard intervention package.

### **Conclusion of SWETS Phase III**

4.8 On the basis of this work it can be concluded that any allocation at this site will intensify traffic demands on the A2270, which is already under pressure, and which must be capable of accommodating capacity-allocation measures consistent with its intended role as part of the QBC. Consequences are likely to be experienced not only locally but also elsewhere on the highway network due to reassignment of other traffic.

4.9 The extent to which the allocation can be partially or fully accommodated is dependent on the acceptability of those network-wide impacts and is contingent upon mitigation including:

- Junction improvements at A2270 / Polegate High Street / Wannock Road;
- Junction improvements at A22/ A27 / A2270 intersection;
- Traffic signals at Cophall roundabout;

## **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

- Improvements at junctions between A22 Jubilee Way and A27 and Dittons Road;
- Access junction(s) onto A2270 providing adequate capacity, and consistent in design with overall corridor QBC requirements; and
- Incorporation of strong, effective demand management measures and proposals.

### **5.0 Conclusion**

#### **Eastbourne**

5.1 On the basis of the SWETS1 work undertaken, there is no clear front runner in the choice between the three Eastbourne *Development Options*. All *Transport Intervention Packages* tested can partially address the issues arising in 2026, although it is unlikely that their marginal transport impact advantages would outweigh the considerably greater cost of the Eastbourne Park road proposals in TIP5 in a more comprehensive cost-benefit analysis.

5.2 The preferred choice would appear to lie between *Development Scenarios* 1 and 6 (i.e. EBC Development Options 1 and 2), together with *Transport Intervention Packages* 1 or 2. The assessment indicates that Scenario 6 has an overall network advantage, and that TIP 1 (which includes Folkington Link) is better than TIP 2 (which includes signals at Cophall roundabout instead). The preferred combination is therefore EBC Development Option 2 plus Transport Intervention Package 1. Regardless of *Development Scenario* and *Transport Intervention Package*, outstanding issues at 2026 would include traffic volumes on the town centre ring road, and the competing (public / private transport) demands for available capacity on the identified QBC corridors.

#### **Wealden**

5.3 SWETS has shown that a number of traffic issues are predicted through development proposals in south Wealden from 2009 to 2030. In order to deliver growth it is considered that a range of mitigation measures will be required which could include:

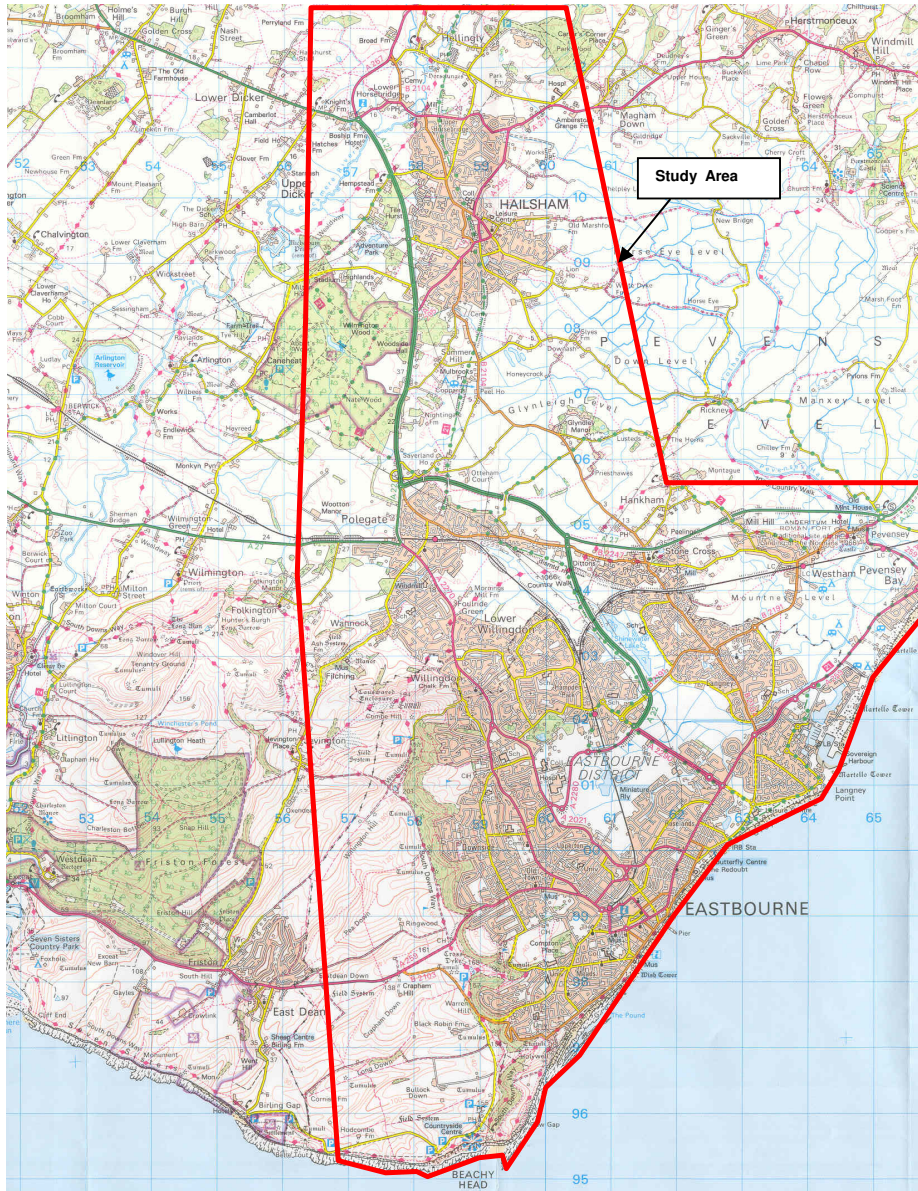
- Addressing capacity, safety and severance issues along the A271 including improvements at Boship roundabout and/or at the junction of A22 and Hempstead Lane;
- Adoption of demand management (e.g. Smarter Choices) approaches for new and existing development in the south Wealden area, to help mitigate Hailsham town centre issues and the impacts of traffic on the wider town and strategic road networks;
- Promotion and inclusion of Summerheath Road, Hailsham in a wider town centre network, including new signalised junctions;
- Signal improvements at Battle Road / London Road and North Road / High Street junctions;
- Junction improvements at A2270 / Polegate High Street / Wannock Road junction;

## **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

- Junction improvements at A22/ A27 / A2270 junction;
- Traffic signals at Cophall roundabout;
- Improvement at roundabout junctions of A22 Jubilee Way with the A27 and Dittons Road;
- Incorporation of measures on sites adjacent to the A22/A2270, or otherwise directly or significantly affecting the corridor, to manage and accommodate demands by car and other means so as not to prejudice the delivery or effective operation of the QBC.

5.4 On the basis of the proposed mitigation measures it is considered that the development proposed in south Wealden could be delivered.

**South Wealden and Eastbourne Transport Study (SWETS) November 2010**  
**APPENDIX 1**  
**MAP SHOWING EXTENT OF STUDY AREA**

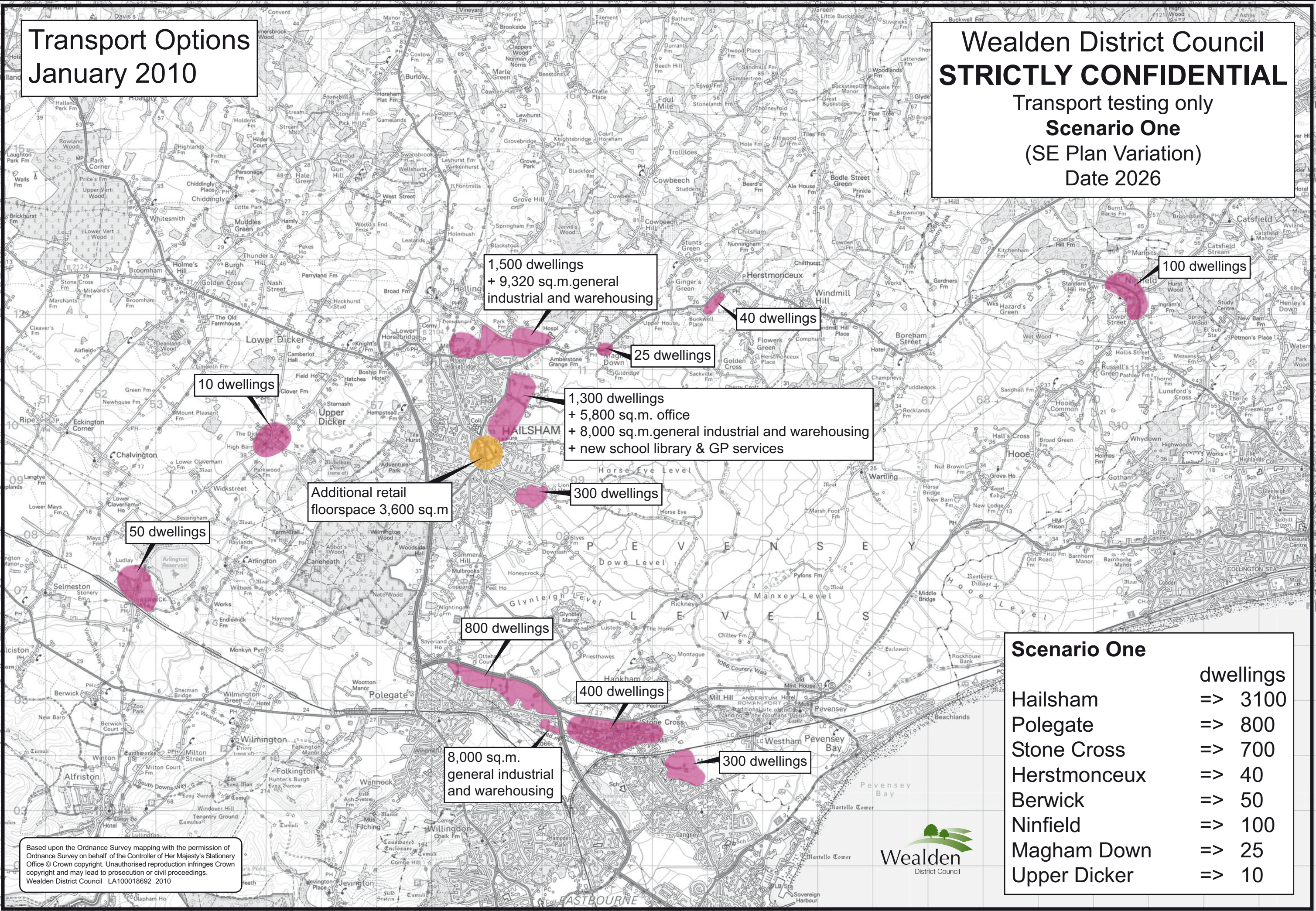


**South Wealden and Eastbourne Transport Study (SWETS) November  
2010  
APPENDIX 2  
EBC AND WDC  
LDF DEVELOPMENT OPTIONS**



**Transport Options  
January 2010**

**Wealden District Council  
STRICTLY CONFIDENTIAL**  
Transport testing only  
**Scenario One**  
(SE Plan Variation)  
Date 2026



1,500 dwellings  
+ 9,320 sq.m. general  
industrial and warehousing

40 dwellings

100 dwellings

25 dwellings

1,300 dwellings  
+ 5,800 sq.m. office  
+ 8,000 sq.m. general industrial and warehousing  
+ new school library & GP services

10 dwellings

Additional retail  
floorspace 3,600 sq.m

300 dwellings

50 dwellings

800 dwellings

400 dwellings

8,000 sq.m.  
general industrial  
and warehousing

300 dwellings

**Scenario One**

Location	dwellings
Hailsham	=> 3100
Polegate	=> 800
Stone Cross	=> 700
Herstmonceux	=> 40
Berwick	=> 50
Ninfield	=> 100
Magham Down	=> 25
Upper Dicker	=> 10

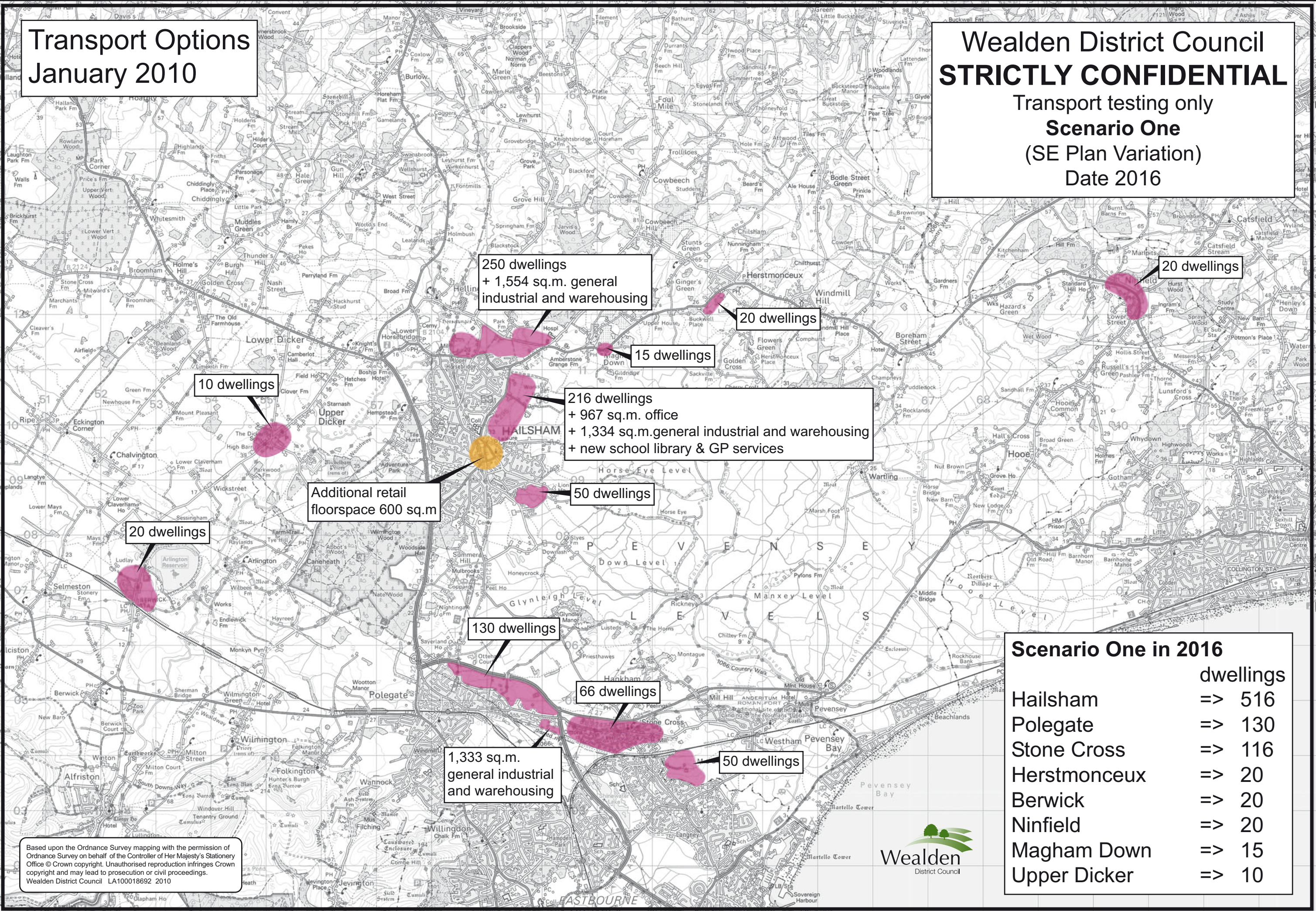
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**Transport Options  
January 2010**

**Wealden District Council  
STRICTLY CONFIDENTIAL**  
Transport testing only  
**Scenario One  
(SE Plan Variation)**  
Date 2016



**Scenario One in 2016**

Location	dwellings
Hailsham	=> 516
Polegate	=> 130
Stone Cross	=> 116
Herstmonceux	=> 20
Berwick	=> 20
Ninfield	=> 20
Magham Down	=> 15
Upper Dicker	=> 10

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**Transport Options  
January 2010**

**Wealden District Council  
STRICTLY CONFIDENTIAL**

Transport testing only  
**Scenario Two**  
(SE Plan Variation)  
Date 2026

1,150 dwellings  
+ 9,320 sq.m. general  
industrial and warehousing

100 dwellings

40 dwellings

25 dwellings

550 dwellings  
+ 5,800 sq.m. office  
+ 8,000 sq.m. general industrial and warehousing  
+ new school library & GP services

10 dwellings

Additional retail  
floorspace 3,600 sq.m

300 dwellings

50 dwellings

400 dwellings  
+ 4,000 sq.m. general  
industrial and warehousing

500 dwellings

250 dwellings

450 dwellings  
+ 4,000 sq.m. general  
industrial and warehousing

**Scenario Two**

	dwellings
Hailsham	=> 2000
Polegate	=> 850
Stone Cross	=> 750
Herstmonceux	=> 40
Berwick	=> 50
Ninfield	=> 100
Magaham Down	=> 25
Upper Dicker	=> 10

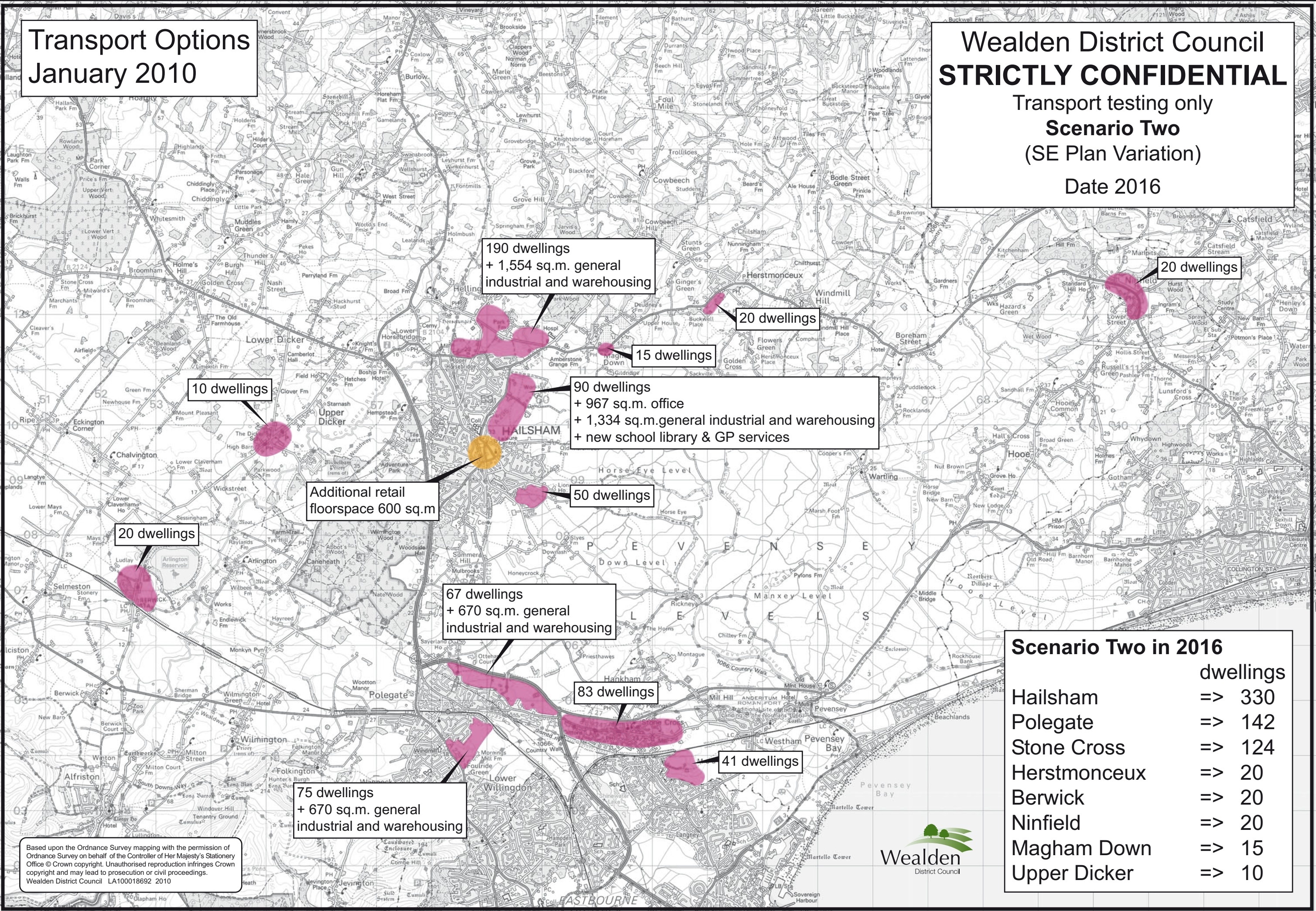
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**Transport Options  
January 2010**

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Transport testing only  
**Scenario Two  
(SE Plan Variation)**  
Date 2016



**Scenario Two in 2016**

Location	dwellings
Hailsham	=> 330
Polegate	=> 142
Stone Cross	=> 124
Herstmonceux	=> 20
Berwick	=> 20
Ninfield	=> 20
Magham Down	=> 15
Upper Dicker	=> 10

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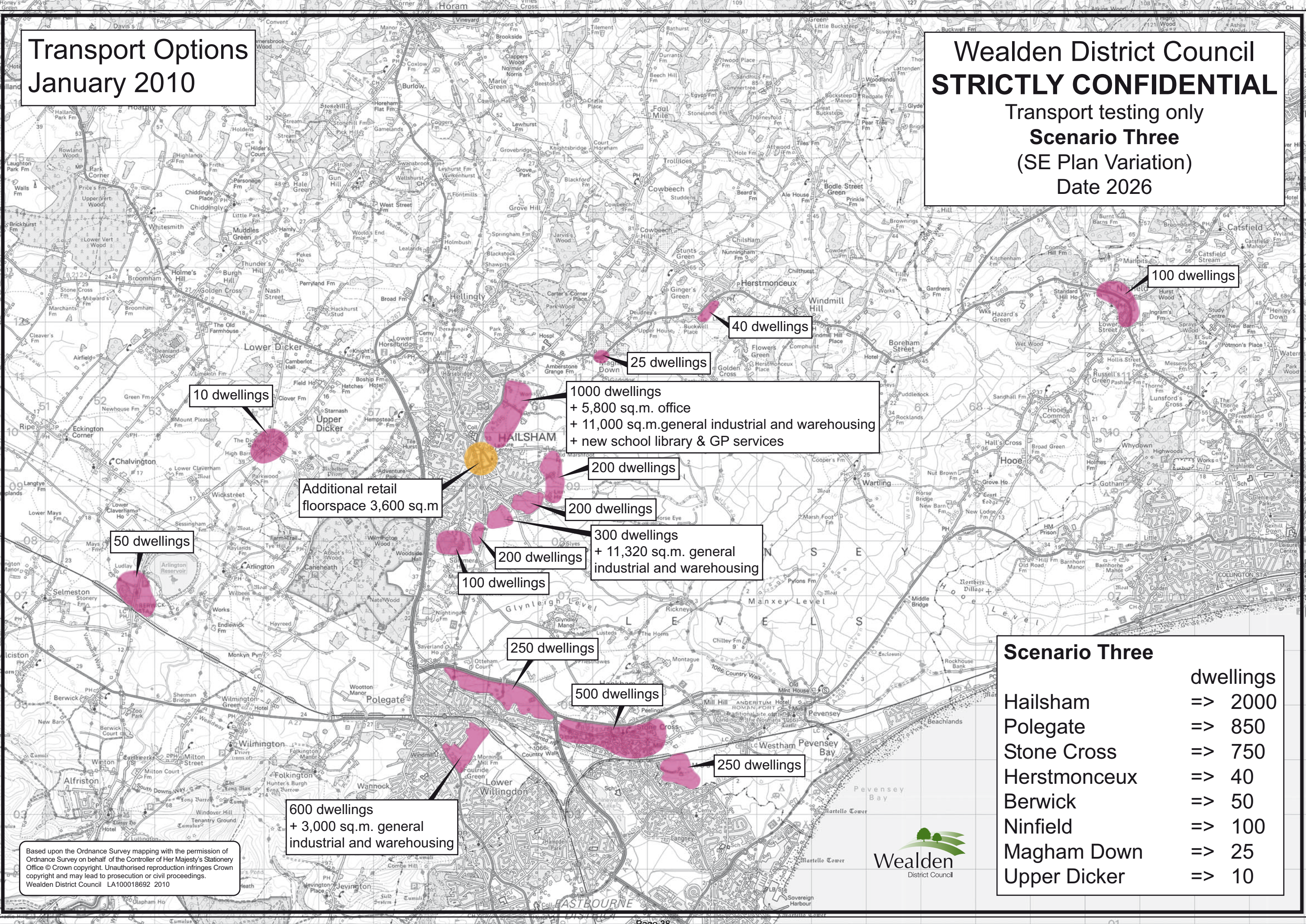




# Transport Options January 2010

# Wealden District Council **STRICTLY CONFIDENTIAL**

Transport testing only  
**Scenario Three**  
(SE Plan Variation)  
Date 2026



Additional retail  
floorspace 3,600 sq.m

1000 dwellings  
+ 5,800 sq.m. office  
+ 11,000 sq.m. general industrial and warehousing  
+ new school library & GP services

Scenario Three	
	dwellings
Hailsham	=> 2000
Polegate	=> 850
Stone Cross	=> 750
Herstmonceux	=> 40
Berwick	=> 50
Ninfield	=> 100
Magham Down	=> 25
Upper Dicker	=> 10

600 dwellings  
+ 3,000 sq.m. general  
industrial and warehousing

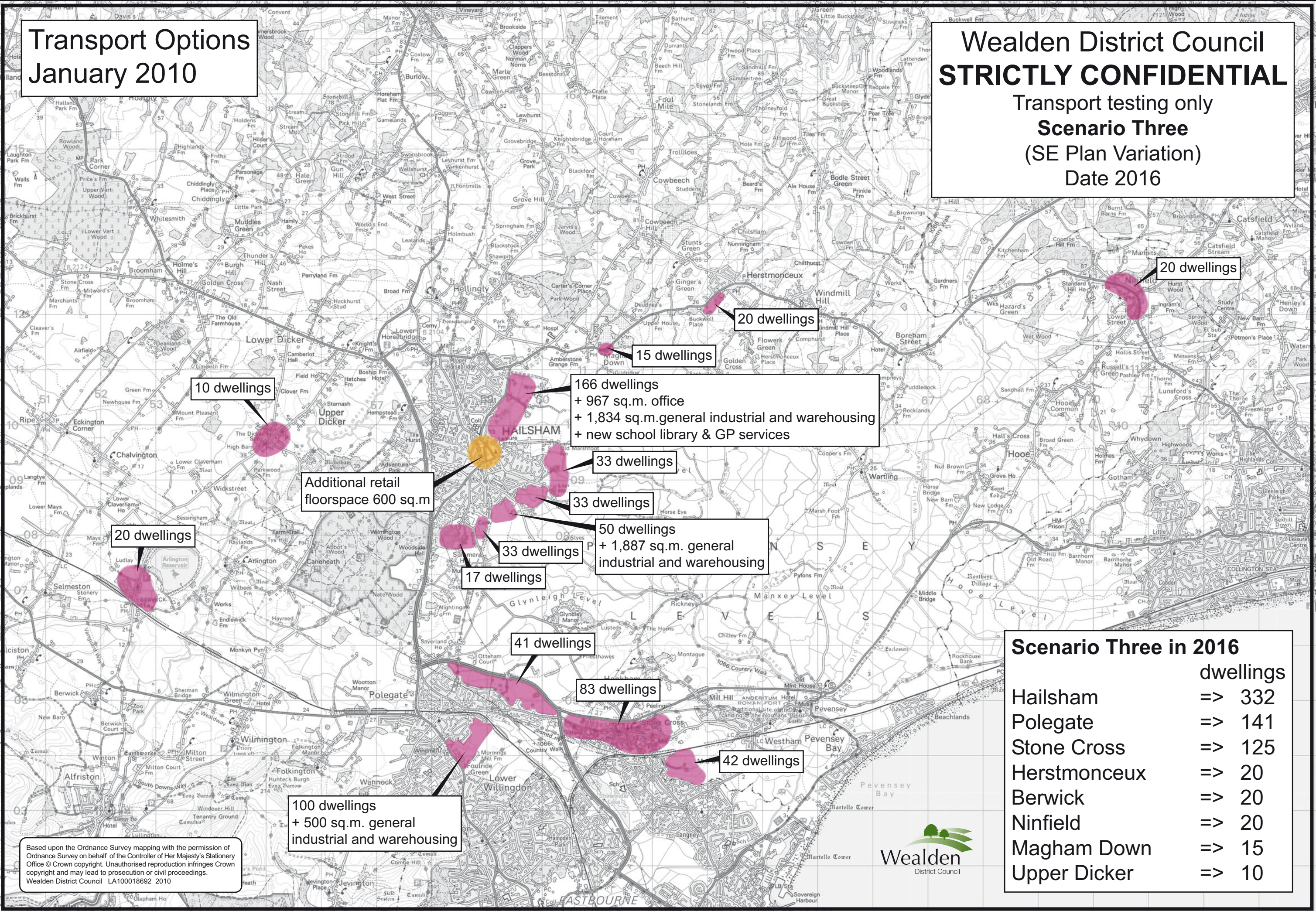
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**Transport Options  
January 2010**

**Wealden District Council  
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Transport testing only  
**Scenario Three  
(SE Plan Variation)**  
Date 2016



**Scenario Three in 2016**

Location	dwellings
Hailsham	=> 332
Polegate	=> 141
Stone Cross	=> 125
Herstmonceux	=> 20
Berwick	=> 20
Ninfield	=> 20
Magham Down	=> 15
Upper Dicker	=> 10

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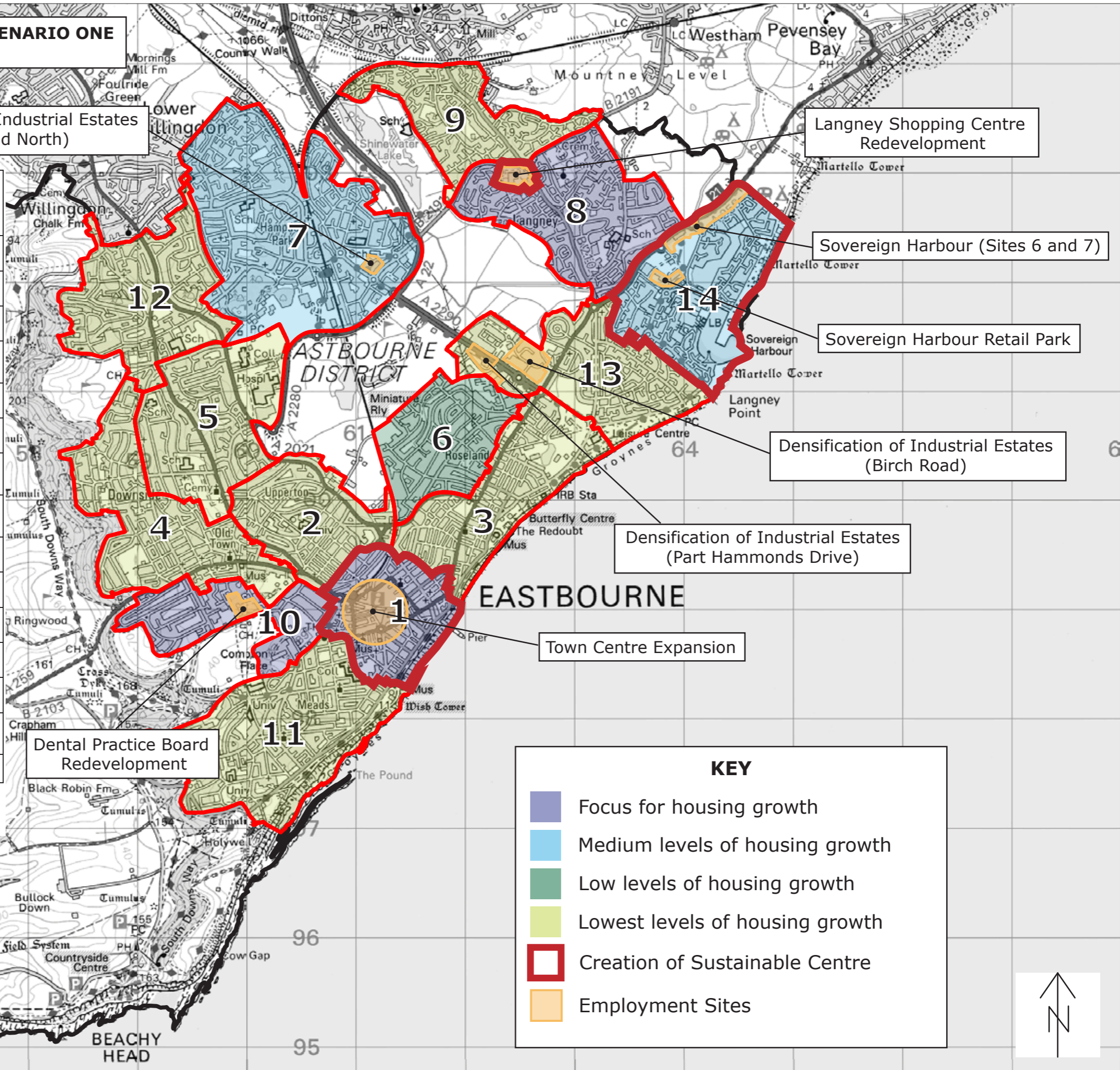




Densification of Industrial Estates  
(Highfield North)

	Neighbourhood	Net Units Delivered 2016-2026
1	Town Centre	271
2	Upperton	32
3	Seaside	38
4	Old Town, Downside & Cherry Gardens	10
5	Ocklynge & Rodmill	8
6	Roselands & Bridgemere	56
7	Hampden Park, The Hydneye & Willingdon Trees	118
8	Langney Village, Langney Rise & West Langney	313*
9	Shinewater & North Langney	14
10	Summerdown & Saffrons	206
11	Meads & Lower Meads	24
12	Ratton & Willingdon	5
13	St Anthony's & Langney Point	9
14	Sovereign	150
<b>TOTAL</b>		<b>1254</b>

\* The creation of a Sustainable Centre will be at Langney Shopping Centre, not across the whole neighbourhood



Langney Shopping Centre  
Redevelopment

Sovereign Harbour (Sites 6 and 7)

Sovereign Harbour Retail Park

Densification of Industrial Estates  
(Birch Road)

Densification of Industrial Estates  
(Part Hammonds Drive)

Town Centre Expansion

Dental Practice Board  
Redevelopment

**KEY**

- Focus for housing growth
- Medium levels of housing growth
- Low levels of housing growth
- Lowest levels of housing growth
- Creation of Sustainable Centre
- Employment Sites

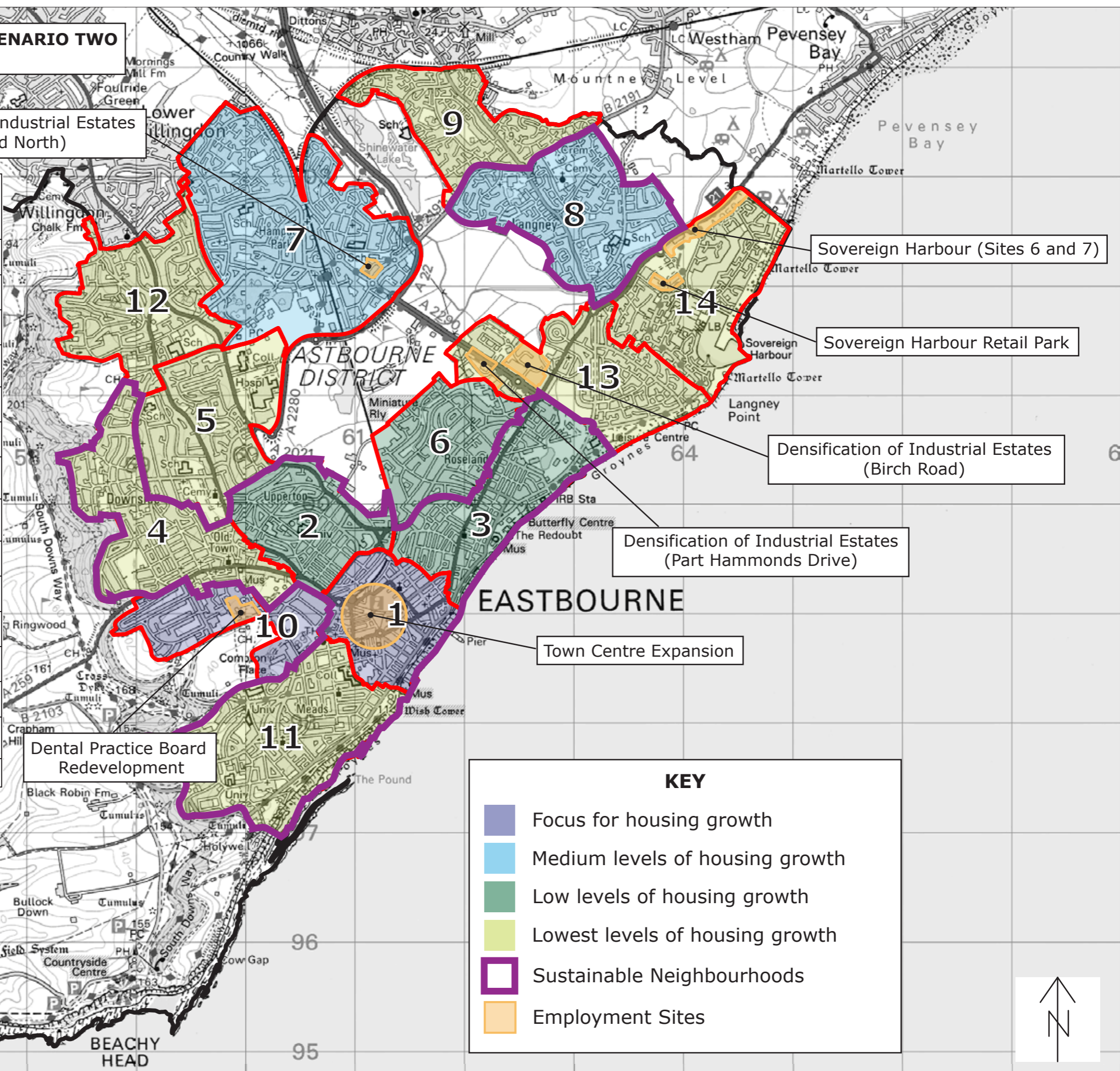


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**Densification of Industrial Estates (Highfield North)**

	Neighbourhood	Net Units Delivered 2016-2026
1	Town Centre	271
2	Upperton	57
3	Seaside	80
4	Old Town, Downside & Cherry Gardens	19
5	Ocklynge & Rodmill	8
6	Roselands & Bridgemere	56
7	Hampden Park, The Hydneye & Willingdon Trees	118
8	Langney Village, Langney Rise & West Langney	159
9	Shinewater & North Langney	14
10	Summerdown & Saffrons	206
11	Meads & Lower Meads	47
12	Ratton & Willingdon	5
13	St Anthony's & Langney Point	9
14	Sovereign	0
<b>TOTAL</b>		<b>1049</b>



Sovereign Harbour (Sites 6 and 7)

Sovereign Harbour Retail Park

Densification of Industrial Estates (Birch Road)

Densification of Industrial Estates (Part Hammonds Drive)

Town Centre Expansion

Dental Practice Board Redevelopment

**KEY**

- Focus for housing growth
- Medium levels of housing growth
- Low levels of housing growth
- Lowest levels of housing growth
- Sustainable Neighbourhoods
- Employment Sites

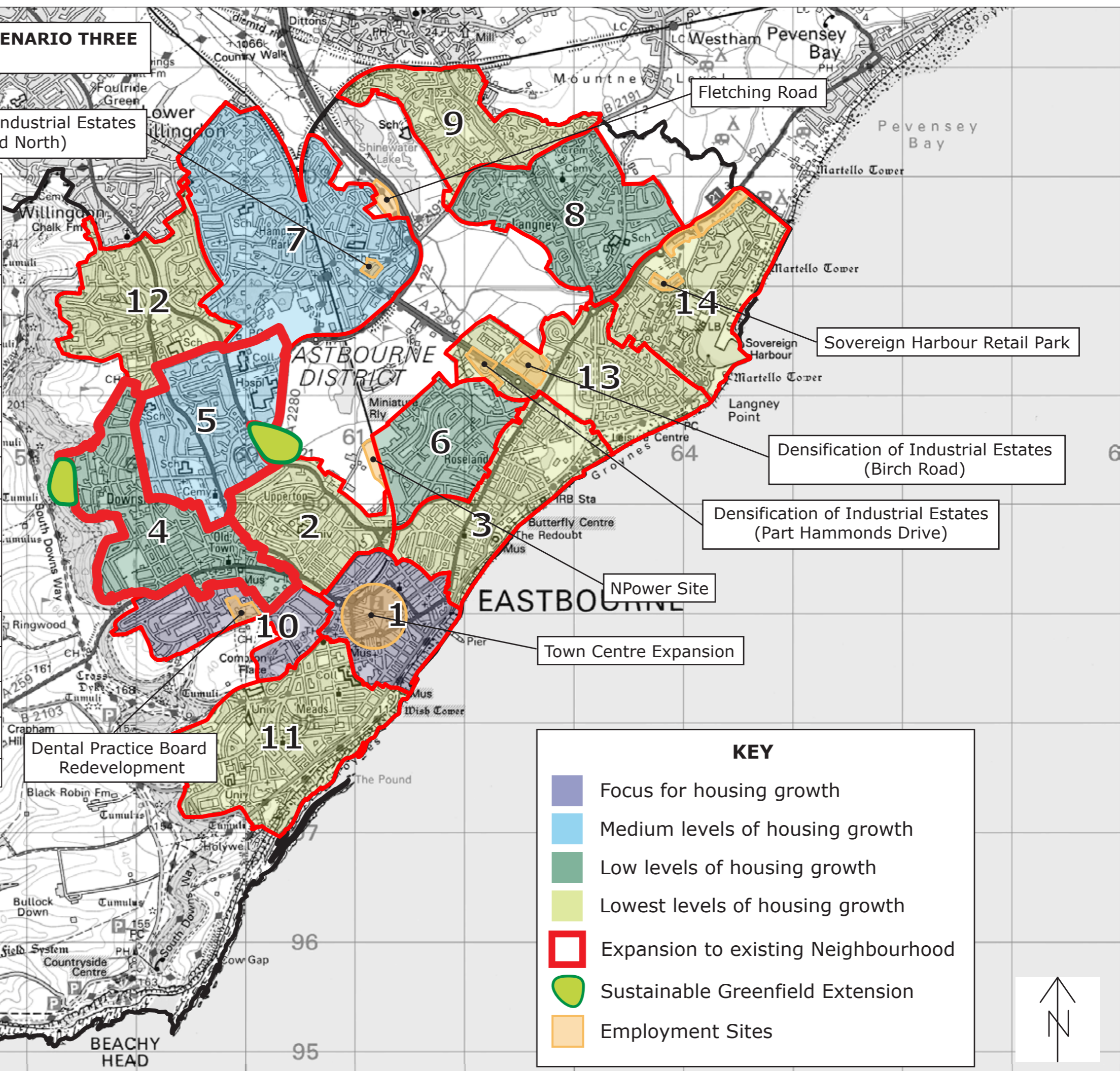


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Densification of Industrial Estates  
(Highfield North)

	Neighbourhood	Net Units Delivered 2016-2026
1	Town Centre	209
2	Upperton	32
3	Seaside	38
4	Old Town, Downside & Cherry Gardens	66
5	Ocklynge & Rodmill	148
6	Roselands & Bridgemere	56
7	Hampden Park, The Hydneye & Willingdon Trees	118
8	Langney Village, Langney Rise & West Langney	86
9	Shinewater & North Langney	14
10	Summerdown & Saffrons	206
11	Meads & Lower Meads	24
12	Ratton & Willingdon	5
13	St Anthony's & Langney Point	9
14	Sovereign	0
<b>TOTAL</b>		<b>1011</b>



Sovereign Harbour Retail Park

Densification of Industrial Estates  
(Birch Road)

Densification of Industrial Estates  
(Part Hammonds Drive)

NPower Site

Town Centre Expansion

Dental Practice Board  
Redevelopment

**KEY**

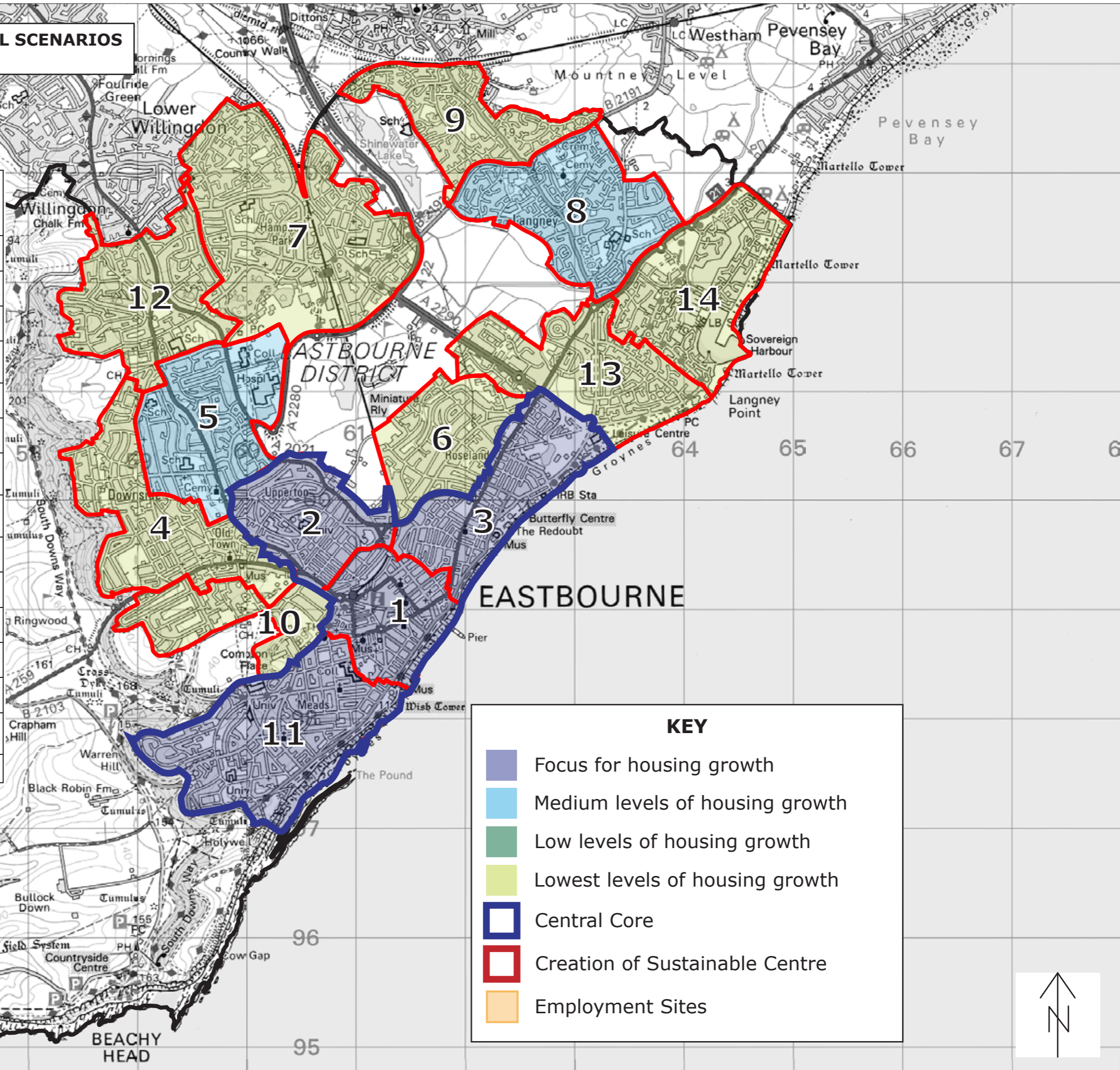
- Focus for housing growth
- Medium levels of housing growth
- Low levels of housing growth
- Lowest levels of housing growth
- Expansion to existing Neighbourhood
- Sustainable Greenfield Extension
- Employment Sites



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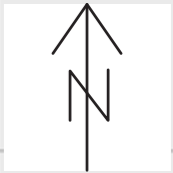


	Neighbourhood	Net Units Delivered up to 2016
1	Town Centre	245
2	Upperton	216
3	Seaside	297
4	Old Town, Downside & Cherry Gardens	20
5	Ocklynge & Rodmill	116
6	Roselands & Bridgemere	40
7	Hampden Park, The Hydneye & Willingdon Trees	3
8	Langney Village, Langney Rise & West Langney	107
9	Shinewater & North Langney	46
10	Summerdown & Saffrons	1
11	Meads & Lower Meads	254
12	Ratton & Willingdon	5
13	St Anthony's & Langney Point	8
14	Sovereign	0
<b>TOTAL</b>		<b>1358</b>



**KEY**

- Focus for housing growth
- Medium levels of housing growth
- Low levels of housing growth
- Lowest levels of housing growth
- Central Core
- Creation of Sustainable Centre
- Employment Sites



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## **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

### **Appendix 3**

#### Calibration accuracy

##### *Trip O-D Information*

The trip O-D information on which the multi-modal model is based is fairly outdated. Roadside interview O-D surveys for the highway model were undertaken in 2003 at only four locations. These do not provide a 'watertight' cordon or screen-line of all trip movements entering and leaving, or crossing, the study area. The household interview surveys completed in 2004 do give a reasonable picture of home-based trips, but do not cover trips entering the study area from outside or journeys made on employer's business (e.g. road freight movements). Census data from 2001 give a reasonable indication of journey to work trips but excludes journeys for other purposes. Public Transport trip O-D data is very sparse, being taken from a small sample in the household interview surveys (2004). Additional part-trip public transport data (i.e. start and end stops for surveyed passengers) would enhance the trip matrices.

##### *Traffic Count Information*

Highway vehicle flow data for model calibration were adequate in number and spread across the study area, and sufficiently recent. However, passenger flow data for bus and rail were sparse. New bus boarding and alighting surveys were therefore undertaken in 2010 at nine locations, for each direction of travel. These were invaluable in calibrating the PT model, but more such data spread over considerably more locations would improve model accuracy. Rail passenger counts were undertaken at Eastbourne station in 2004 and are therefore somewhat dated.

##### *Journey Time Information*

Highway route journey time surveys were undertaken on seven routes in Eastbourne in 2003 and on four routes in Hailsham in 2008. The Eastbourne surveys are therefore somewhat dated.

## South Wealden and Eastbourne Transport Study (SWETS) November 2010

### Appendix 4

#### Forecast Model methodology

In the Reference Case, traffic growth from 2009 was assumed in line with TEMPRO and NTM. Growth was distributed across the study area by factoring the base year matrices; in essence assuming the pattern of growth mirrored the pattern of existing development. The specific approach was:

- TEMPRO O-D trip end growth applied by district for cars 2009-2016 and 2009-2026;  
National Transport Model (NTM) growth applied to LCV and HCV trips, 2009-2016 and 2009-2026; and
- TEMPRO O-D trip end growth applied by district for bus and rail 2009-2016 and 2009-2026.

In the LDF scenarios, the spatial distribution and quantum of development allocations in each of the LDF options have been assumed to constitute the entirety of traffic growth for trips with at least one trip end within the study area, with TEMPRO / NTM growth assumed for through trips. The specific approach was:

- Trip generations and attractions calculated (based on TRICS, the nationally recognised trip generation database) at all identified development locations, for 2016 and 2026, added to appropriate zones at base 2009, by travel mode (car, LCV, HCV, bus, rail);
- New LDF trips distributed amongst surrounding O-Ds using distribution from comparable zones;
- No additional TEMPRO growth added to internal non-development zones;  
TEMPRO O-D trip end growth applied to car through-trips 2009-2016 and 2009-2026;
- National Transport Model (NTM) growth applied to LCV and HCV through-trips, 2009-2016 and 2009-2026; and
- TEMPRO O-D trip end growth applied to bus and rail through-trips 2009-2016 and 2009-2026.

The forecast model has been used in the following ways:

- Assign future matrices to the base networks (assuming no 'do-minimum' network changes);
- Extract the resulting travel costs;
- Input future trip matrices and travel costs to the mode choice model, to determine the initial mode split

## **South Wealden and Eastbourne Transport Study (SWETS) November 2010**

- Assign the mode-split matrices to the base network;
- Extract relevant network outputs to identify key impacts upon the existing transport infrastructure;
- Devise packages of appropriate transport interventions that will help to mitigate adverse impacts;
- Re-run with improved networks and new mode-split; and
- Extract relevant network outputs to identify key impacts upon the improved transport infrastructure.

**APPENDIX 5  
TRANSPORT IMPACTS – SUMMARY RESULTS**

## **SWETS HIGHWAY ASSIGNMENT SUMMARY STATISTICS**

### **DEVELOPMENT SCENARIOS**

<b>Scen 1</b>	WDC Option 1 + EBC Option 1
<b>Scen 6</b>	WDC Option 1 + EBC Option 2
<b>Scen 10</b>	WDC Option 1 + EBC Option 3A (Option 3 excluding greenfield employment development)

### **TRANSPORT INTERVENTIONS**

<b>Package Number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<i>contains:</i>					
<b>Folkington Link</b>	x		x		x
<b>A22 Cophall signals</b>		x		x	
<b>A22 junction improvements*</b>	x	x			x
<b>Public Transport improvements**</b>	x	x	x	x	x
<b>Eastbourne Park Highways</b>			x	x	x

\* capacity enhancements (signals / jet lanes etc) at:

A27/A22S/A27 Pevensey bypass roundabout

A22S/Dittons Road roundabout

\*\* A2270 and A259 QBCs + Eastbourne / Hailsham express service

EASTBOURNE															
AM PEAK															
Year	2009	2016	2016	2016	2026	2026	2026	2026	2026	2026	2026	2026	2026	2026	2026
Development	Base year	Ref Case	Scen 1	Scen 1	Ref Case	Scen 1	Scen 1	Scen 1	Scen 1	Scen 6	Scen 6	Scen 10	Scen 10	Scen 10	Scen 10
Transport Package				Int 1			Int 1	Int 1 - 10%	Int 2		Int 1		Int 3	Int 4	Int 5
<b>Matrix</b>															
SWETS area total	21665	23510	23218		25400	29842				29469					
% Growth v 2009 base		8.5	7.2		17.2	37.7				36.0					
<b>Network statistics</b>															
Total time (pcu/hr)	2140.7	2377.5	2296.4	2355.6	2703.6	3641.2	3587.6	2988.0	3765.6	3525.9	3550.4	3580.1	3252.2	3425.1	3532.5
Total distance (pcu kms / hr)	81595.6	87952.4	86094.9	86493.0	94518.5	103160.3	108961.7	101769.7	107979.5	100135.3	108363.4	102771.7	102611.1	103600.4	107827.8
Average Speed (kph)	38.1	37.0	37.5	36.7	35.0	28.3	30.4	34.1	28.7	28.4	30.5	28.7	31.6	30.2	30.5
Total fuel consumption (litres / hr)	6907.7	7646.6	7397.9	7493.8	8522.1	10401.5	10575.3	9273.5	10769	10005.0	10471.2	10259.1	9782.3	10133.6	10486.2
<b>Network performance</b>															
% Key jncs > 85% RFC	19	23	20	14	37	47	38	32	43	46	40	46	38	38	36
% Increase / reduction in traffic by route v. 2009 base year															
A2270		6	4	-3	12	47	16	10	34	43	13	42	14	32	14
A2021		7	5	6	15	39	35	20	44	38	32	40	2	6	11
A2040		10	6	4	21	47	63	47	56	45	61	47	47	26	55
A22S		12	11	4	22	7	65	43	49	9	58	10	58	26	58
A2280		7	4	-3	16	18	29	25	15	17	29	17	33	16	-4
A2290		-47	6	3	-50	28	29	22	31	28	32	29	22	23	10
A259		9	7	9	18	41	52	31	51	41	44	41	41	31	33
B2191		6	5	12	9	52	49	34	42	31	37	30	49	23	27
B2103		13	10	7	40	64	46	26	58	69	50	66	36	62	44
B2106		7	8	12	17	51	40	29	50	55	47	54	37	51	41
average		3	7	5	12	39	43	29	43	38	40	38	34	30	29

EASTBOURNE															
PM PEAK															
Year	2009	2016	2016	2016	2026	2026	2026	2026	2026	2026	2026	2026	2026	2026	2026
Development Transport Package	Base year	Ref Case	Scen 1	Scen 1 Int 1	Ref Case	Scen 1	Scen 1 Int 1	Scen 1 Int 1 - 10%	Scen 1 Int 2	Scen 6	Scen 6 Int 1	Scen 10	Scen 10 Int 3	Scen 10 Int 4	Scen 10 Int 5
<b>Matrix</b>															
SWETS area total	21824	23694	23171		25668	30587				29937					
% Growth v 2009 base		8.6	6.2		17.6	40.2				37.1					
<b>Network statistics</b>															
Total time (pcu/hr)	2139.2	2360.3	2245.6	2355.4	2646.8	4524.7	4057.1	3500.2	4254.9	4231.6	3832.2	4154.6	3707.3	3718.2	3741.1
Total distance (pcu kms / hr)	80868.1	87843.9	85898.9	86965.9	94863	109215.1	112871.1	107314.7	110958.7	106260.3	109580.7	106494.1	108743	107438.2	111345.5
Average Speed (kph)	37.8	37.2	38.3	36.9	35.8	24.1	27.8	30.7	26.1	25.1	28.6	25.6	29.3	28.9	29.8
Total fuel consumption (litres / hr)	6889.3	7586.4	7309.3	7568.5	8472.8	11992.5	11454.2	10353.0	11664.2	11393.4	10955.2	11290.9	10745.1	10823.8	10928.6
<b>Network performance</b>															
% Key jncs > 85% RFC	9	16	12	12	22	48	33	27	41	43	26	44	31	35	26
% Increase / reduction in traffic by route v. 2009 base year															
A2270		7	3	-8	18	53	28	21	44	45	26	45	28	35	27
A2021		13	7	12	25	54	40	31	39	48	41	48	35	28	18
A2040		9	5	30	24	25	65	53	79	36	70	32	75	97	99
A22S		12	9	15	25	47	70	52	56	46	61	46	57	56	57
A2280		6	4	0	20	65	53	39	48	59	45	57	67	29	29
A2290		-46	7	7	-43	-38	48	33	47	-31	45	-30	-35	2	36
A259		13	9	11	21	65	55	44	60	59	55	61	49	42	37
B2191		11	6	19	27	82	78	68	89	69	62	67	84	59	70
B2103		10	7	-13	25	102	35	24	27	90	41	90	84	38	50
B2106		-1	3	-3	-1	35	24	19	27	43	28	42	34	42	36
average		3	6	7	14	49	50	38	52	46	47	46	48	43	46

S WEALDEN															
AM PEAK															
Year	2009	2016	2016	2016	2026	2026	2026	2026	2026	2026	2026	2026	2026	2026	2026
Development Transport Package	Base year	Ref Case	Scen 1	Scen 1 Int 1	Ref Case	Scen 1	Scen 1 Int 1	Scen 1 Int 1 - 10%	Scen 1 Int 2	Scen 6	Scen 6 Int 1	Scen 10	Scen 10 Int 3	Scen 10 Int 4	Scen 10 Int 5
<b>Matrix</b>															
SWETS area total	21665	23510	23218		25400	29842				29469					
% Growth v 2009 base		8.5	7.2		17.2	37.7				36.0					
<b>Network statistics</b>															
Total time (pcu/hr)	1734.3	1975.8	1939.9	1913.8	2264.1	3188.1	2784.1	2465.2	2908.1	3005.0	2842.8	3143.8	2965.1	2987.7	2776.0
Total distance (pcu kms / hr)	97035.0	106569.1	106287.4	105288.4	115565.9	131233.2	136147.1	127156.4	134825.2	131119.3	135743.1	131327.9	134343.5	129682.4	135346.9
Average Speed (kph)	56.0	53.9	54.8	55.0	51.0	41.2	48.9	51.6	46.4	43.6	47.7	41.8	45.3	43.4	48.8
Total fuel consumption (litres / hr)	7378.6	8205.4	8130.8	8025.9	9041.6	11154.8	10874.7	9959.1	10980.7	10895.2	10919.8	11108.5	11014.8	10812.6	10811.0
<b>Network performance</b>															
% Key jncs > 85% RFC	15	20	20	12	22	59	37	27	49	54	34	56	39	41	34
% Increase / reduction in traffic by route v. 2009 base year															
A22N		10	9	2	21	40	34	24	45	37	32	37	29	35	30
A267		8	10	8	18	52	54	42	56	51	55	52	52	47	52
A27		10	6	-21	16	11	-2	-11	27	10	-4	10	-1	15	21
A271		-50	15	14	-48	62	56	50	61	63	64	63	57	53	60
A295		17	23	8	35	73	52	39	72	72	52	72	51	65	49
B2104		13	19	27	22	93	87	72	72	86	87	86	89	81	83
B2247		14	7	15	33	118	80	59	58	113	77	115	67	87	82
average		3	13	8	14	64	52	39	56	62	52	62	49	55	51



<b>S WEALDEN</b>		<b>PM PEAK</b>													
<b>Year</b>	<b>2009</b>	<b>2016</b>	<b>2016</b>	<b>2016</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>	<b>2026</b>
<b>Development Transport Package</b>	<b>Base year</b>	<b>Ref Case</b>	<b>Scen 1</b>	<b>Scen 1 Int 1</b>	<b>Ref Case</b>	<b>Scen 1</b>	<b>Scen 1 Int 1</b>	<b>Scen 1 Int 1 - 10%</b>	<b>Scen 1 Int 2</b>	<b>Scen 6</b>	<b>Scen 6 Int 1</b>	<b>Scen 10</b>	<b>Scen 10 Int 3</b>	<b>Scen 10 Int 4</b>	<b>Scen 10 Int 5</b>
<b>Matrix</b>															
<b>SWETS area total</b>	21824	23694	23171		25668	30587				29937					
<b>% Growth v 2009 base</b>		8.6	6.2		17.6	40.2				37.1					
<b>Network statistics</b>															
<b>Total time (pcu/hr)</b>	2032.1	2313.5	2273.5	2083.6	2663.9	3498.6	3201.2	2695.5	3318.1	3295.6	3179.7	3274.1	3477.1	3292.5	3234.2
<b>Total distance (pcu kms / hr)</b>	105018.9	113771.4	111428.9	111586.0	123399.3	138849.8	145562.2	135765.1	139854.4	136352.7	144659.7	136522.3	143492.1	137378	145709.8
<b>Average Speed (kph)</b>	51.7	49.2	49	55.6	46.3	39.7	45.5	50.4	42.1	41.4	45.5	41.7	41.3	41.7	45.1
<b>Total fuel consumption (litres / hr)</b>	8165.7	8977.0	8813.9	8799.9	9997.3	12026.7	12035.5	10810.0	11827.1	11655.3	11948.3	11666.6	12193.4	11676	12054.5
<b>Network performance</b>															
<b>% Key jncs &gt; 85% RFC</b>	7	27	24	7	37	51	37	32	37	49	34	49	44	34	34
<b>% Increase / reduction in traffic by route v. 2009 base year</b>															
<b>A22N</b>		10	7	3	19	38	29	19	35	34	26	35	26	32	25
<b>A267</b>		8	5	4	17	22	22	16	23	24	23	25	23	24	23
<b>A27</b>		13	5	-17	22	22	-4	-12	21	20	-5	20	-5	20	17
<b>A271</b>		-48	7	10	-40	71	76	56	65	69	73	69	74	59	76
<b>A295</b>		10	14	12	22	55	50	39	61	51	49	52	50	68	48
<b>B2104</b>		12	16	25	22	83	95	78	78	82	90	81	97	68	92
<b>B2247</b>		9	5	16	27	43	63	50	64	41	60	40	46	36	60
<b>average</b>		2	9	7	13	48	47	35	49	46	45	46	45	44	45

**APPENDIX 6  
TRANSPORT IMPACTS – DETAILED JUNCTION OUTPUTS**

**Table 4.3**

**Junction Capacity Analysis (RFC%) (EBC)**

Junction Route/Description	Base Year 2009		2016 Reference Case		2016 Scenario 1		2016 Scen 1 Int 1		2026 Reference Case	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A2021/Arundel Road	71	60	81	65	82	61	53	53	90	95
A2021/Cross Levels Way	56	42	60	48	57	45	57	54	63	59
A2021/Decoy Drive	61	54	69	65	61	58	67	69	75	77
A2021/Enys Road	63	71	79	89	77	87	56	78	87	83
A2021/Firle Road	67	62	73	62	72	51	65	55	71	81
A2021/Park Avenue	71	77	74	82	73	81	75	72	82	89
A2021/Park Lane	41	36	48	40	40	38	38	42	55	46
A2021/Seaside	59	67	64	80	63	78	68	70	64	84
A2021/St Philips Avenue	91	37	103	48	102	45	103	50	104	59
A2021/Upper Avenue	85	51	95	65	90	59	79	90	100	91
A2040/Carew Road	86	92	95	94	93	94	97	88	98	94
A2040/Gorringe Road	48	37	52	41	50	42	48	47	52	45
A2040/Upper Avenue	42	32	45	37	43	36	41	44	45	43
A259/The Avenue	85	56	90	90	88	87	65	53	90	93
A22 S/Cross Levels Way	89	87	100	98	94	95	25	30	105	104
A22 S/Willingdon Drove	74	70	86	85	82	81	27	34	97	99
A2270/Mill Road	77	47	84	62	84	57	82	49	81	77
A2270/Moat Croft Road	94	62	97	71	96	71	99	64	99	73
A2270/Park Avenue	93	91	97	93	97	93	90	85	100	99
A2270/Park Lane	63	47	67	51	66	50	61	45	68	56
A2270/Rodmill Drive	100	100	101	102	101	101	96	96	102	103
A2270/The Goffs	88	57	97	52	95	51	101	69	100	60

Table 4.3

Junction Capacity Analysis (RFC%) (EBC) - Continued

Junction Route/Description	Base Year 2009		2016 Reference Case		2016 Scenario 1		2016 Scen 1 Int 1		2026 Reference Case	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A2270/Upper Kings Drive	87	51	95	61	90	56	84	59	102	77
A2270/Wish Hill	89	40	94	44	92	44	93	42	100	57
A2280/Broadwater Way	97	100	94	100	97	100	95	90	91	97
A2290/Birch Road	74	71	78	87	78	85	79	98	73	107
A2290/Hammonds Drive	37	35	38	37	38	36	39	35	35	32
A2290/Seaside	68	95	80	85	75	82	27	30	81	90
A259/Ashford Road	71	69	74	93	73	92	55	67	76	95
A259/Beach Road	49	44	57	48	55	46	59	52	57	51
A259/Bolton Road	28	18	33	28	32	25	27	22	38	33
A259/Bourne Street	6	17	7	13	6	12	8	12	9	11
A259/Cavendish Place	45	85	55	64	54	61	37	44	67	73
A259/Cavendish Place	62	32	76	55	75	51	57	50	87	69
A259/Churchdale Road	47	54	69	64	64	62	87	68	89	75
A259/Devonshire Place	33	21	38	32	38	29	32	27	45	39
A259/Furness Road	16	17	17	17	18	17	14	15	19	19
A259/Green Street	29	24	25	24	26	23	23	29	23	25
A259/Hartfield Road	49	42	52	39	51	37	54	54	53	39
A259/Kingsmere Way	43	32	48	35	44	33	47	33	51	37
A259/Langney Rise	66	71	80	86	71	78	73	92	107	102
A259/Langney Road	26	74	28	72	27	70	30	88	37	72
A259/Langney Road	81	49	88	66	86	63	76	68	87	74
A259/Moat Croft Road	42	62	40	74	39	72	35	63	42	77
A259/Pacific Drive	27	35	28	38	28	36	32	35	27	40
A259/Pevensley Road	64	36	77	57	75	52	61	52	84	73
A259/Seaside Road	7	16	7	16	8	16	8	18	7	17
A259/South Street	22	31	27	27	25	27	24	31	30	28

Table 4.3

Junction Capacity Analysis (RFC%) (EBC) - Continued

Junction Route/Description	Base Year 2009		2016 Reference Case		2016 Scenario 1		2016 Scen 1 Int 1		2026 Reference Case	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A259/Southbourne Road	66	55	76	65	71	63	84	67	85	73
A259/Southfields Road	81	75	83	80	81	76	84	83	94	87
A259/Sovereign Harbour	35	53	36	57	35	54	40	55	38	60
A259/Spencer Road	14	11	16	10	16	10	15	8	18	12
A259/Susans Road	58	23	64	31	59	30	51	24	73	35
A259/Terminus Road	40	38	43	32	42	32	45	34	44	33
A259/Victoria Drive	91	80	94	69	92	68	84	82	96	81
A259/Warren Hill	67	44	78	59	74	55	74	40	93	67
A259/Woodgate Road	49	44	56	48	54	47	57	52	55	51
B2103/Beachy Head Road	16	10	19	14	18	13	17	7	23	15
B2103/Carlisle Road	21	15	24	10	23	14	21	10	27	10
B2103/Chesterfield Road	6	6	7	9	7	9	7	3	9	10
B2103/Chiswick Place	23	34	22	45	22	42	33	41	25	45
B2103/Devonshire Place	64	26	66	27	65	26	67	27	69	28
B2103/Holywell Road	6	7	8	11	8	11	8	4	12	13
B2104/Hide Hollow	66	42	92	49	80	47	62	54	104	65
B2104/Larkspur Drive	63	48	76	63	69	63	59	54	82	75
B2104/Pembury Road	95	87	100	96	97	98	97	96	106	99
B2104/Pennine Way	29	29	63	32	31	31	33	31	98	35
B2104/Priory Road	51	79	60	81	55	83	59	80	109	81
B2104/Sevenoaks Road	53	50	62	56	57	54	54	61	74	62
B2104/The Rising	86	64	87	82	83	79	79	81	112	70
B2104/Willingdon Drove	49	38	77	43	57	42	56	48	97	56
B2106/Beach Road	9	12	10	16	11	14	10	16	8	27
B2106/Beamsley Road	80	84	81	89	80	87	77	88	82	90
B2106/Cavendish Place	88	37	95	47	94	43	89	45	97	57

**Table 4.3**

**Junction Capacity Analysis (RFC%) (EBC) - Continued**

Junction Route/Description	Base Year 2009		2016 Reference Case		2016 Scenario 1		2016 Scen 1 Int 1		2026 Reference Case	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
B2106/Compton Street	26	15	26	16	25	15	25	15	28	15
B2106/Terminus Road	36	25	36	30	36	29	37	29	40	32
B2191/Kingfisher Drive	53	57	70	56	61	56	71	60	78	88
B2191/Larkspur Drive	28	50	29	52	28	51	37	50	31	55
B2191/Milfoil Drive	27	27	31	29	28	27	37	30	37	42
B2191/Pennine Way	23	21	25	22	26	22	26	25	26	24
B2191/Willingdon Drove	36	47	37	53	36	49	42	49	37	68
Eastbourne Number of Junctions Exceeding 85%	15	7	19	13	16	10	11	10	30	18
Eastbourne %age of Junctions Exceeding 85%	19%	9%	23%	16%	20%	12%	14%	12%	37%	22%

Table 4.4

Junction Capacity Analysis (RFC%) (WDC)

Junction Route/Description	Base Year 2009		2016 Reference Case		2016 Scenario 1		2016 Scen 1 Int 1		2026 Reference Case	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A22 N/Coldharbour Road	82	131	110	144	104	138	74	71	124	157
A22 N/Diplocks way	53	75	57	94	55	91	54	81	61	100
A22 N/Hempstead Lane	46	37	49	47	64	66	64	63	59	63
A22 N/South Road	61	79	67	87	67	90	54	87	72	96
A27(T)/A22 N	86	80	100	86	99	85	88	81	101	96
A22 S/Dittons Road	73	62	94	74	88	71	34	39	102	88
A259/Pevensey Bay	59	58	67	65	62	60	67	60	76	71
A259/Pevensey High Street	98	93	100	101	98	96	94	95	97	106
A22 N/A267/A271	53	63	62	68	62	65	58	63	68	74
A27(T)/A22 S	63	80	72	94	71	91	26	34	74	100
A27(T)/A2270	97	61	100	100	100	98	39	38	103	100
A27(T)/A259	57	54	62	64	59	58	56	58	67	70
A27(T)/Thornwell Road	56	76	64	83	62	80	57	80	70	90
A2270/Wannock Road	67	82	67	88	68	88	58	66	101	89
A271/Battle Road	24	24	25	23	26	23	25	28	29	32
A271/Hawks Road	30	28	33	31	41	41	39	40	36	34
A271/London Road	35	53	42	56	47	58	46	54	47	61
A271/New Road	29	29	32	30	34	29	35	30	35	35
A271/North Street	57	34	63	36	70	37	70	43	67	43
A295/Diplocks Way	43	34	54	55	54	56	79	43	68	46

Table 4.4

Junction Capacity Analysis (RFC%) (WDC) - Continued

Junction Route/Description	Base Year 2009		2016 Reference Case		2016 Scenario 1		2016 Scen 1 Int 1		2026 Reference Case	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A295/Ersham Road	35	40	42	46	44	51	75	55	46	50
A295/Harebeating Drive	27	21	29	22	34	25	31	25	32	25
A295/Harmers Hay Road	20	16	22	16	22	16	22	20	24	20
A295/Hawthylands Road	19	19	22	19	27	20	25	23	25	24
A295/High Street	53	40	55	43	54	40	52	43	58	51
A295/London Road	57	70	61	64	63	63	63	69	66	91
A295/North Street	81	46	85	89	83	89	43	38	88	89
A295/Station Road	24	31	26	41	27	42	26	32	27	42
A295/Tesco	25	31	28	35	28	34	27	33	30	39
A295/Western Road	45	42	48	73	52	77	47	54	52	95
B2104/A267	24	26	27	28	32	28	31	28	30	30
B2104/Church Road	12	8	13	8	19	9	18	9	14	9
B2104/Dittons Road	88	77	96	89	94	85	104	98	96	100
B2104/Hawks Road	35	43	35	43	45	53	47	65	38	52
B2104/London Road	22	37	24	45	36	56	33	58	31	56
B2191/Rattle Road	18	17	20	20	19	18	26	25	25	22
B2247/High Street	29	29	31	28	31	27	40	42	43	33
A2270/Broad Road	47	62	46	60	47	60	44	52	61	60
A2270/Church Street	69	57	72	61	71	58	65	63	73	68
A2270/Huggetts Lane	100	101	102	101	102	100	87	79	106	102
A2270/The Triangle	87	75	85	75	85	73	91	83	82	67
South Wealden Number of Junctions Exceeding 85%	6	3	8	11	8	10	5	3	9	15
South Wealden %age of Junctions Exceeding 85%	15%	7%	20%	27%	20%	24%	12%	7%	22%	37%



**Table 4.3**

**Junction Capacity Analysis (RFC%) (EBC)**

Junction Route/Description	2026 Scenario 1		2026 Scen 1 Int 1		2026 Scen 1 Int 1 minus 10%		2026 Scen 1 Int 2		2026 Scenario 6	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A2021/Arundel Road	99	122	89	101	83	96	97	103	101	115
A2021/Cross Levels Way	66	77	77	73	76	65	72	76	66	73
A2021/Decoy Drive	72	78	79	78	66	75	70	88	75	73
A2021/Enys Road	90	105	86	94	89	82	87	97	94	102
A2021/Firle Road	74	111	67	80	69	74	69	95	73	105
A2021/Park Avenue	78	83	75	94	75	89	63	96	75	86
A2021/Park Lane	52	47	41	41	35	42	46	46	50	45
A2021/Seaside	81	106	91	101	85	85	91	101	83	105
A2021/St Philips Avenue	130	98	145	94	122	69	146	78	132	84
A2021/Upper Avenue	100	106	100	101	98	98	99	103	100	105
A2040/Carew Road	100	96	101	93	94	97	100	89	100	94
A2040/Gorringe Road	53	112	56	55	56	53	53	53	53	106
A2040/Upper Avenue	46	49	59	56	56	55	53	55	46	51
A259/The Avenue	98	98	77	78	76	70	101	79	98	97
A22 S/Cross Levels Way	106	125	38	44	32	39	39	80	106	121
A22 S/Willingdon Drove	112	113	43	45	37	45	61	91	110	111
A2270/Mill Road	73	62	86	64	76	57	84	63	75	58
A2270/Moat Croft Road	98	63	102	72	101	68	99	65	99	63
A2270/Park Avenue	101	102	101	101	98	97	101	103	101	102
A2270/Park Lane	75	77	76	89	72	75	78	96	74	72
A2270/Rodmill Drive	105	122	101	106	100	104	104	108	106	116
A2270/The Goffs	102	95	105	96	102	86	102	100	101	94

Table 4.3

Junction Capacity Analysis (RFC%) (EBC) - Continued

Junction Route/Description	2026 Scenario 1		2026 Scen 1 Int 1		2026 Scen 1 Int 1 minus 10%		2026 Scen 1 Int 2		2026 Scenario 6	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A2270/Upper Kings Drive	105	97	103	89	92	88	103	102	104	90
A2270/Wish Hill	108	74	101	74	99	67	105	63	106	66
A2280/Broadwater Way	86	95	104	95	99	94	104	95	86	95
A2290/Birch Road	86	53	106	161	100	131	106	159	87	56
A2290/Hammonds Drive	37	26	48	45	47	43	48	45	38	27
A2290/Seaside	93	116	33	38	33	37	41	48	91	115
A259/Ashford Road	96	101	84	93	75	88	96	90	95	100
A259/Beach Road	62	68	66	73	66	66	66	69	62	63
A259/Bolton Road	38	47	36	37	35	35	41	49	39	47
A259/Bourne Street	12	78	11	18	10	8	30	20	14	52
A259/Cavendish Place	79	68	48	65	41	68	81	88	80	71
A259/Cavendish Place	93	91	82	72	82	67	95	94	93	92
A259/Churchdale Road	122	82	145	88	114	87	147	86	125	77
A259/Devonshire Place	45	57	42	45	41	42	48	58	46	56
A259/Furness Road	24	18	26	27	25	26	29	25	24	19
A259/Green Street	21	26	23	26	23	25	23	26	21	25
A259/Hartfield Road	53	47	58	48	56	47	63	47	53	48
A259/Kingsmere Way	53	35	51	39	48	38	50	40	53	36
A259/Langney Rise	118	121	105	105	88	103	106	108	112	114
A259/Langney Road	52	107	88	104	85	103	50	110	52	108
A259/Langney Road	91	93	90	89	89	89	92	89	91	93
A259/Moat Croft Road	42	76	46	78	38	76	46	75	40	79
A259/Pacific Drive	36	43	31	39	32	39	34	40	37	40
A259/Pevensley Road	89	105	84	96	83	93	98	101	89	104
A259/Seaside Road	10	19	10	34	9	35	10	18	10	18
A259/South Street	41	35	50	48	48	46	38	50	41	35

Table 4.3

Junction Capacity Analysis (RFC%) (EBC) - Continued

Junction Route/Description	2026 Scenario 1		2026 Scen 1 Int 1		2026 Scen 1 Int 1 minus 10%		2026 Scen 1 Int 2		2026 Scenario 6	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A259/Southbourne Road	122	82	146	96	114	81	149	82	126	75
A259/Southfields Road	101	101	103	94	98	90	102	94	101	100
A259/Sovereign Harbour	43	56	45	66	43	64	43	66	44	58
A259/Spencer Road	21	15	21	22	21	21	24	21	21	16
A259/Susans Road	95	49	92	36	91	36	101	47	95	45
A259/Terminus Road	52	51	61	49	58	49	54	46	53	51
A259/Victoria Drive	99	101	102	101	85	89	107	100	100	100
A259/Warren Hill	99	85	104	78	93	56	107	82	100	75
A259/Woodgate Road	121	68	142	76	112	82	146	75	123	63
B2103/Beachy Head Road	24	16	23	13	22	11	23	13	24	16
B2103/Carlisle Road	30	93	28	12	25	14	27	32	30	48
B2103/Chesterfield Road	10	11	9	7	8	5	9	7	10	10
B2103/Chiswick Place	56	89	50	70	39	64	61	80	63	80
B2103/Devonshire Place	81	102	79	41	75	38	81	93	82	95
B2103/Holywell Road	10	10	9	7	9	6	10	7	11	11
B2104/Hide Hollow	114	105	101	81	89	67	101	88	106	104
B2104/Larkspur Drive	97	95	72	55	65	55	88	73	84	87
B2104/Pembury Road	106	118	102	102	101	102	102	101	104	108
B2104/Pennine Way	104	81	66	33	50	34	78	36	85	70
B2104/Priory Road	119	100	99	79	70	75	97	74	113	94
B2104/Sevenoaks Road	73	72	67	59	63	60	68	61	101	68
B2104/The Rising	122	104	102	70	85	61	102	68	114	102
B2104/Willingdon Drove	108	103	99	69	75	68	99	86	102	100
B2106/Beach Road	10	22	19	19	11	16	18	21	10	20
B2106/Beamsley Road	81	106	83	102	77	98	84	104	81	104
B2106/Cavendish Place	96	101	83	95	95	93	96	89	95	96

**Table 4.3**

**Junction Capacity Analysis (RFC%) (EBC) - Continued**

Junction Route/Description	2026 Scenario 1		2026 Scen 1 Int 1		2026 Scen 1 Int 1 minus 10%		2026 Scen 1 Int 2		2026 Scenario 6	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
B2106/Compton Street	25	14	26	16	27	15	24	18	24	15
B2106/Terminus Road	45	67	44	42	42	38	46	59	45	60
B2191/Kingfisher Drive	102	116	104	107	93	106	104	108	86	104
B2191/Larkspur Drive	42	82	69	75	61	72	64	81	28	71
B2191/Milfoil Drive	84	74	53	51	52	48	49	56	42	57
B2191/Pennine Way	45	45	42	38	34	39	38	43	38	33
B2191/Willingdon Drove	43	105	63	74	58	65	60	77	35	76
Eastbourne Number of Junctions Exceeding 85%	38	39	31	27	26	22	35	33	37	35
Eastbourne %age of Junctions Exceeding 85%	47%	48%	38%	33%	32%	27%	43%	41%	46%	43%

Table 4.4

## Junction Capacity Analysis (RFC%) (WDC)

Junction Route/Description	2026 Scenario 1		2026 Scen 1 Int 1		2026 Scen 1 Int 1 minus 10%		2026 Scen 1 Int 2		2026 Scenario 6	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A22 N/Coldharbour Road	127	164	80	85	77	79	130	167	126	163
A22 N/Diplocks way	97	104	101	99	90	100	91	103	93	103
A22 N/Hempstead Lane	105	84	102	96	98	92	103	95	104	83
A22 N/South Road	87	104	81	91	72	94	95	105	86	103
A27(T)/A22 N	107	97	97	85	90	82	75	70	106	99
A22 S/Dittons Road	121	90	52	52	48	47	82	100	118	90
A259/Pevensay Bay	79	59	82	65	69	62	84	66	80	60
A259/Pevensay High Street	110	112	95	104	100	102	99	105	112	111
A22 N/A267/A271	97	101	98	100	84	87	97	98	90	100
A27(T)/A22 S	47	103	39	43	33	38	46	43	47	103
A27(T)/A2270	94	92	43	44	42	43	100	63	88	94
A27(T)/A259	68	67	73	61	58	65	86	73	69	68
A27(T)/Thornwell Road	83	102	75	119	72	95	86	104	80	103
A2270/Wannock Road	112	92	74	77	67	72	103	102	108	91
A271/Battle Road	33	38	32	50	30	39	31	39	33	37
A271/Hawks Road	97	96	95	97	90	97	89	97	95	95
A271/London Road	97	77	96	78	87	71	86	84	96	79
A271/New Road	47	36	43	42	40	34	42	35	45	36
A271/North Street	96	69	96	70	94	66	95	70	96	68
A295/Diplocks Way	96	78	89	63	87	54	88	66	96	68

Table 4.4

Junction Capacity Analysis (RFC%) (WDC) - Continued

Junction Route/Description	2026 Scenario 1		2026 Scen 1 Int 1		2026 Scen 1 Int 1 minus 10%		2026 Scen 1 Int 2		2026 Scenario 6	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A295/Ersham Road	95	79	110	104	104	96	75	82	90	79
A295/Harebeating Drive	45	48	39	40	38	35	44	38	44	48
A295/Harmers Hay Road	30	25	29	31	26	28	30	28	30	25
A295/Hawthylands Road	53	31	48	38	43	34	52	34	52	31
A295/High Street	65	108	62	55	58	58	65	58	64	108
A295/London Road	88	113	83	101	77	94	87	105	87	113
A295/North Street	88	114	46	48	44	43	89	53	88	114
A295/Station Road	34	115	33	42	31	35	34	43	33	115
A295/Tesco	37	50	32	48	30	44	36	48	37	50
A295/Western Road	102	104	95	94	83	83	101	100	96	104
B2104/A267	44	34	44	34	40	31	41	34	45	34
B2104/Church Road	87	12	86	16	81	30	82	21	84	18
B2104/Dittons Road	104	118	112	124	110	107	103	105	105	119
B2104/Hawks Road	62	66	60	84	58	86	56	80	62	67
B2104/London Road	61	81	55	93	53	95	54	91	59	81
B2191/Rattle Road	38	31	42	40	35	40	38	41	35	31
B2247/High Street	114	43	58	50	50	47	57	57	110	44
A2270/Broad Road	102	95	60	85	50	75	83	94	97	95
A2270/Church Street	76	73	93	71	72	72	88	69	76	70
A2270/Huggetts Lane	115	117	100	100	95	96	112	107	113	117
A2270/The Triangle	93	100	77	71	81	72	79	78	80	74
South Wealden Number of Junctions Exceeding 85%	24	21	15	15	11	13	20	15	22	20
South Wealden %age of Junctions Exceeding 85%	59%	51%	37%	37%	27%	32%	49%	37%	54%	49%

**Table 4.3**

**Junction Capacity Analysis (RFC%) (EBC)**

Junction Route/Description	2026 Scen 6 Int 1		2026 Scenario 10		2026 Scen 10 Int 3		2026 Scen 10 Int 4		2026 Scen 10 Int 5	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A2021/Arundel Road	89	98	100	115	86	102	94	102	84	98
A2021/Cross Levels Way	77	68	67	74	48	71	53	65	52	58
A2021/Decoy Drive	80	75	76	74	79	64	76	81	100	84
A2021/Enys Road	86	88	92	102	43	102	57	100	61	91
A2021/Firle Road	67	79	74	105	72	92	61	90	68	69
A2021/Park Avenue	73	96	77	88	87	87	78	101	92	98
A2021/Park Lane	39	40	52	45	37	36	44	47	43	46
A2021/Seaside	89	97	82	105	75	88	72	92	73	65
A2021/St Philips Avenue	146	75	135	86	103	60	96	50	104	40
A2021/Upper Avenue	100	100	100	105	89	103	72	102	93	98
A2040/Carew Road	100	93	100	94	97	82	100	88	96	83
A2040/Gorringe Road	56	56	53	107	56	56	42	63	59	66
A2040/Upper Avenue	58	60	47	50	50	67	46	66	57	76
A259/The Avenue	79	76	98	96	77	78	99	75	82	82
A22 S/Cross Levels Way	36	38	107	120	106	113	106	106	31	34
A22 S/Willingdon Drove	45	42	109	110	106	101	108	104	41	42
A2270/Mill Road	85	61	76	60	81	56	76	46	80	57
A2270/Moat Croft Road	101	69	101	61	101	68	98	70	101	74
A2270/Park Avenue	101	99	101	103	98	99	101	102	101	100
A2270/Park Lane	76	78	74	75	74	65	74	64	73	78
A2270/Rodmill Drive	101	103	106	117	101	105	104	104	101	102
A2270/The Goffs	104	93	102	95	102	95	100	98	103	98

Table 4.3

Junction Capacity Analysis (RFC%) (EBC) - Continued

Junction Route/Description	2026 Scen 6 Int 1		2026 Scenario 10		2026 Scen 10 Int 3		2026 Scen 10 Int 4		2026 Scen 10 Int 5	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A2270/Upper Kings Drive	101	89	104	91	105	76	97	87	106	83
A2270/Wish Hill	101	72	106	67	95	71	101	67	100	77
A2280/Broadwater Way	102	96	87	96	86	97	90	97	91	97
A2290/Birch Road	104	158	87	57	82	78	82	102	81	121
A2290/Hammonds Drive	48	44	38	28	40	22	38	30	100	49
A2290/Seaside	33	39	92	115	87	110	80	95	29	33
A259/Ashford Road	86	94	95	100	85	98	98	91	83	99
A259/Beach Road	69	71	63	64	61	71	53	54	58	53
A259/Bolton Road	35	34	39	47	35	32	39	44	37	35
A259/Bourne Street	11	24	13	60	10	29	7	10	10	9
A259/Cavendish Place	48	67	78	66	46	58	79	90	47	87
A259/Cavendish Place	82	68	92	91	83	73	97	92	84	75
A259/Churchdale Road	149	83	126	79	87	72	81	73	95	75
A259/Devonshire Place	41	41	46	56	41	38	46	52	43	41
A259/Furness Road	26	28	24	21	26	27	25	25	24	26
A259/Green Street	24	26	21	26	24	25	21	26	22	24
A259/Hartfield Road	56	46	53	48	57	50	53	57	56	51
A259/Kingsmere Way	53	39	53	35	54	36	53	38	53	38
A259/Langney Rise	102	103	112	113	119	110	111	109	109	108
A259/Langney Road	90	104	52	108	84	105	51	111	66	105
A259/Langney Road	91	87	91	94	89	85	91	85	89	87
A259/Moat Croft Road	45	74	42	77	41	70	46	77	43	81
A259/Pacific Drive	32	40	37	41	36	38	38	39	37	40
A259/Pevensley Road	84	97	89	103	83	93	94	87	87	101
A259/Seaside Road	10	42	10	18	10	49	10	18	10	47
A259/South Street	50	47	40	35	53	49	42	53	51	54



Table 4.3

## Junction Capacity Analysis (RFC%) (EBC) - Continued

Junction Route/Description	2026 Scen 6 Int 1		2026 Scenario 10		2026 Scen 10 Int 3		2026 Scen 10 Int 4		2026 Scen 10 Int 5	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A259/Southbourne Road	146	82	127	77	83	71	75	72	92	75
A259/Southfields Road	102	89	102	99	101	94	101	96	101	92
A259/Sovereign Harbour	49	65	44	59	44	62	45	64	46	65
A259/Spencer Road	22	23	21	17	22	23	22	20	20	22
A259/Susans Road	91	36	95	48	94	38	93	34	95	30
A259/Terminus Road	61	52	52	51	56	53	54	53	60	59
A259/Victoria Drive	103	100	102	101	95	93	101	95	100	94
A259/Warren Hill	106	78	103	76	100	79	102	74	103	74
A259/Woodgate Road	141	73	126	64	70	72	72	55	90	53
B2103/Beachy Head Road	22	13	24	15	23	18	23	14	22	16
B2103/Carlisle Road	28	16	30	54	26	27	29	20	28	19
B2103/Chesterfield Road	9	7	9	10	8	12	9	5	9	9
B2103/Chiswick Place	56	67	61	84	44	61	69	55	50	45
B2103/Devonshire Place	82	45	81	96	81	38	84	76	81	46
B2103/Holywell Road	9	7	10	10	8	15	10	6	10	11
B2104/Hide Hollow	101	68	107	103	110	100	109	97	103	71
B2104/Larkspur Drive	66	46	85	87	84	58	91	78	66	47
B2104/Pembury Road	102	92	104	108	106	106	106	94	104	101
B2104/Pennine Way	60	35	88	73	87	41	96	46	74	35
B2104/Priory Road	104	76	113	92	115	93	115	74	110	76
B2104/Sevenoaks Road	69	57	101	68	75	73	74	63	71	63
B2104/The Rising	105	62	114	101	116	85	117	72	111	63
B2104/Willingdon Drove	92	50	101	99	103	76	104	68	98	60
B2106/Beach Road	11	17	10	21	10	19	7	19	11	22
B2106/Beamsley Road	81	101	81	103	80	96	84	97	81	99
B2106/Cavendish Place	91	83	95	95	86	48	97	70	91	88

**Table 4.3**

**Junction Capacity Analysis (RFC%) (EBC) - Continued**

Junction Route/Description	2026 Scen 6 Int 1		2026 Scenario 10		2026 Scen 10 Int 3		2026 Scen 10 Int 4		2026 Scen 10 Int 5	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
B2106/Compton Street	26	17	24	15	29	18	25	21	26	18
B2106/Terminus Road	46	40	45	61	45	38	49	49	45	34
B2191/Kingfisher Drive	85	70	83	103	99	103	96	97	78	105
B2191/Larkspur Drive	52	58	28	70	28	56	31	52	32	57
B2191/Milfoil Drive	41	34	40	57	59	58	55	49	33	46
B2191/Pennine Way	40	37	36	32	53	38	32	32	44	39
B2191/Willingdon Drove	53	58	35	74	35	69	33	68	40	57
Eastbourne Number of Junctions Exceeding 85%	32	21	37	36	31	25	31	28	29	21
Eastbourne %age of Junctions Exceeding 85%	40%	26%	46%	44%	38%	31%	38%	35%	36%	26%

Table 4.4

Junction Capacity Analysis (RFC%) (WDC)

Junction Route/Description	2026 Scen 6 Int 1		2026 Scenario 10		2026 Scen 10 Int 3		2026 Scen 10 Int 4		2026 Scen 10 Int 5	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A22 N/Coldharbour Road	82	83	126	164	85	84	128	165	80	84
A22 N/Diplocks way	100	99	93	104	87	99	85	101	98	99
A22 N/Hempstead Lane	101	95	104	83	100	95	100	83	101	88
A22 N/South Road	75	91	87	103	68	93	89	105	75	87
A27(T)/A22 N	102	84	105	99	102	92	70	62	98	81
A22 S/Dittons Road	55	51	117	90	120	106	116	101	54	48
A259/Pevensay Bay	79	65	79	60	82	66	79	64	81	65
A259/Pevensay High Street	99	103	110	111	104	108	112	105	100	103
A22 N/A267/A271	95	99	91	100	91	99	88	96	94	99
A27(T)/A22 S	39	40	48	103	90	129	53	104	39	37
A27(T)/A2270	40	44	88	94	42	43	100	59	44	48
A27(T)/A259	68	60	68	67	64	62	73	64	67	62
A27(T)/Thornwell Road	77	118	80	103	99	119	80	102	75	128
A2270/Wannock Road	71	77	108	92	80	79	106	80	70	77
A271/Battle Road	34	49	33	37	33	49	29	43	33	50
A271/Hawks Road	100	97	95	95	98	97	85	92	100	96
A271/London Road	101	76	96	79	100	76	87	73	101	77
A271/New Road	50	42	45	35	46	43	39	38	46	43
A271/North Street	96	70	96	68	95	70	95	64	96	72
A295/Diplocks Way	92	63	96	68	87	63	92	79	92	61

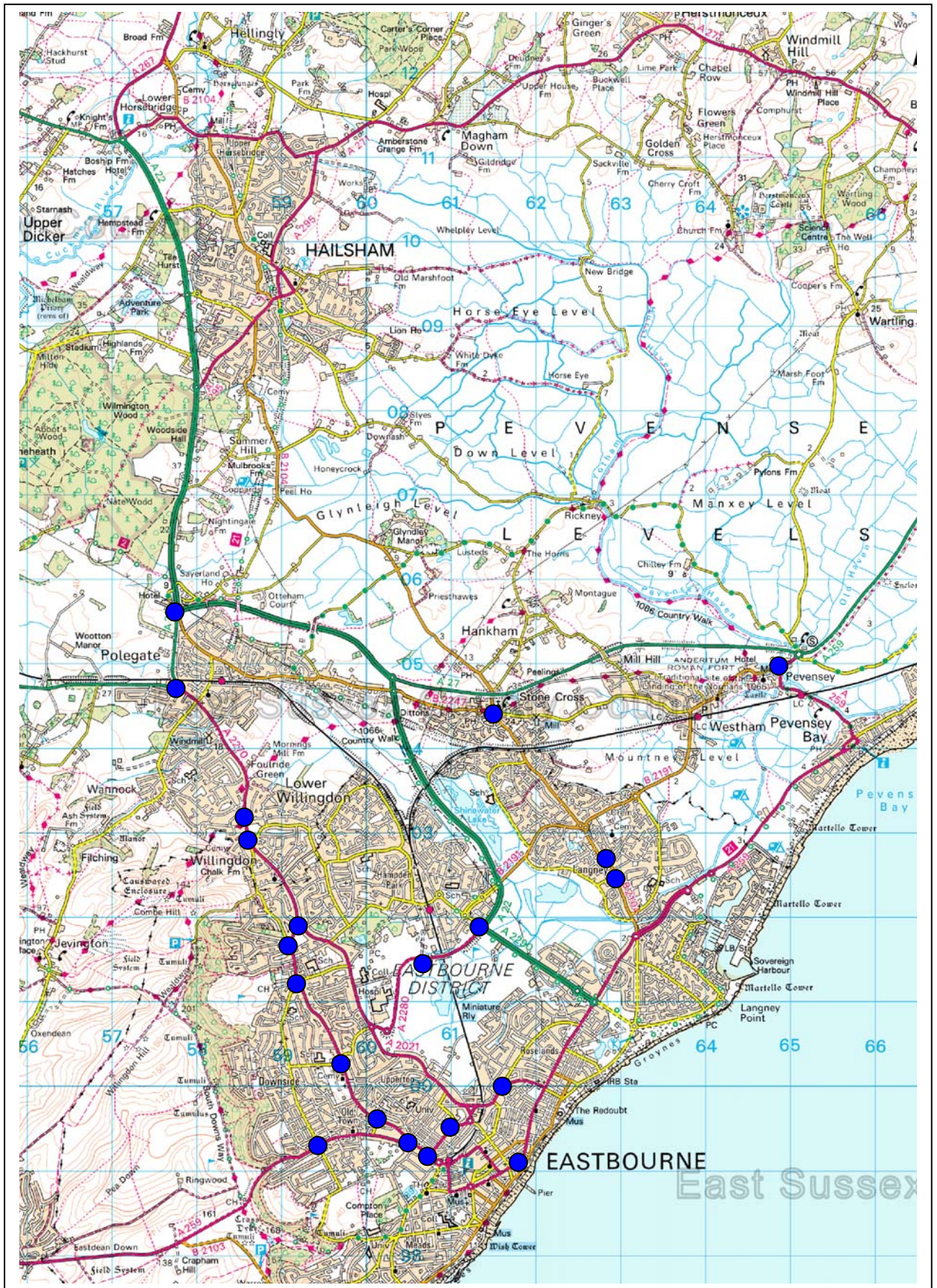
Table 4.4

Junction Capacity Analysis (RFC%) (WDC) - Continued

Junction Route/Description	2026 Scen 6 Int 1		2026 Scenario 10		2026 Scen 10 Int 3		2026 Scen 10 Int 4		2026 Scen 10 Int 5	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A295/Ersham Road	111	103	89	79	110	100	80	84	110	100
A295/Harebeating Drive	41	40	44	48	39	40	40	39	39	40
A295/Harmers Hay Road	29	31	30	25	29	31	29	30	29	31
A295/Hawthylands Road	49	38	52	31	48	38	49	37	48	38
A295/High Street	62	55	64	107	62	54	62	54	61	54
A295/London Road	83	101	87	113	82	101	87	102	82	101
A295/North Street	47	48	88	113	46	47	88	57	46	50
A295/Station Road	34	43	33	114	33	47	32	44	33	43
A295/Tesco	32	49	37	51	32	49	35	48	32	49
A295/Western Road	88	95	97	104	95	95	92	101	85	95
B2104/A267	42	34	45	34	41	34	45	34	41	34
B2104/Church Road	85	18	84	18	82	18	81	16	84	17
B2104/Dittons Road	111	118	105	118	111	136	103	111	112	135
B2104/Hawks Road	60	84	62	67	64	86	60	72	61	81
B2104/London Road	55	92	59	81	55	93	56	82	55	88
B2191/Rattle Road	40	39	35	31	42	39	31	31	42	40
B2247/High Street	55	50	109	43	47	47	106	51	55	49
A2270/Broad Road	53	88	96	93	69	91	77	94	59	99
A2270/Church Street	92	71	76	70	77	70	75	71	94	75
A2270/Huggetts Lane	98	100	113	116	104	99	114	113	99	100
A2270/The Triangle	81	71	80	73	75	73	73	73	79	83
South Wealden Number of Junctions Exceeding 85%	14	14	23	20	16	18	17	14	14	14
South Wealden %age of Junctions Exceeding 85%	34%	34%	56%	49%	39%	44%	41%	34%	34%	34%

**APPENDIX 7  
TRANSPORT IMPACTS – DOT DIAGRAMS**



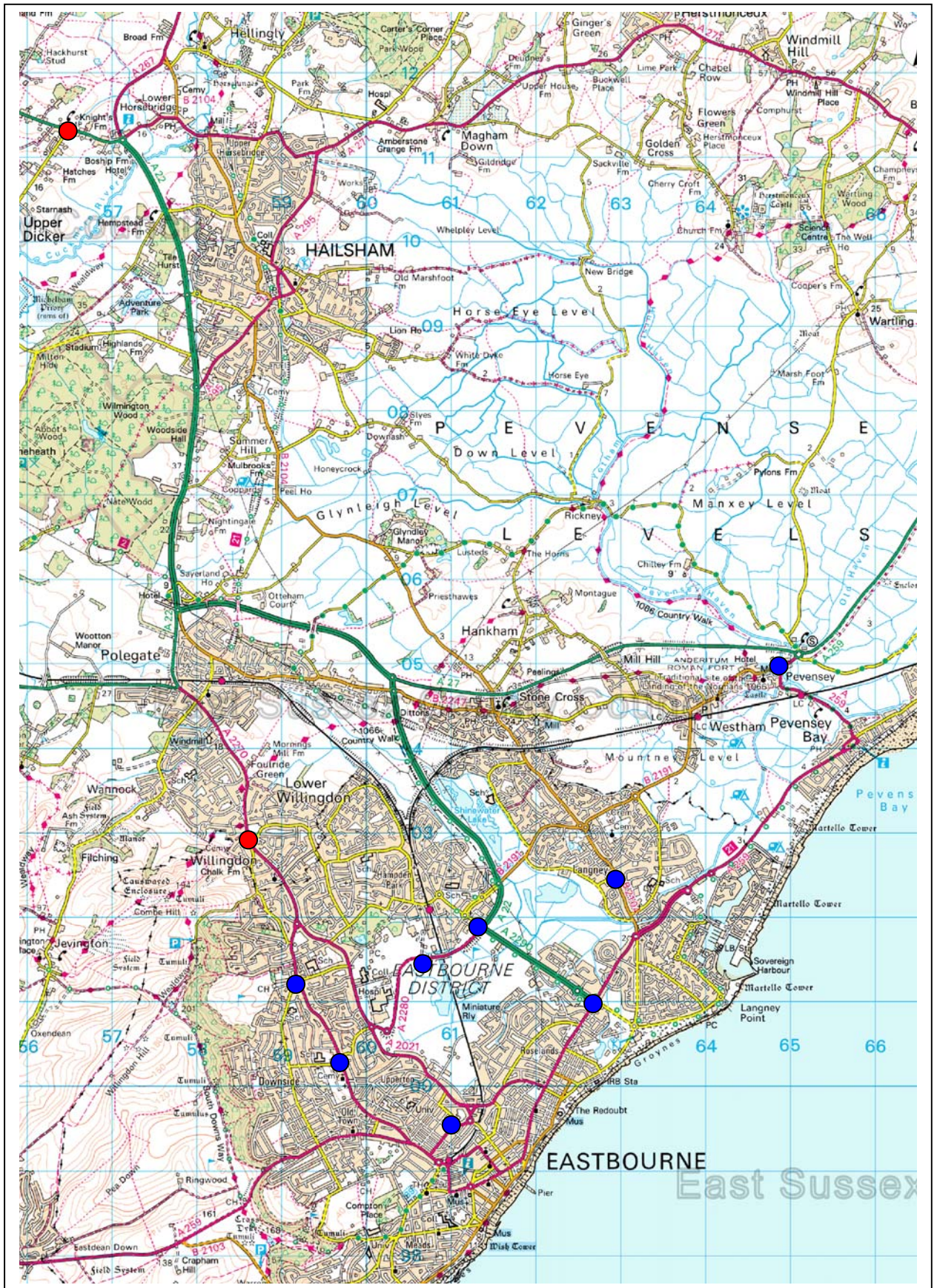


**2009 BASE YEAR  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100% RFC



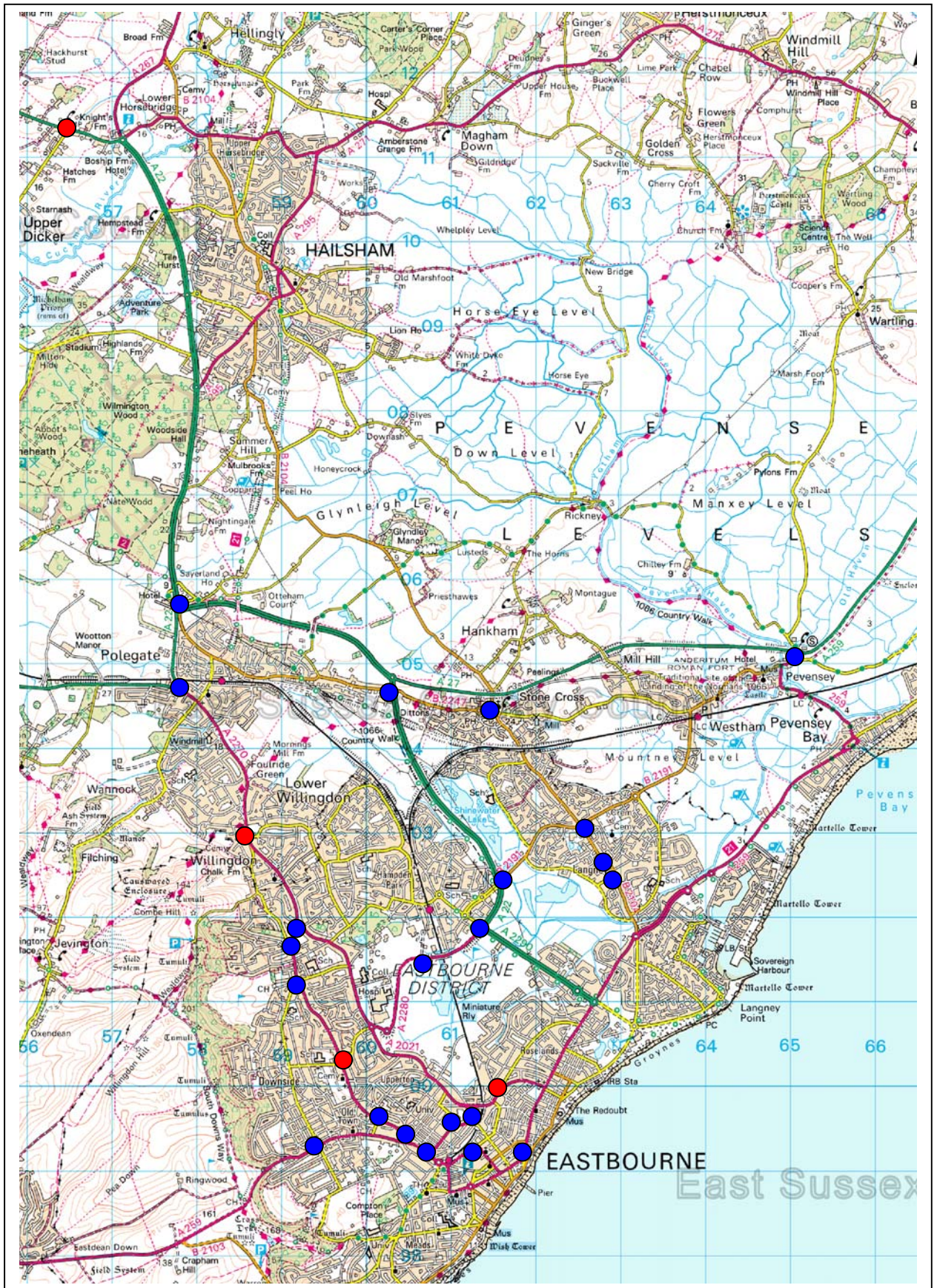


**2009 BASE YEAR  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



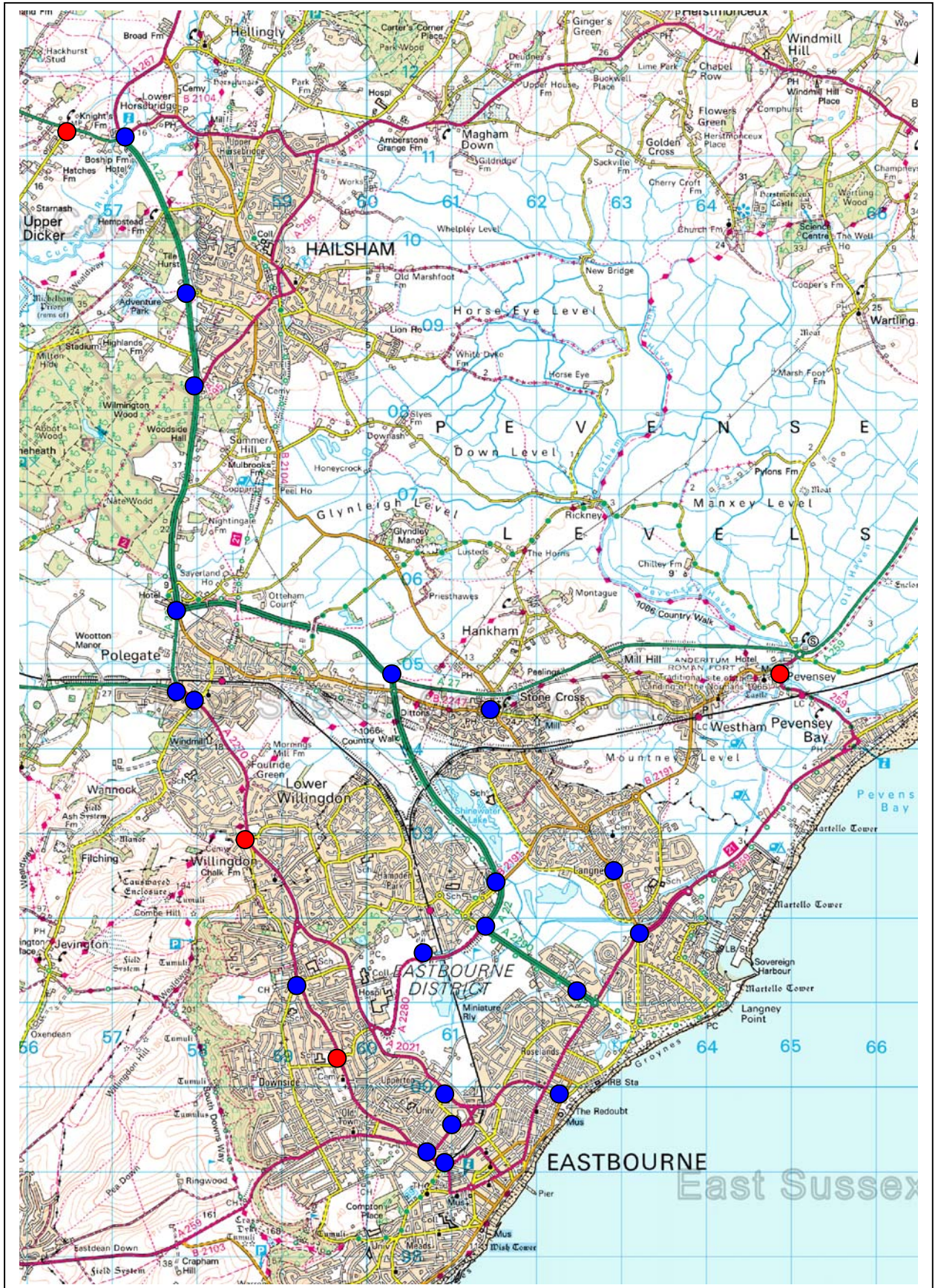


**2016 REFERENCE CASE  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



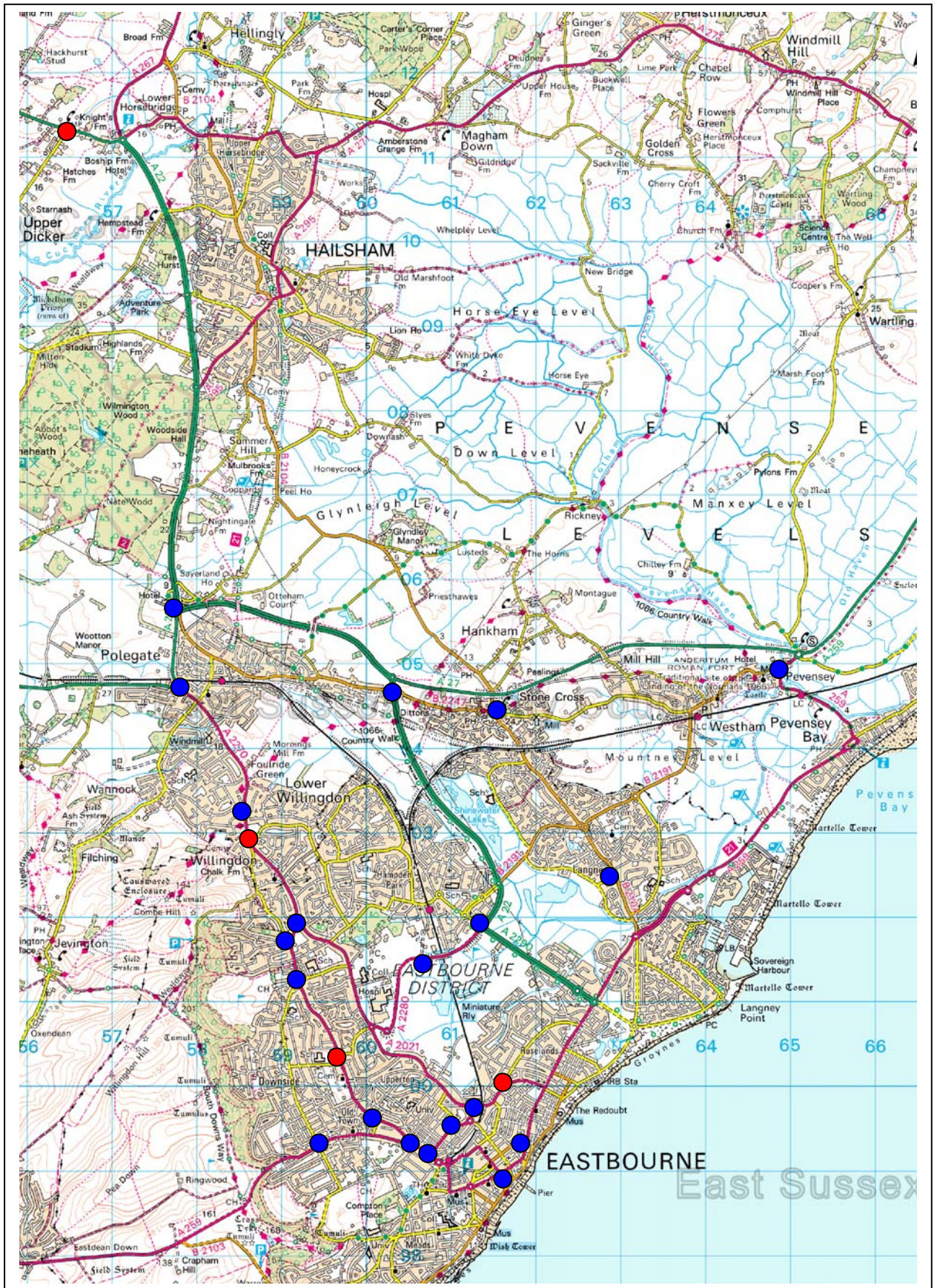


**2016 REFERENCE CASE  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



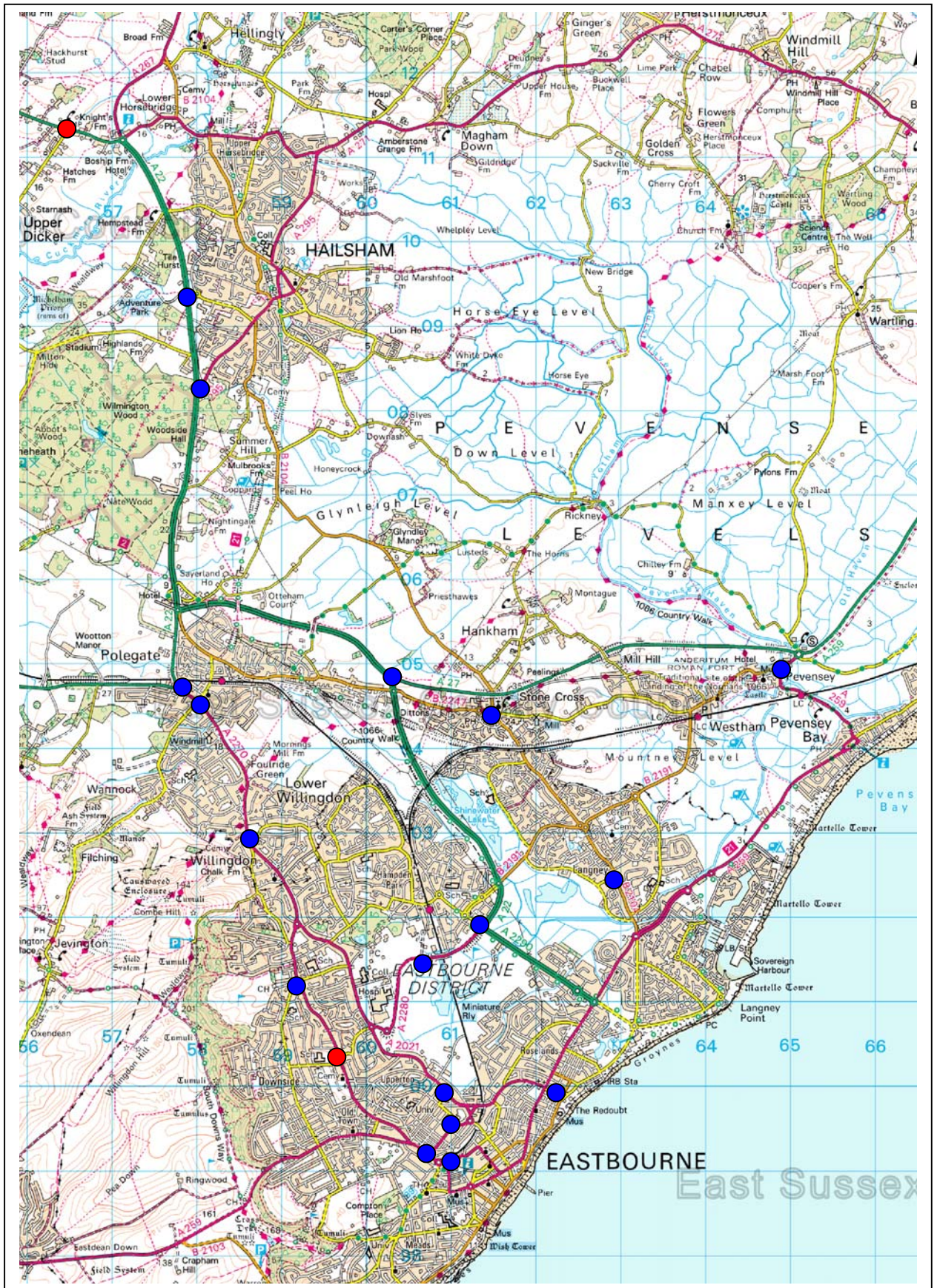


**2016 SCENARIO 1 No Transport Interventions  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



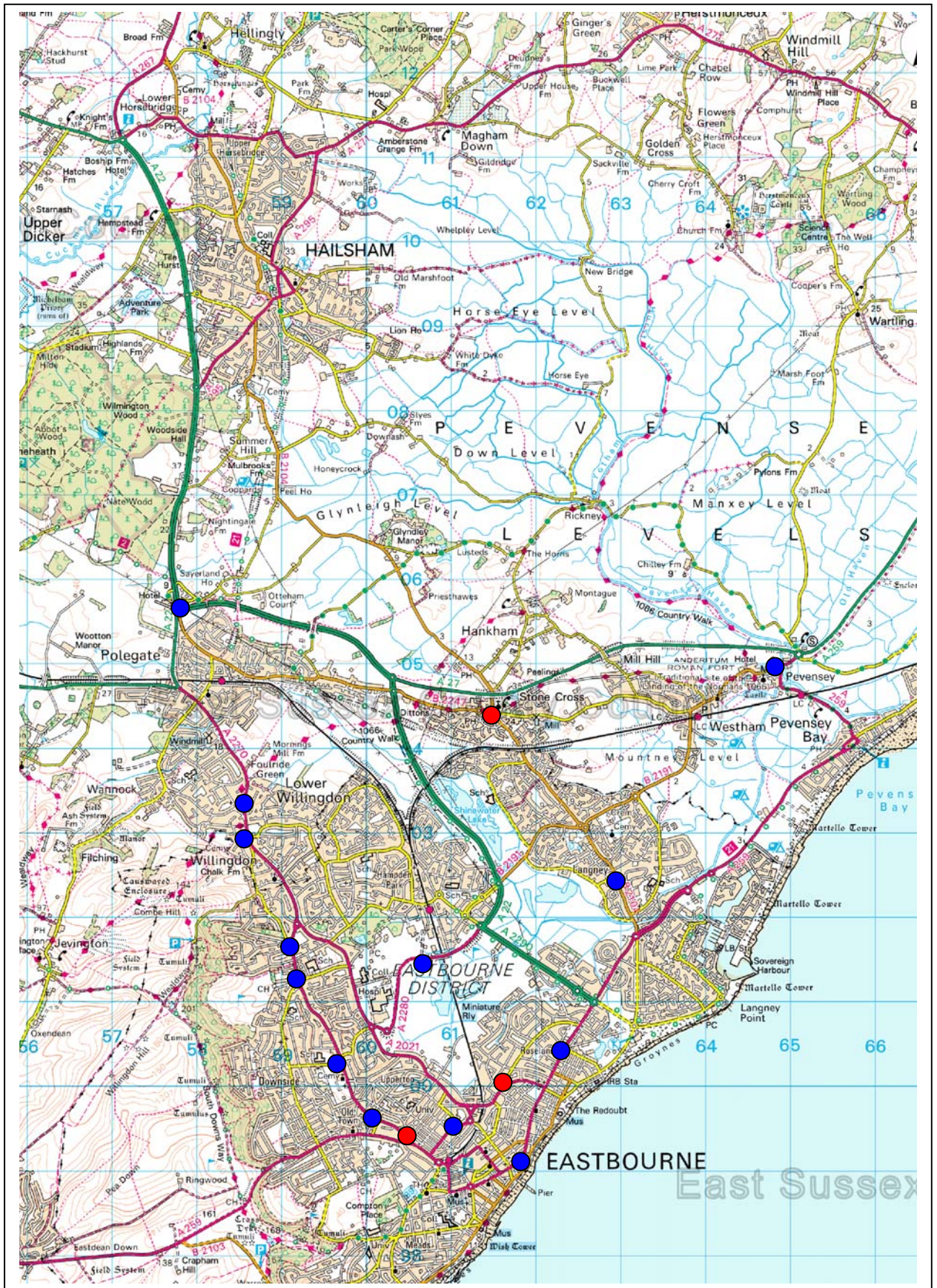


**2016 SCENARIO 1 No Transport Interventions  
PM PEAK**

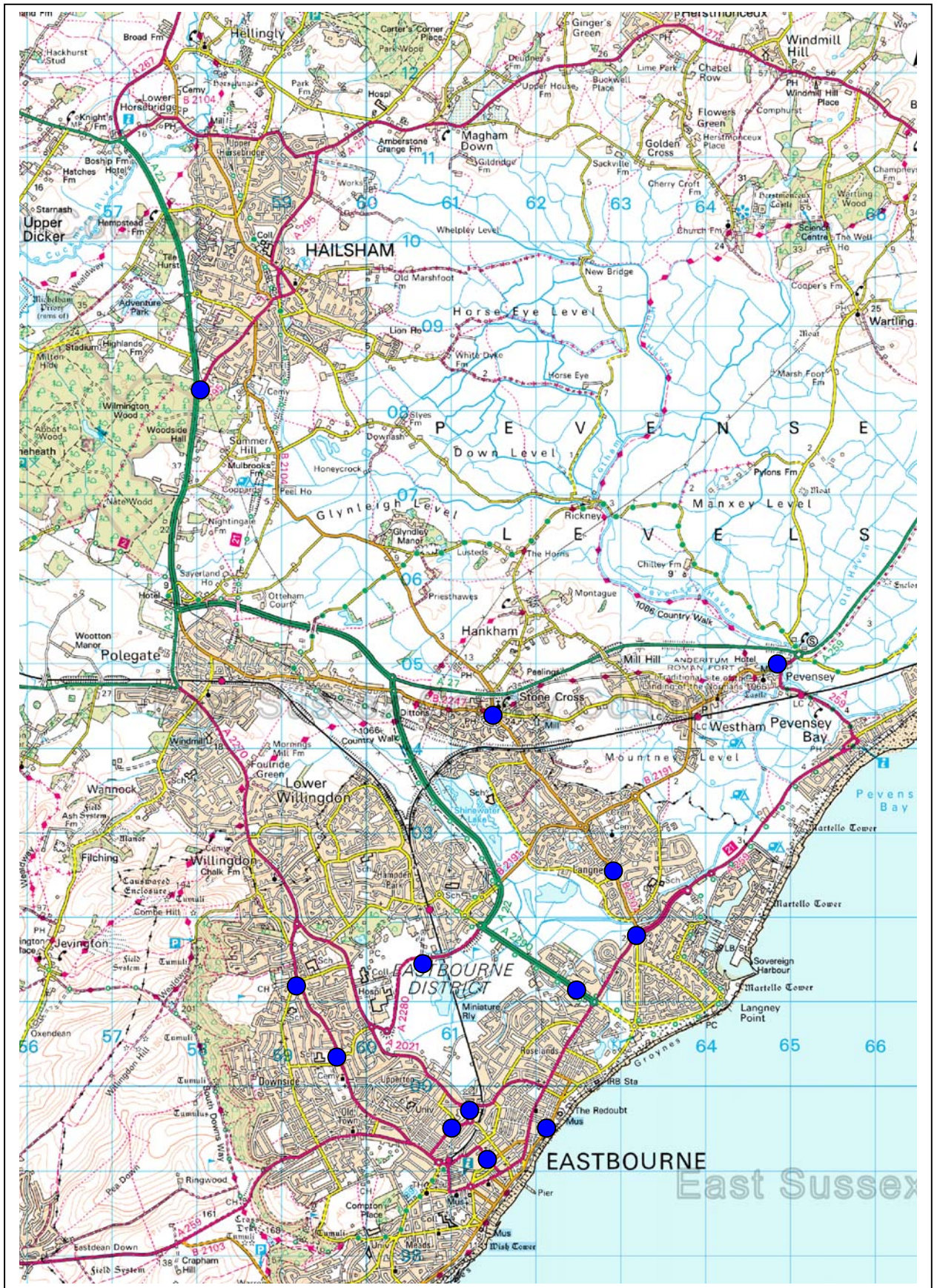
Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%







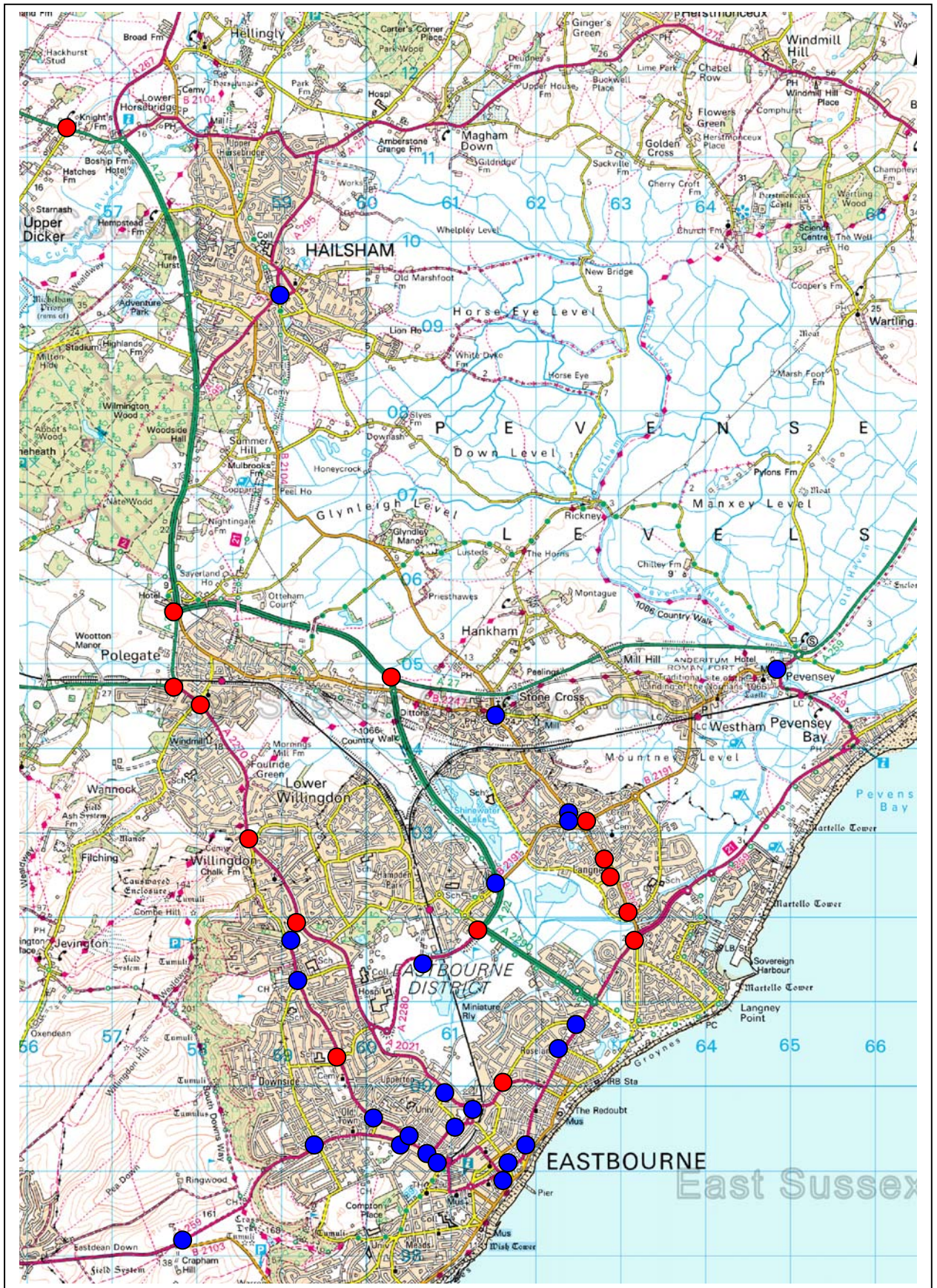


**2016 SCENARIO 1 Transport Intervention 1  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



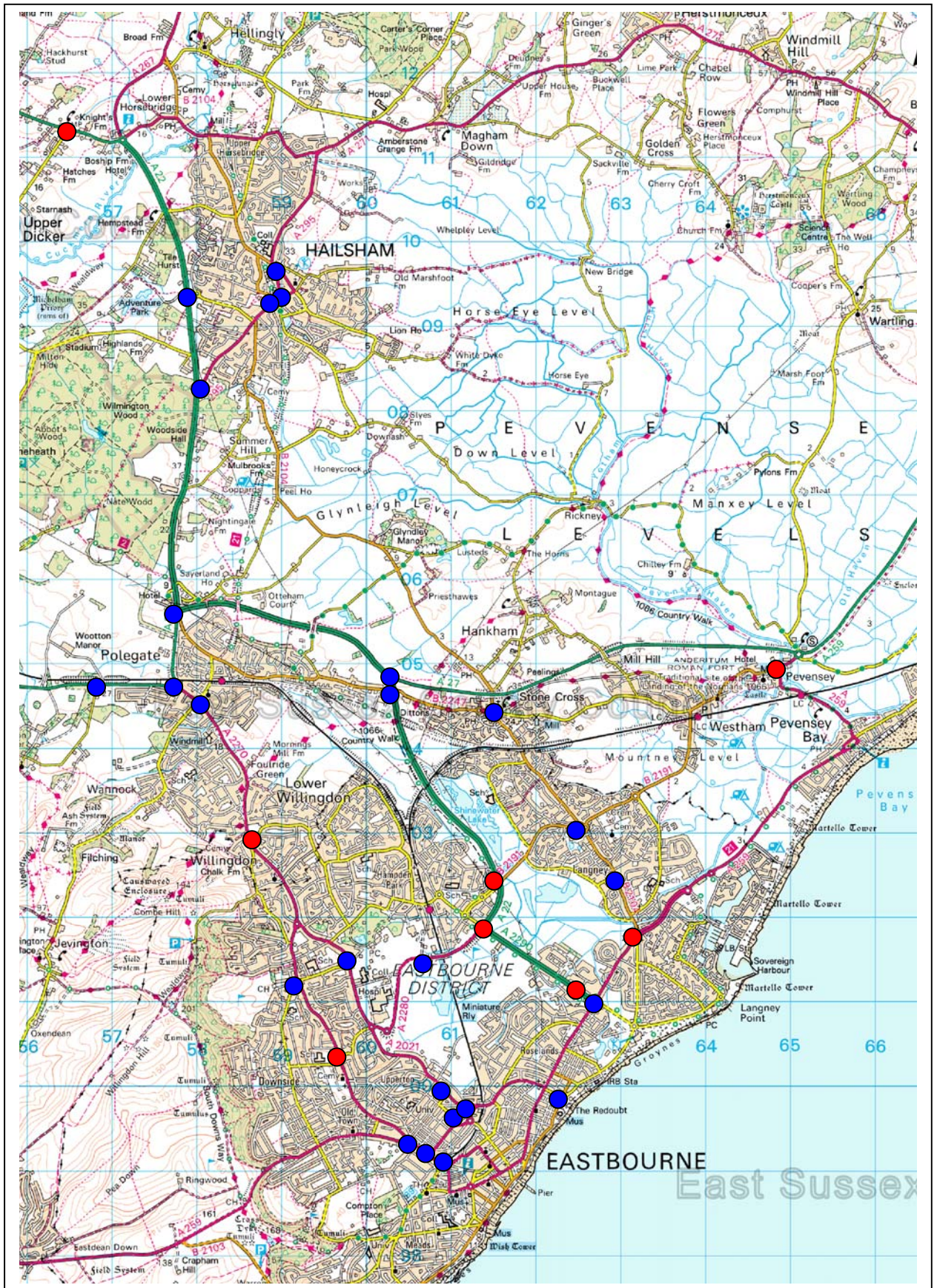


**2026 REFERENCE CASE  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



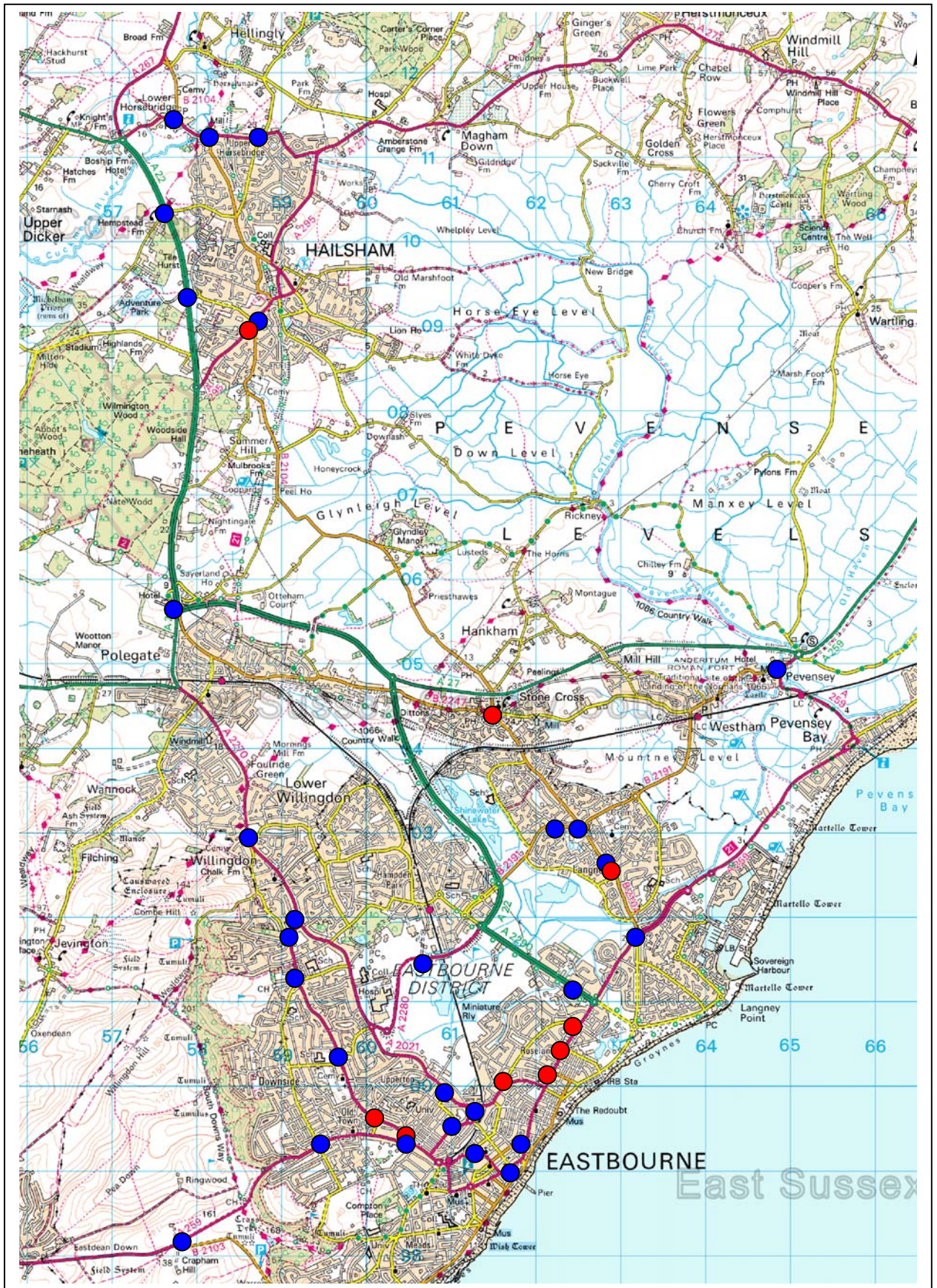


**2026 REFERENCE CASE  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



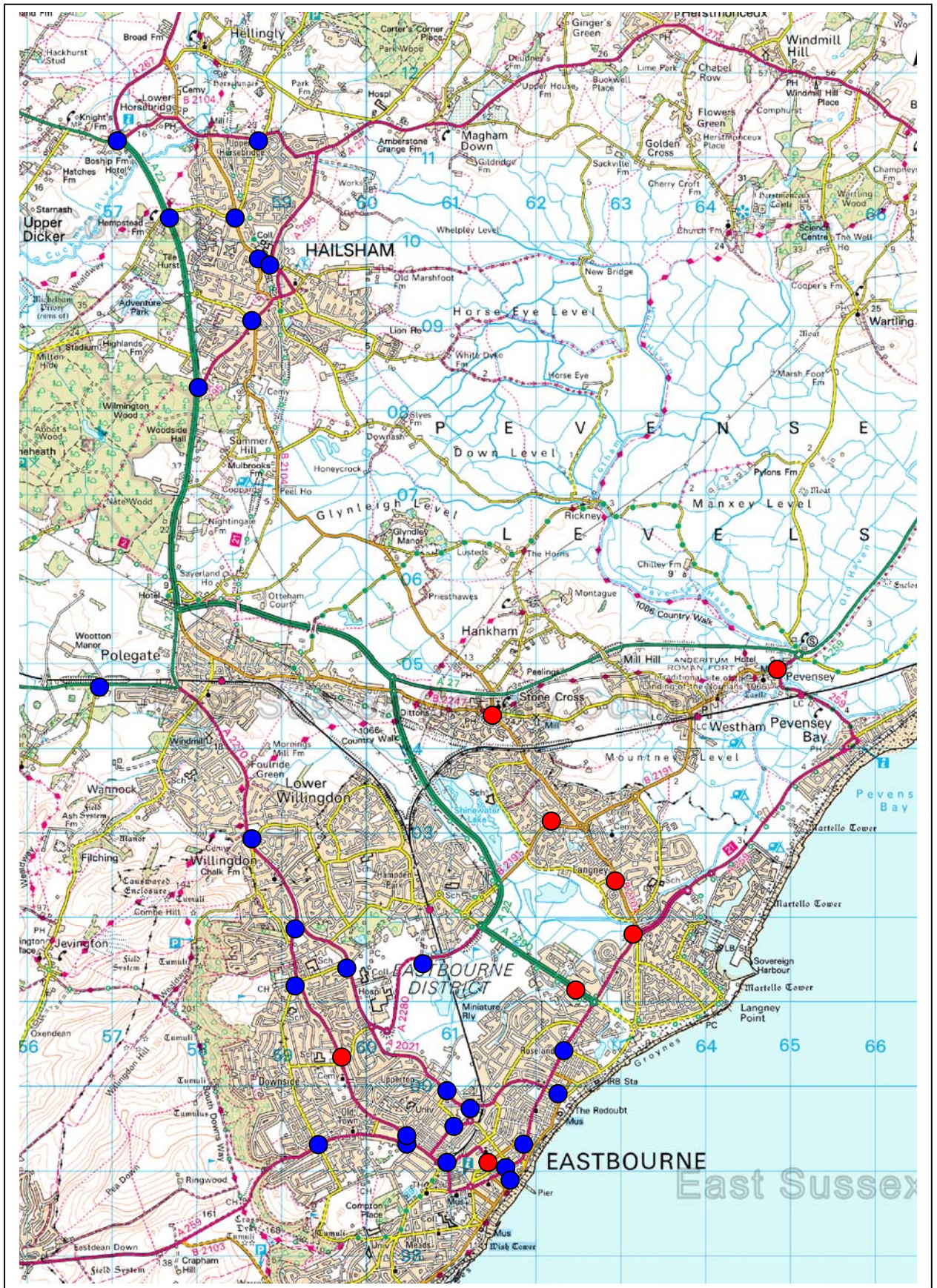


**2026 SCENARIO 1 Transport Intervention 1 – 10%  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



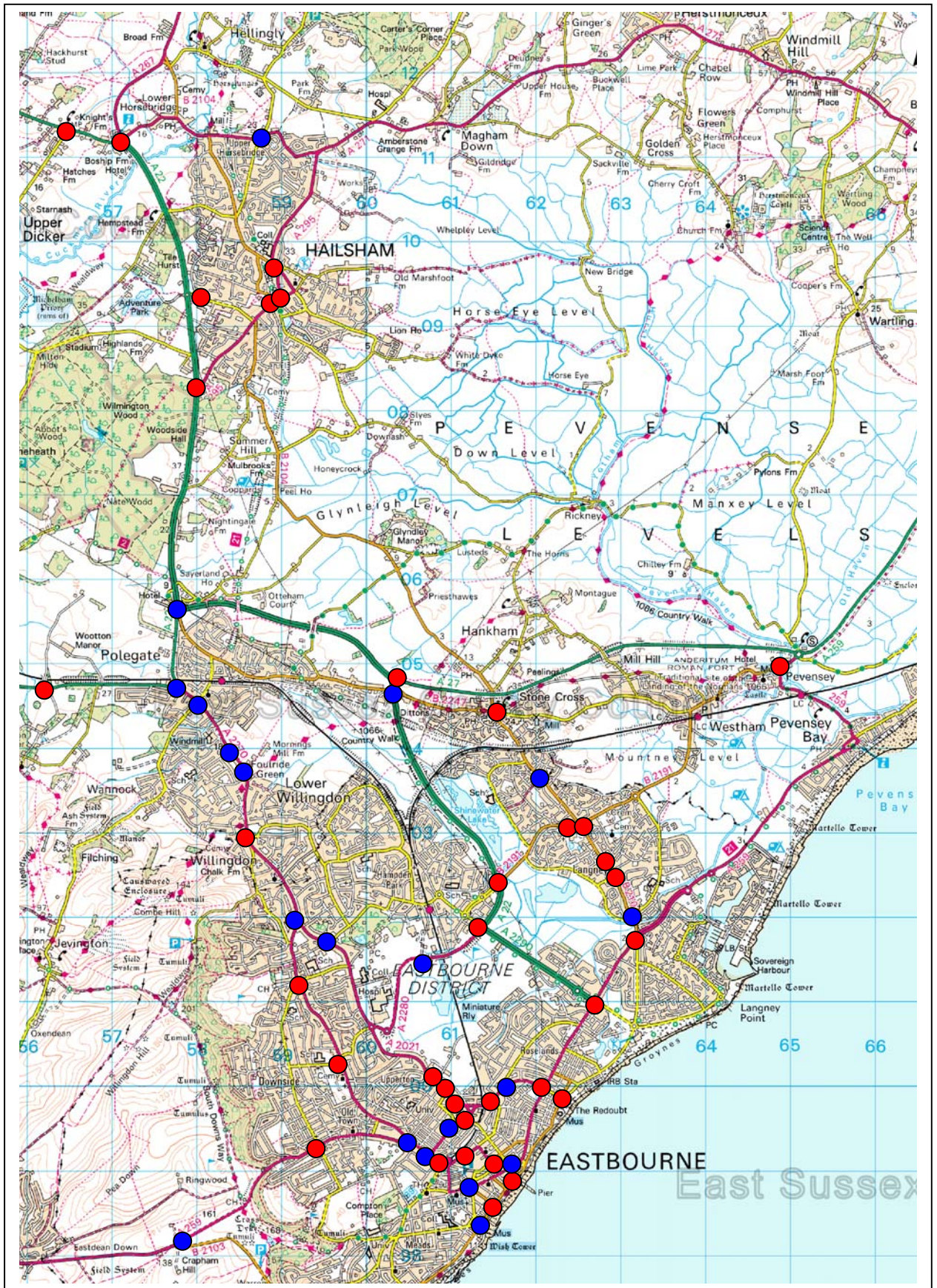


**2026 SCENARIO 1 Transport Intervention 1 -10%  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



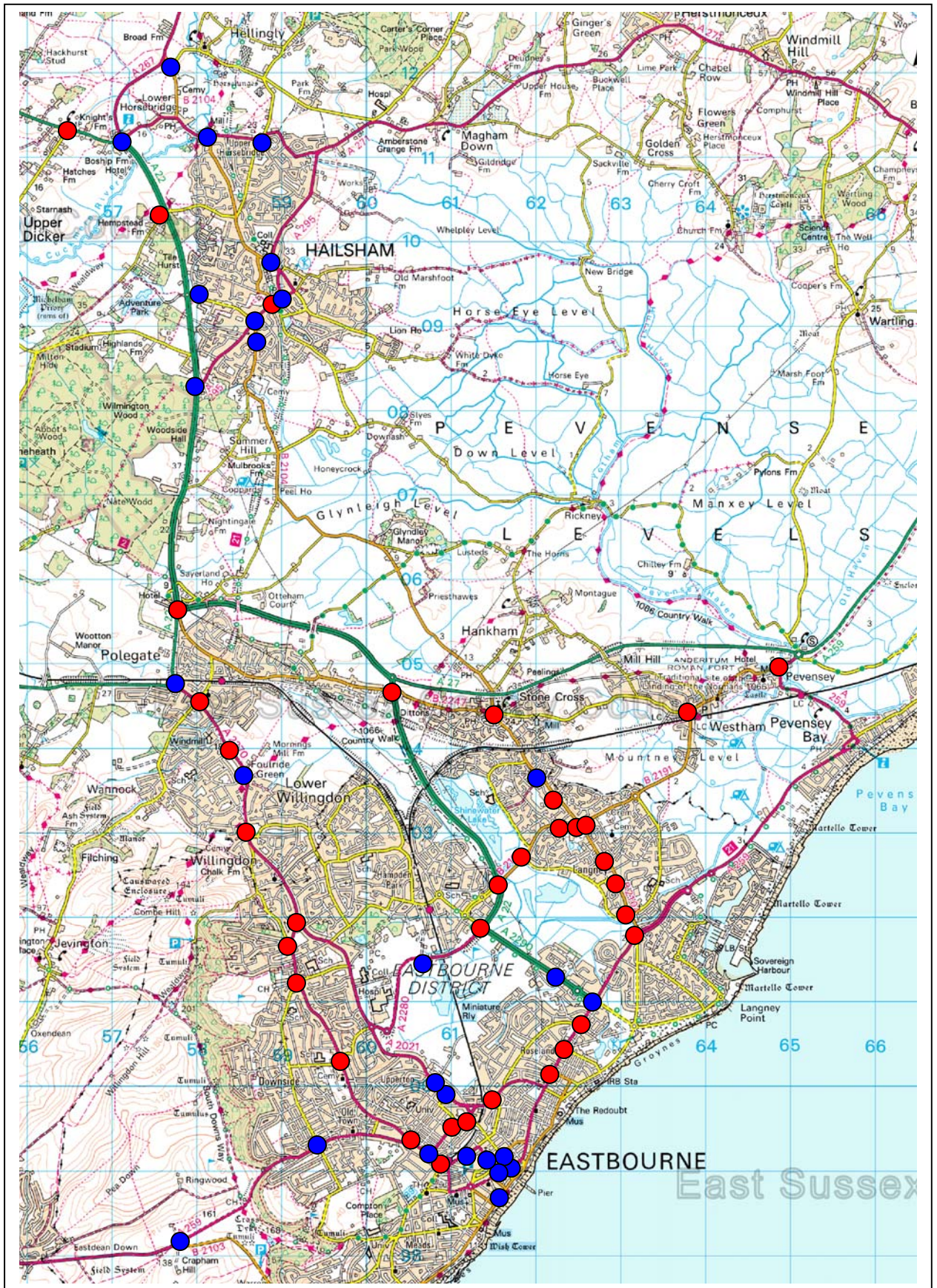


**2026 SCENARIO 1 No Transport Intervention  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



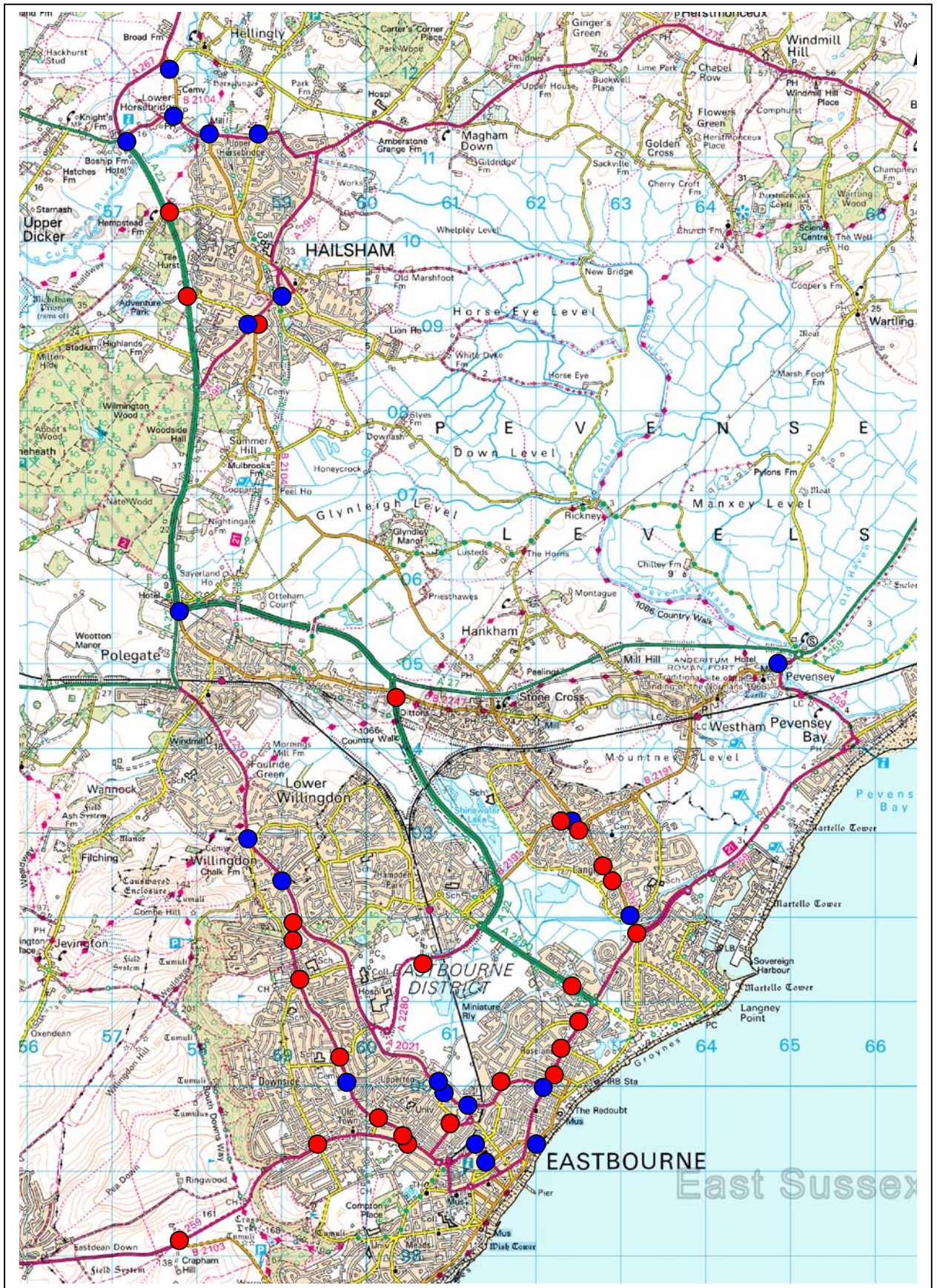


**2026 SCENARIO 1 No Transport Intervention  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



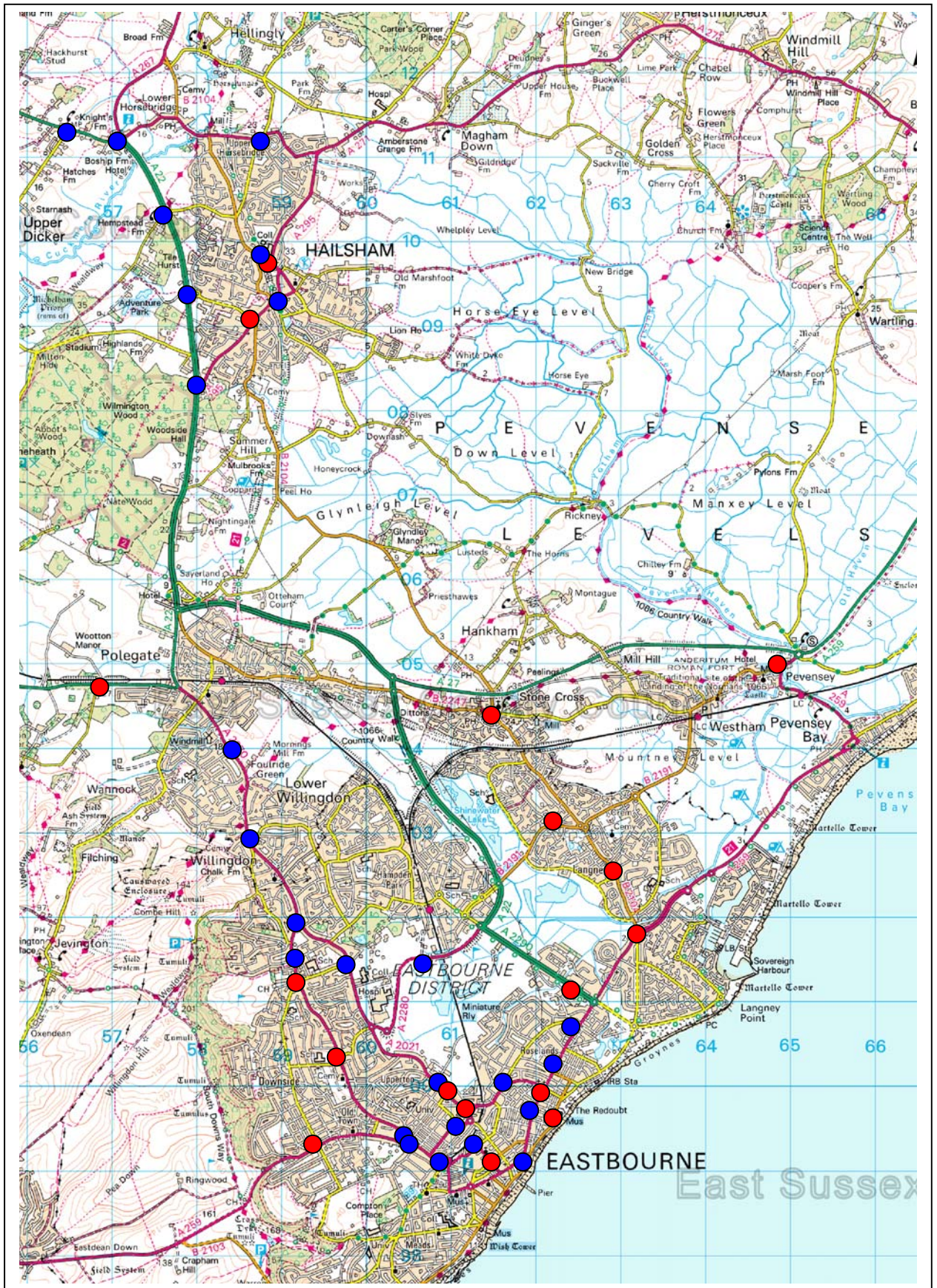


**2026 SCENARIO 1 Transport Intervention 1  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



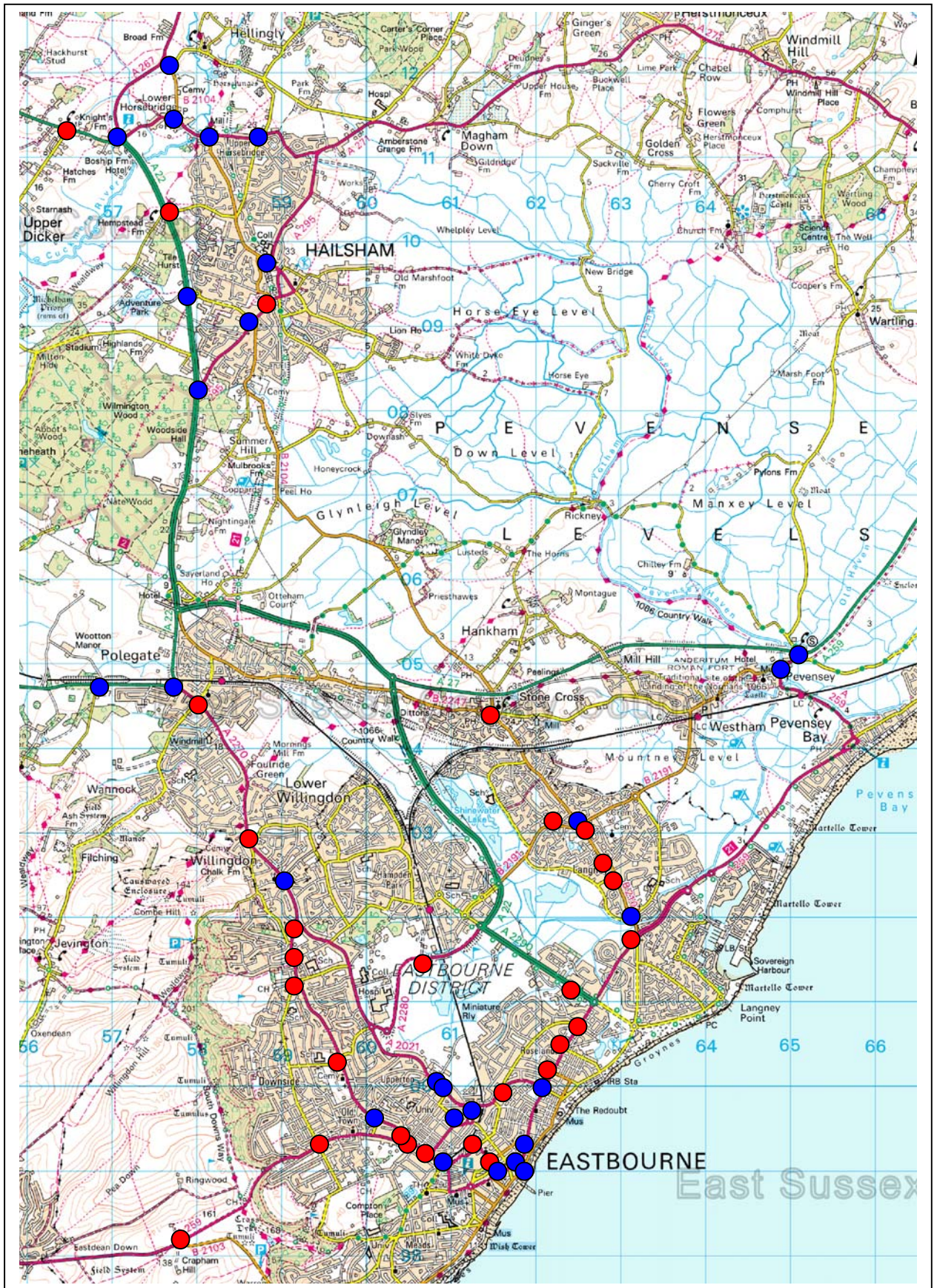


**2026 SCENARIO 1 Transport Intervention 1  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



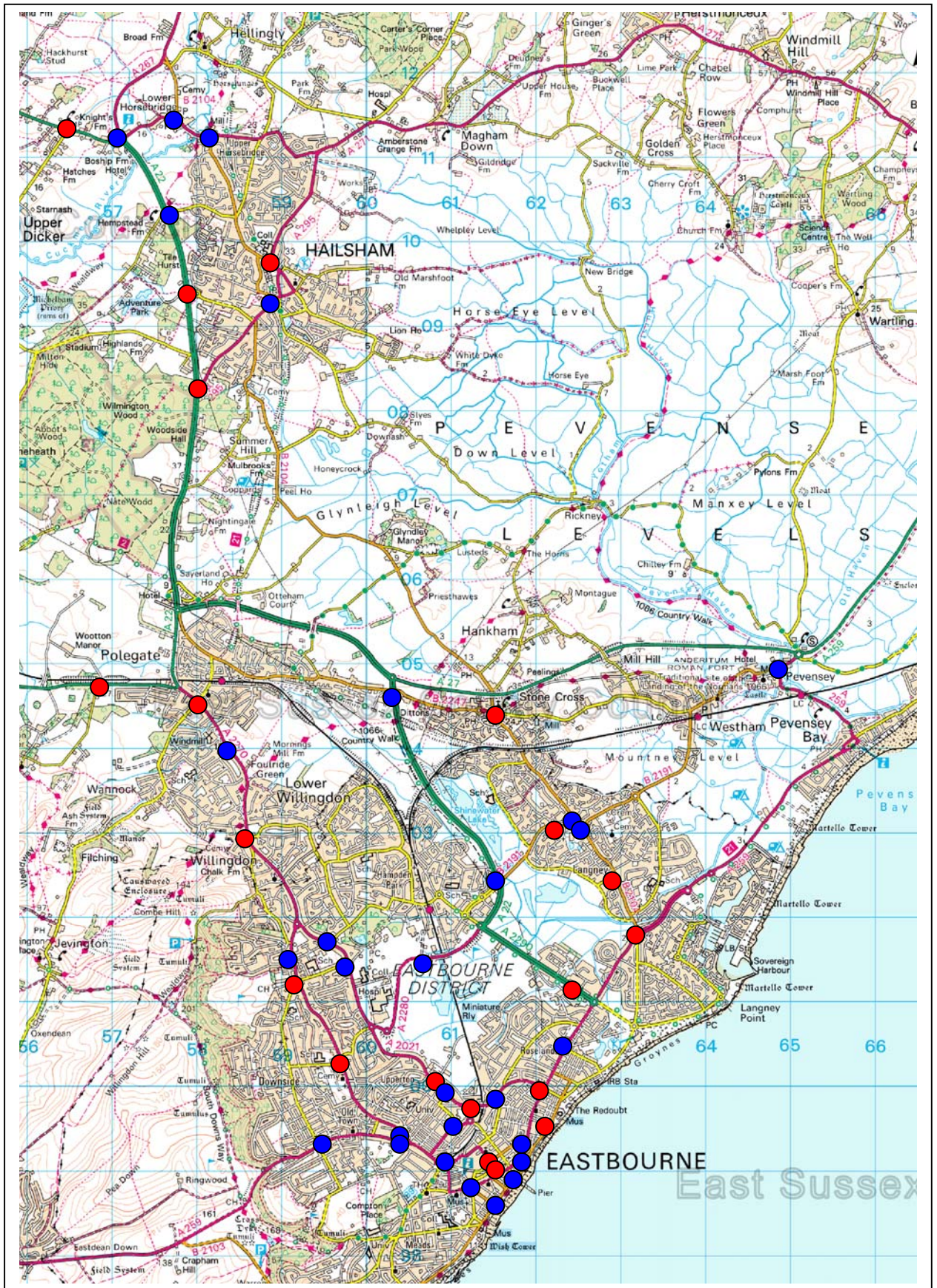


**2026 SCENARIO 1 Transport Intervention 2  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



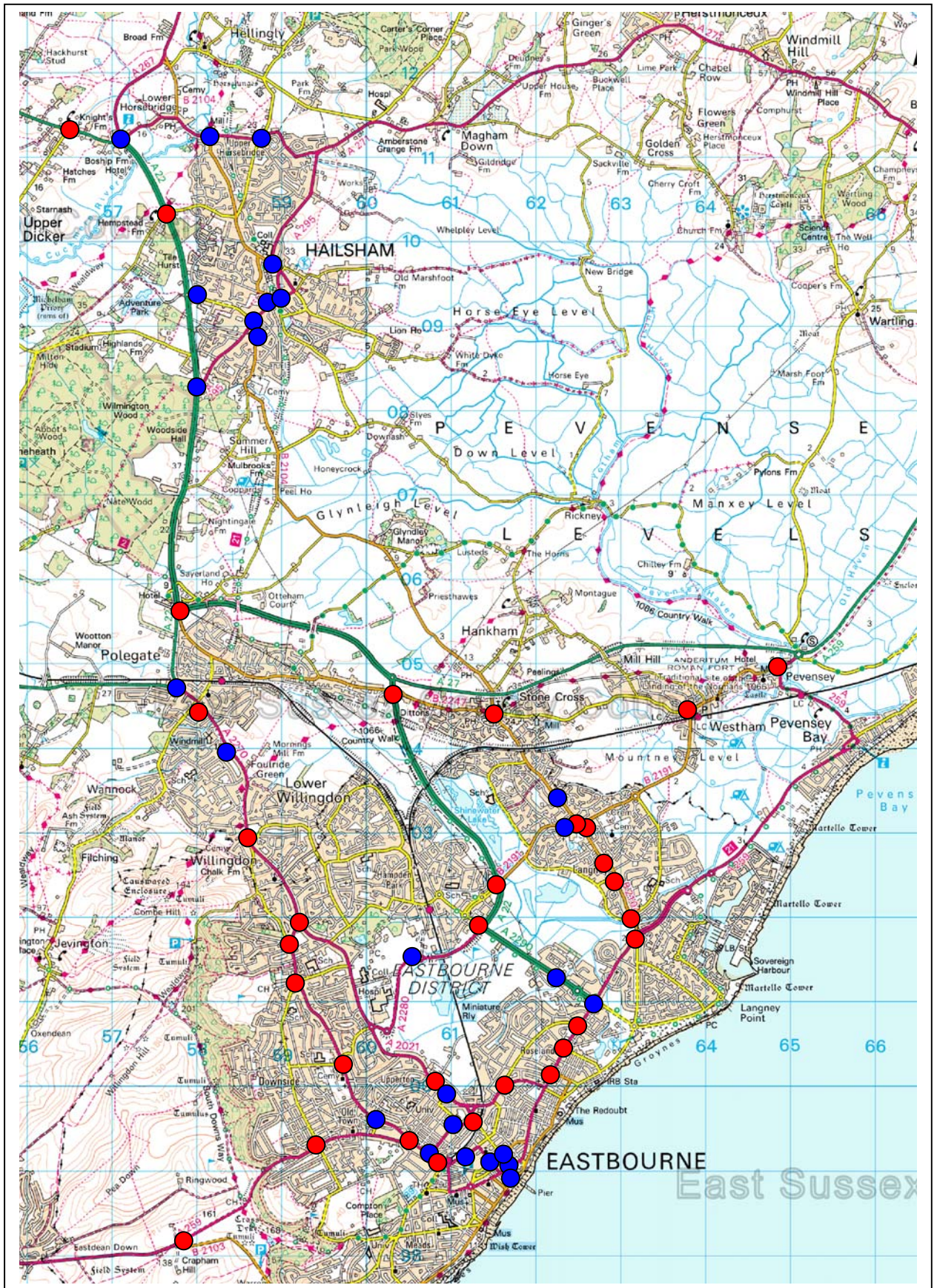


**2026 SCENARIO 1 Transport Intervention 2  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



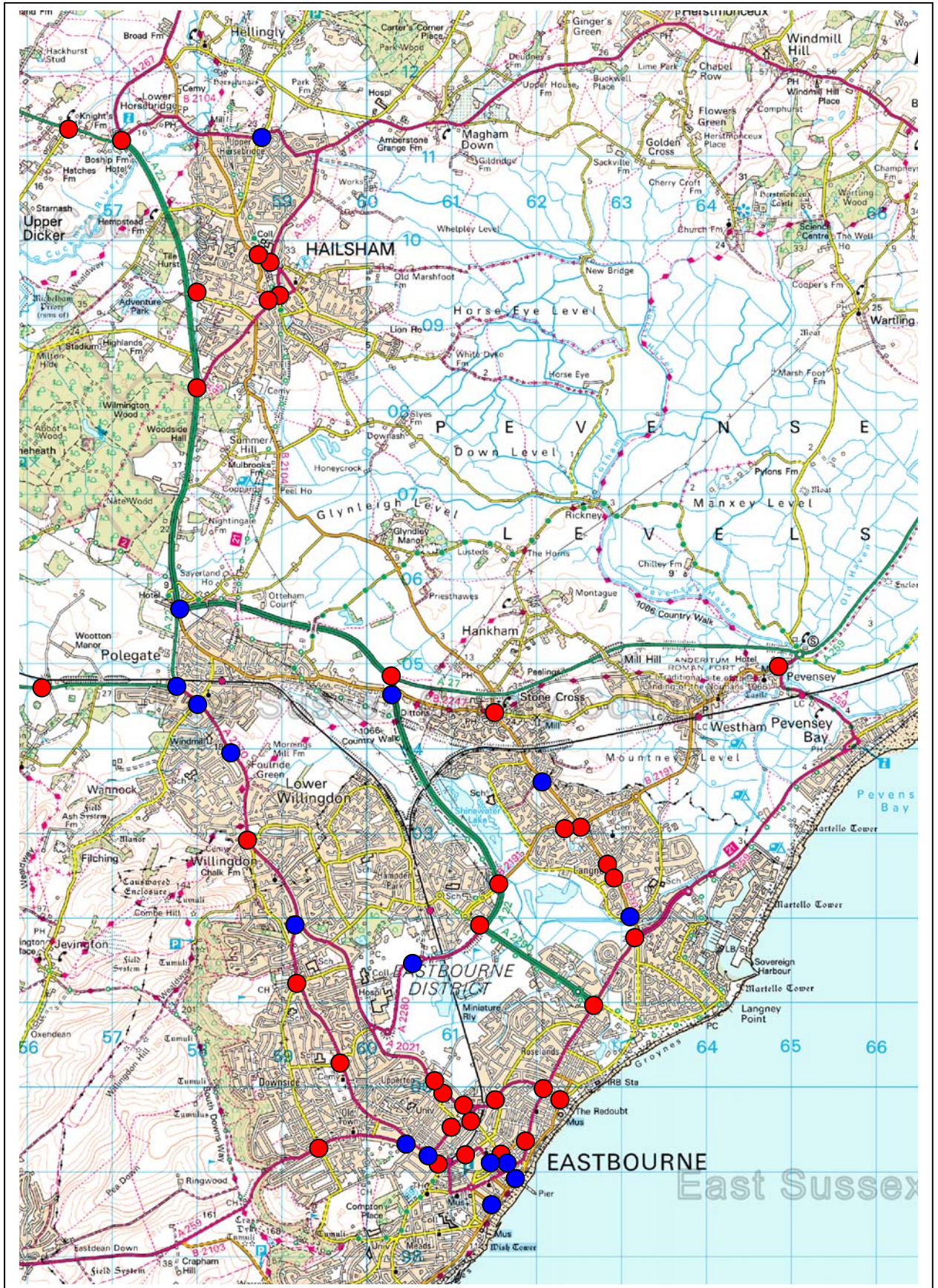


**2026 SCENARIO 6 No Transport Intervention  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



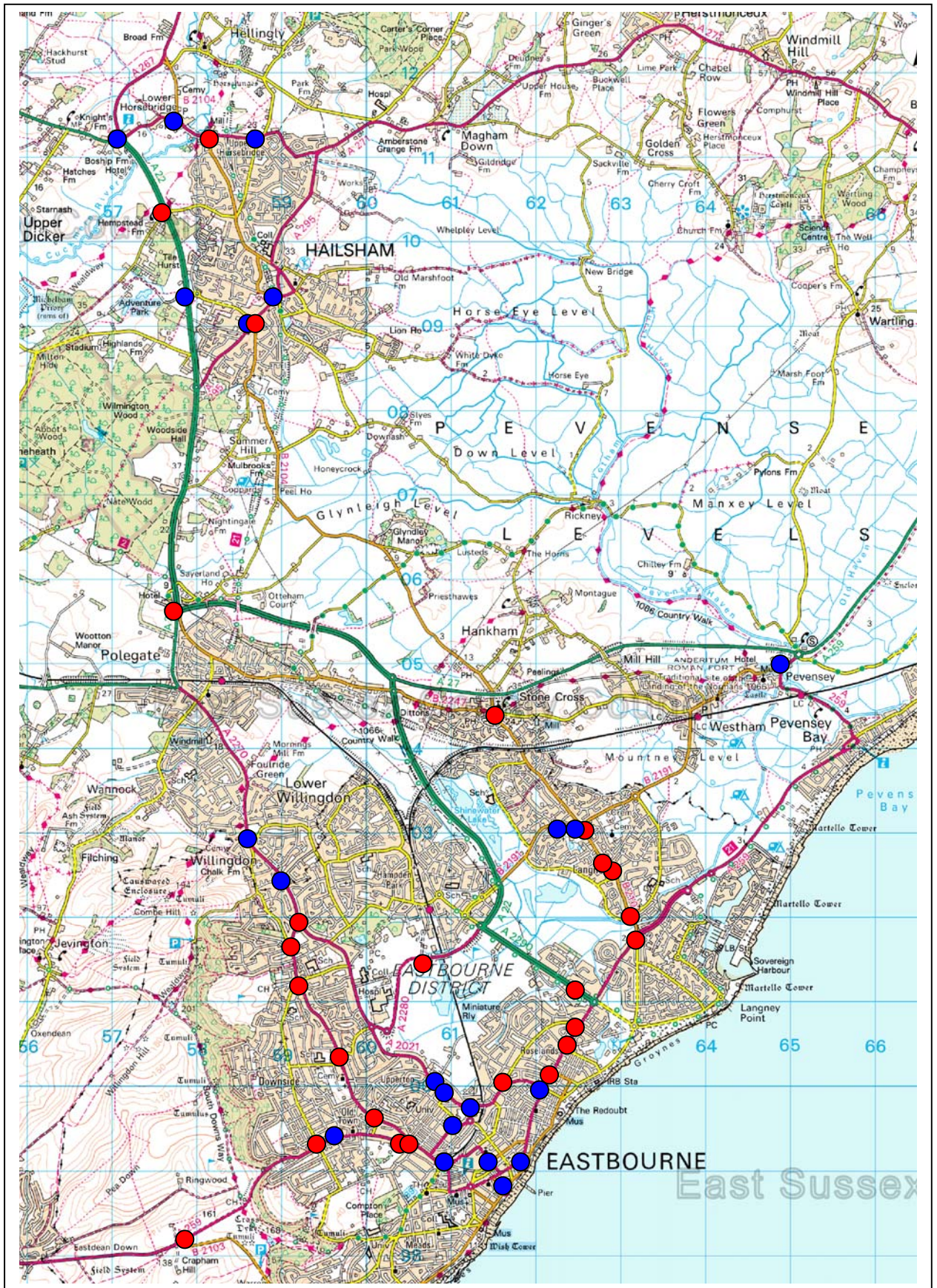


**2026 SCENARIO 6 No Transport Intervention  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



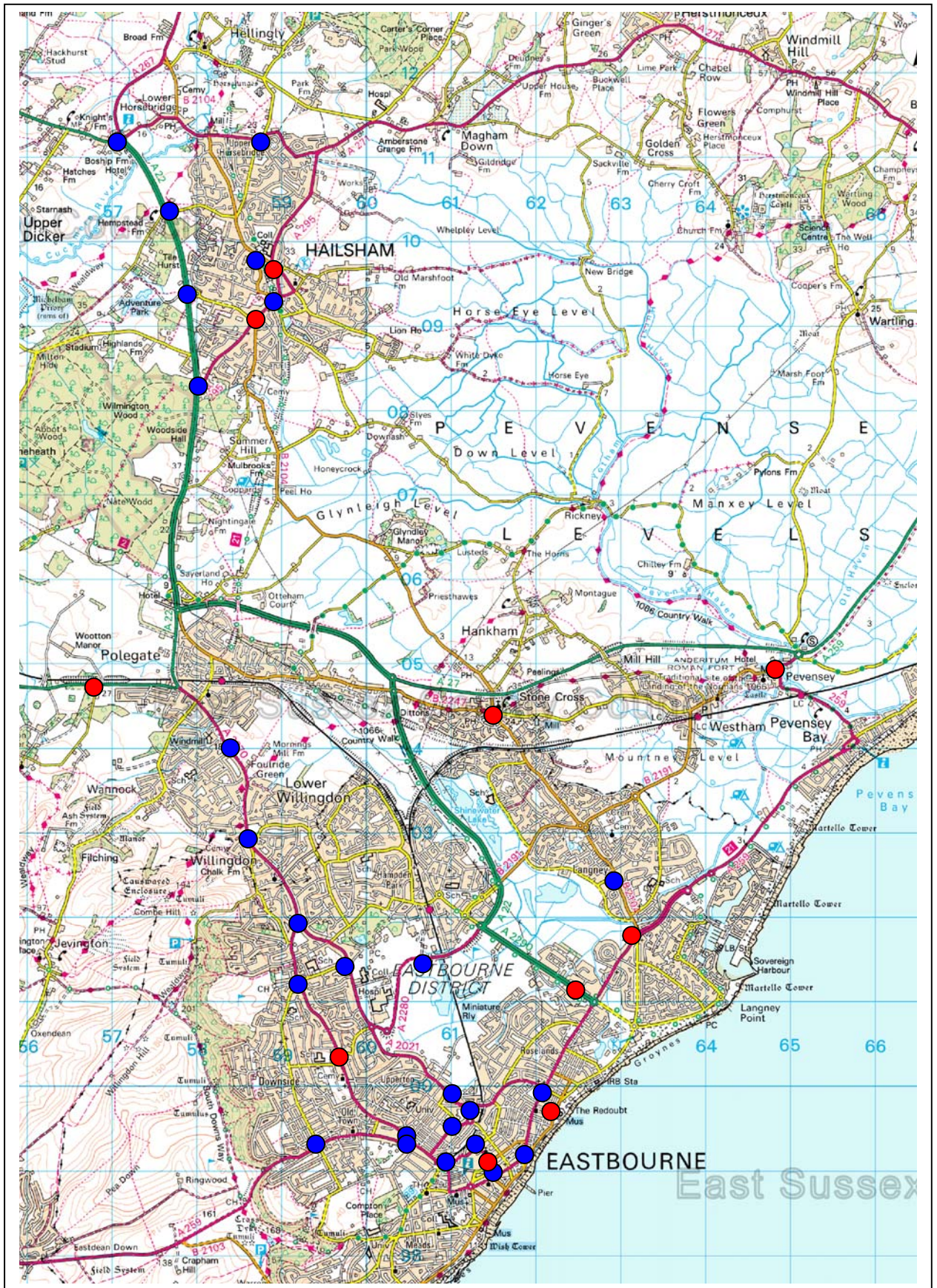


**2026 SCENARIO 6 Transport Intervention 1  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



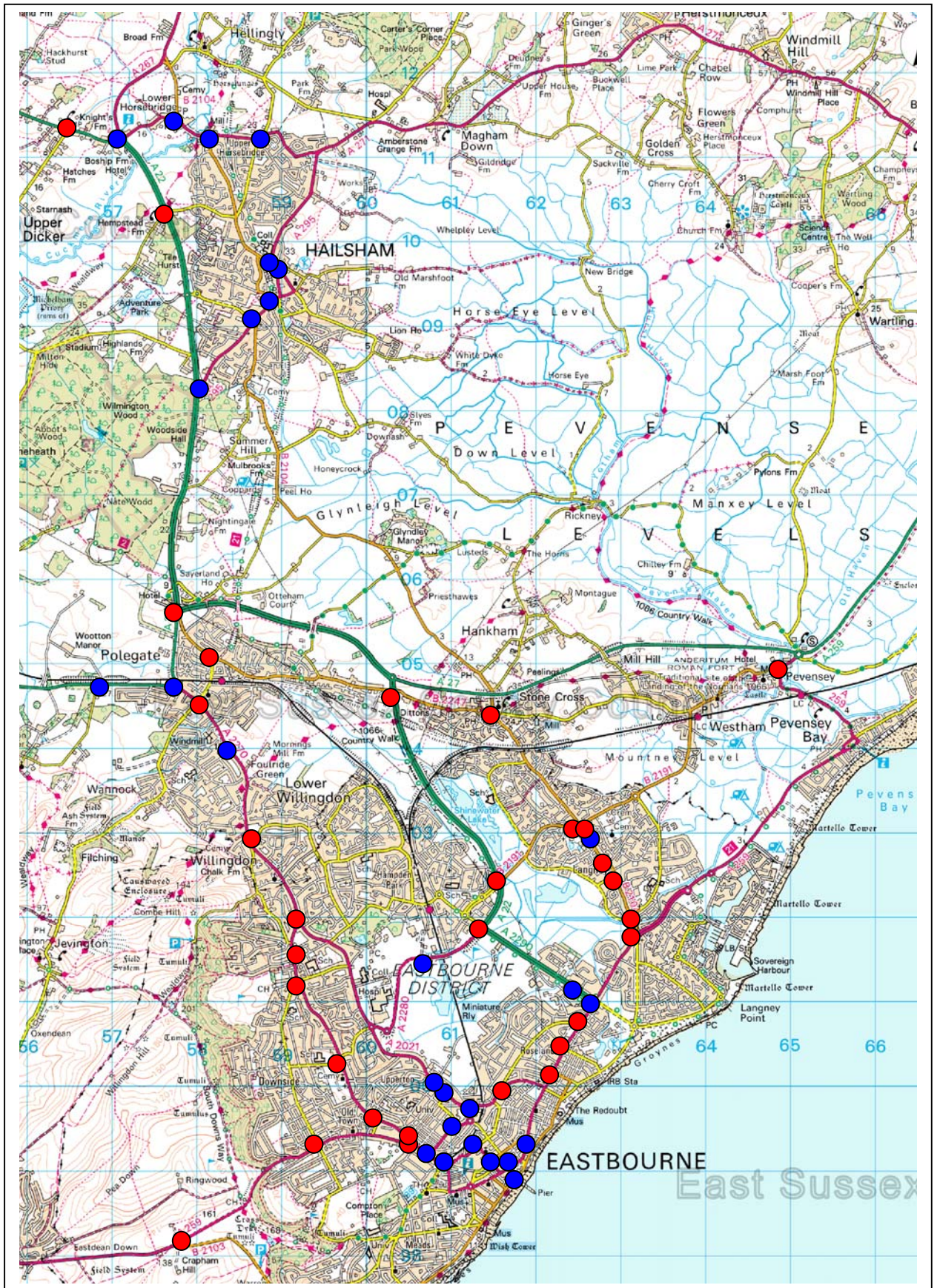


**2026 SCENARIO 6 Transport Intervention 1  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



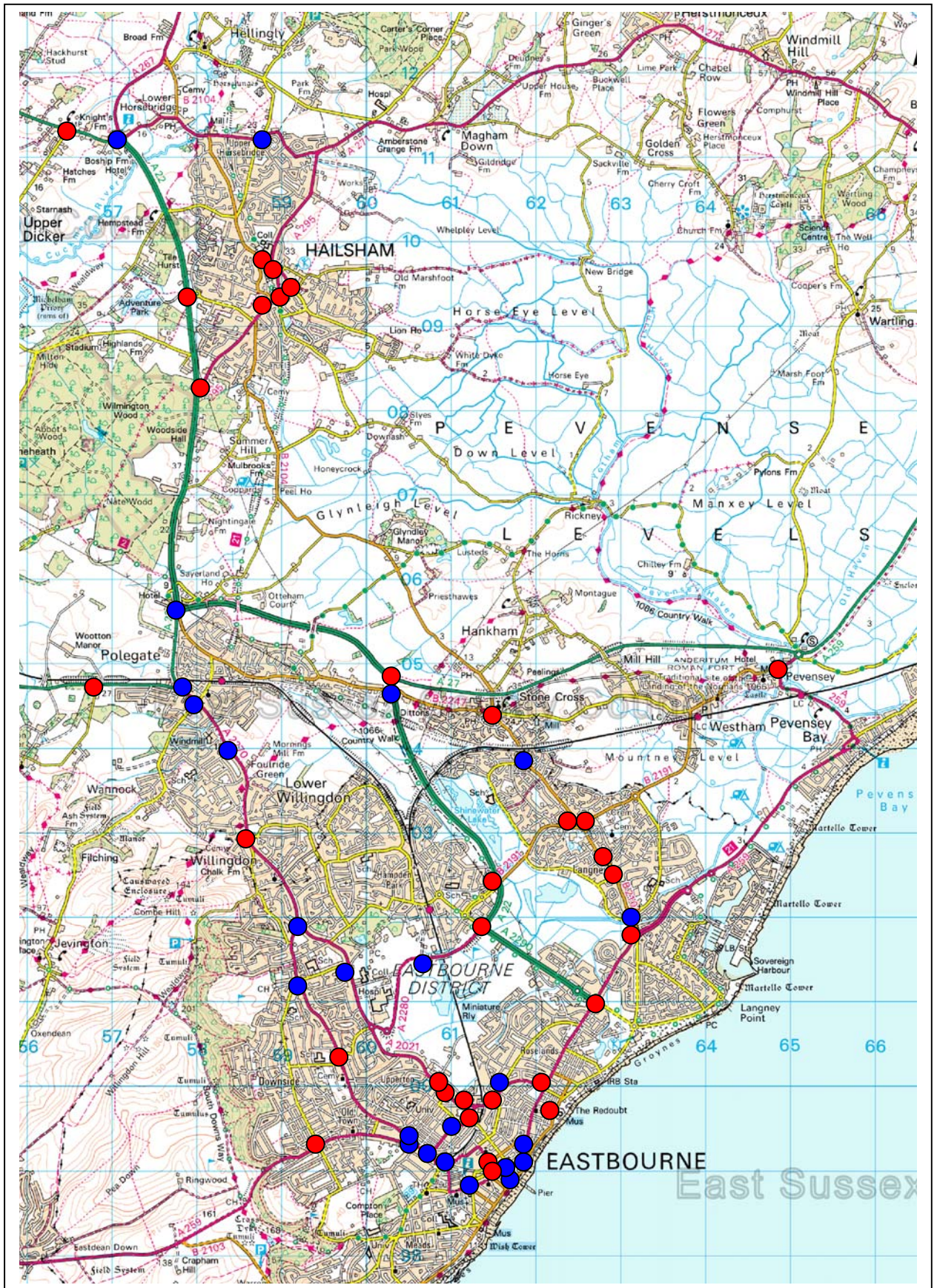


**2026 SCENARIO 10 No Transport Intervention  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



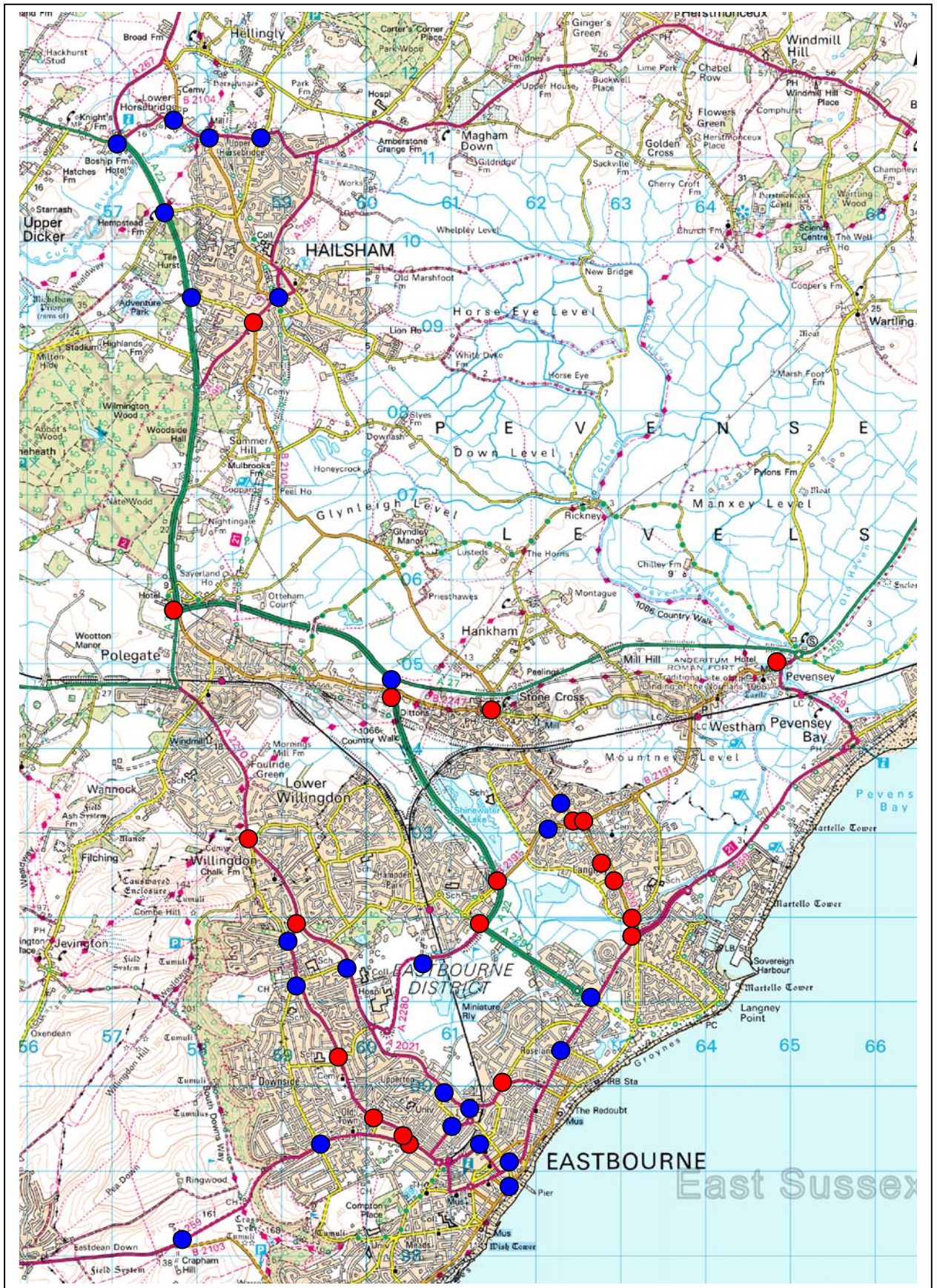


**2026 SCENARIO 10 No Transport Intervention  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



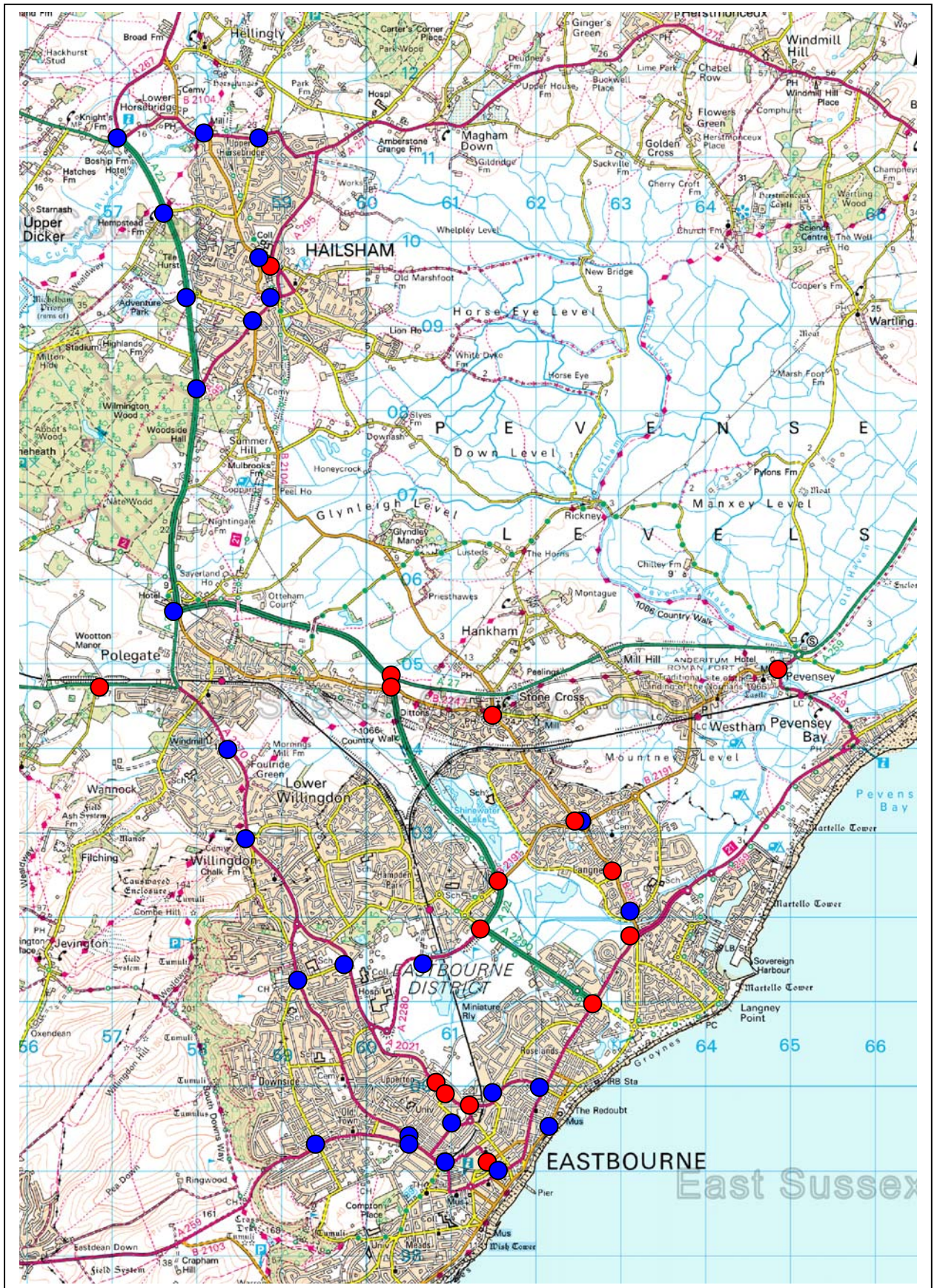


**2026 SCENARIO 10 Transport Intervention 3  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



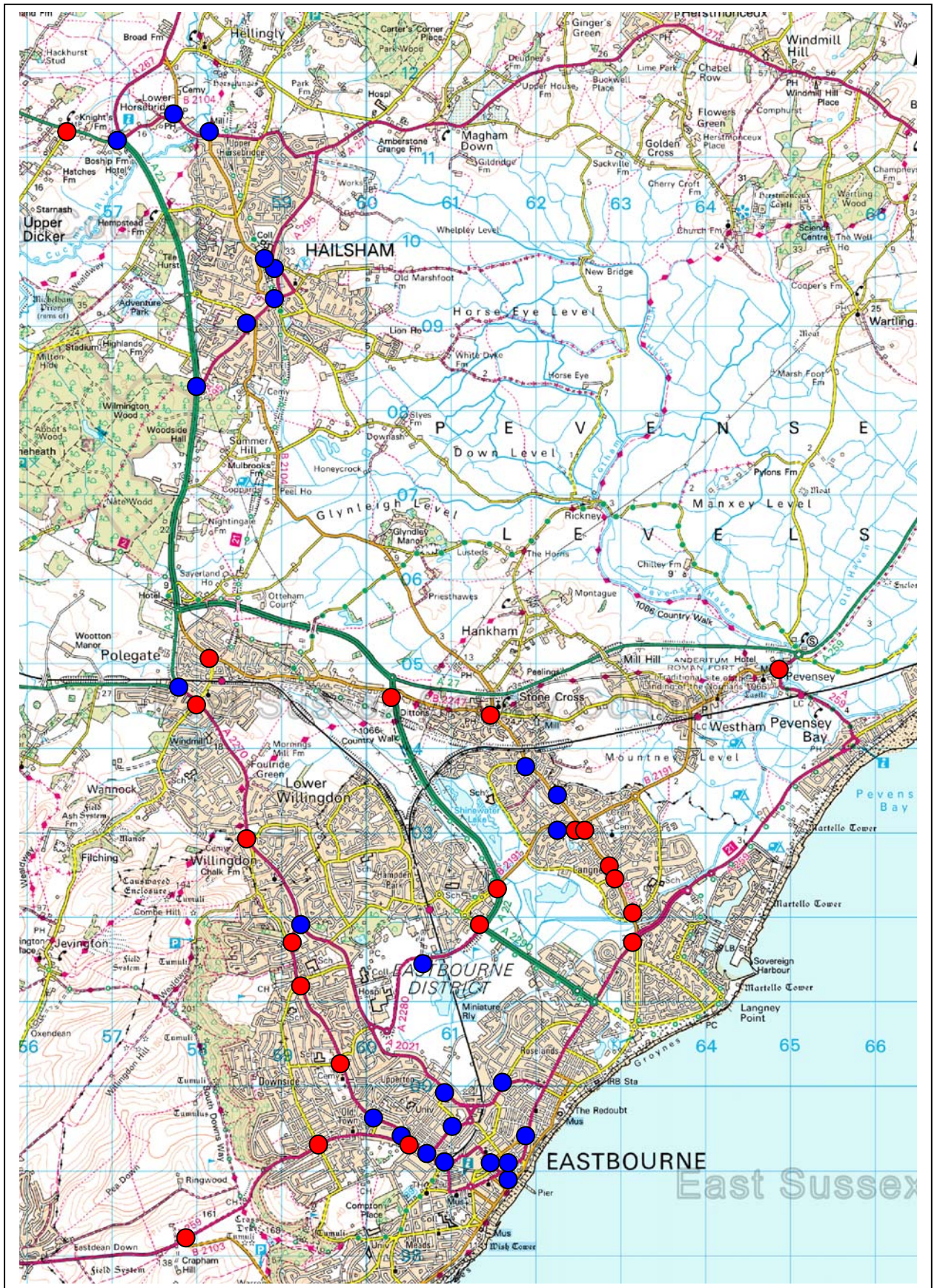


**2026 SCENARIO 10 Transport Intervention 3  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



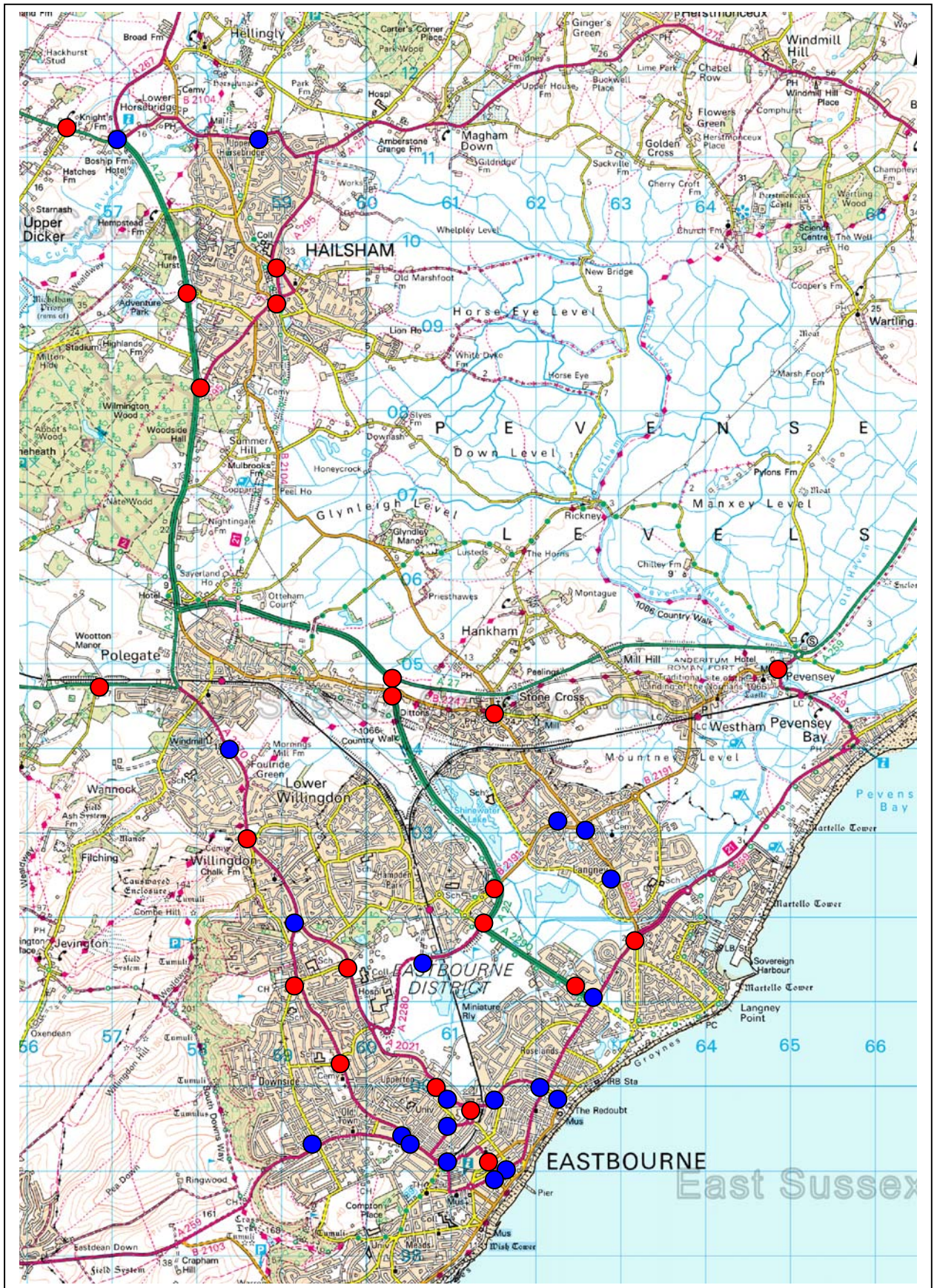


**2026 SCENARIO 10 Transport Intervention 4  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



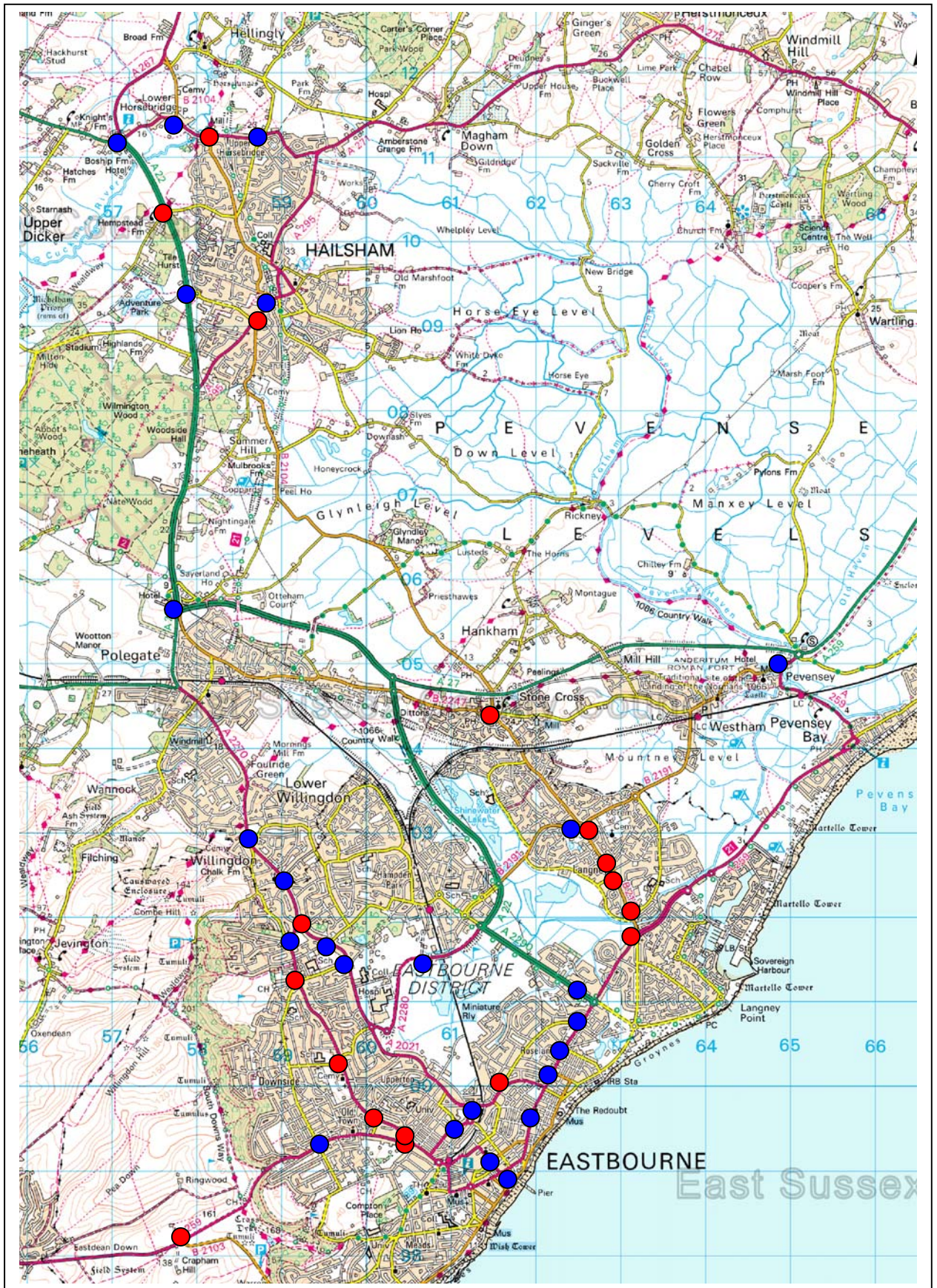


**2026 SCENARIO 10 Transport Intervention 4  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%



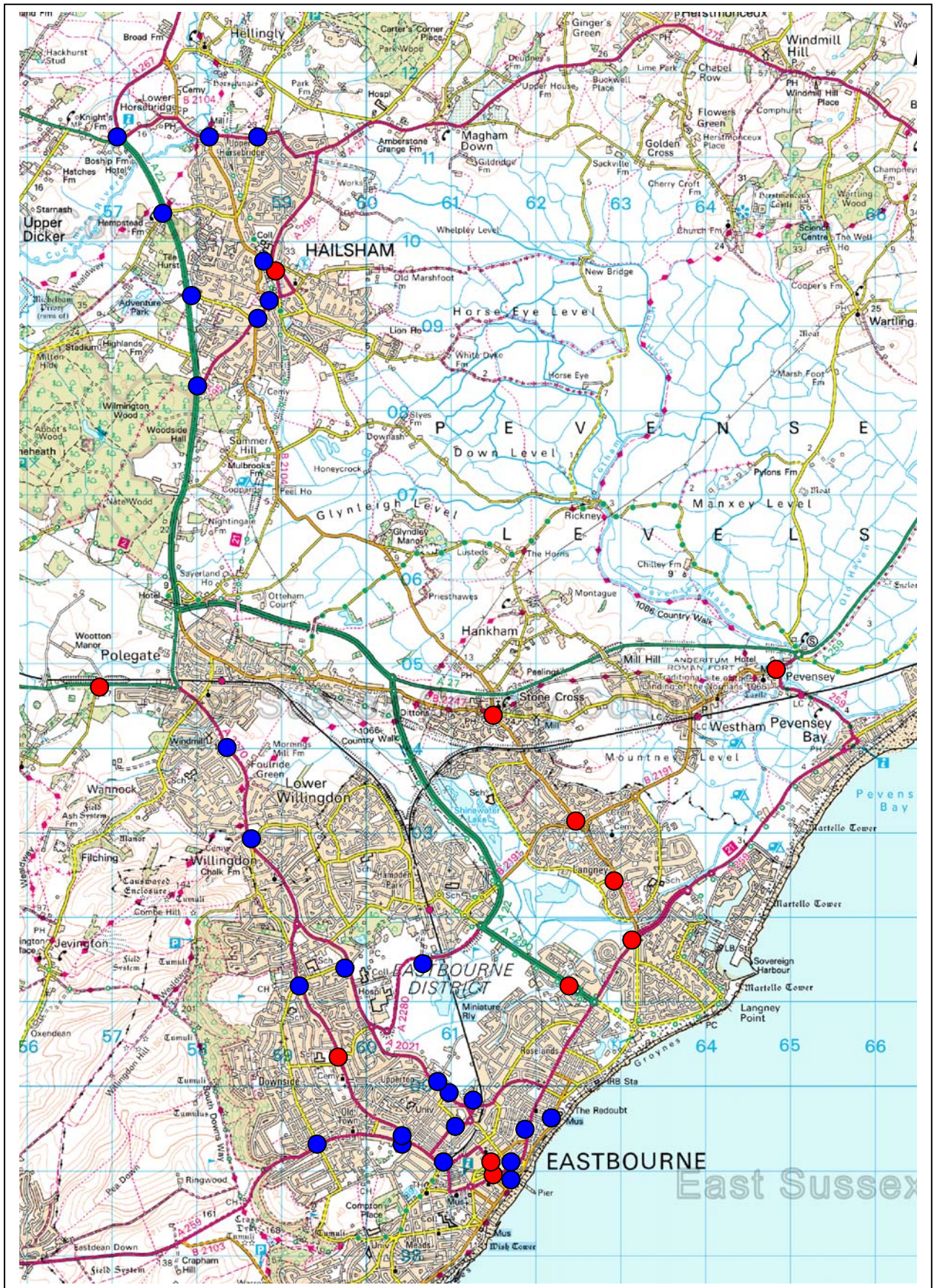


**2026 SCENARIO 10 Transport Intervention 5  
AM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%





**2026 SCENARIO 10 Transport Intervention 5  
PM PEAK**

Ratio flow:capacity on any arm of junction

- 85% to 100%
- >100%

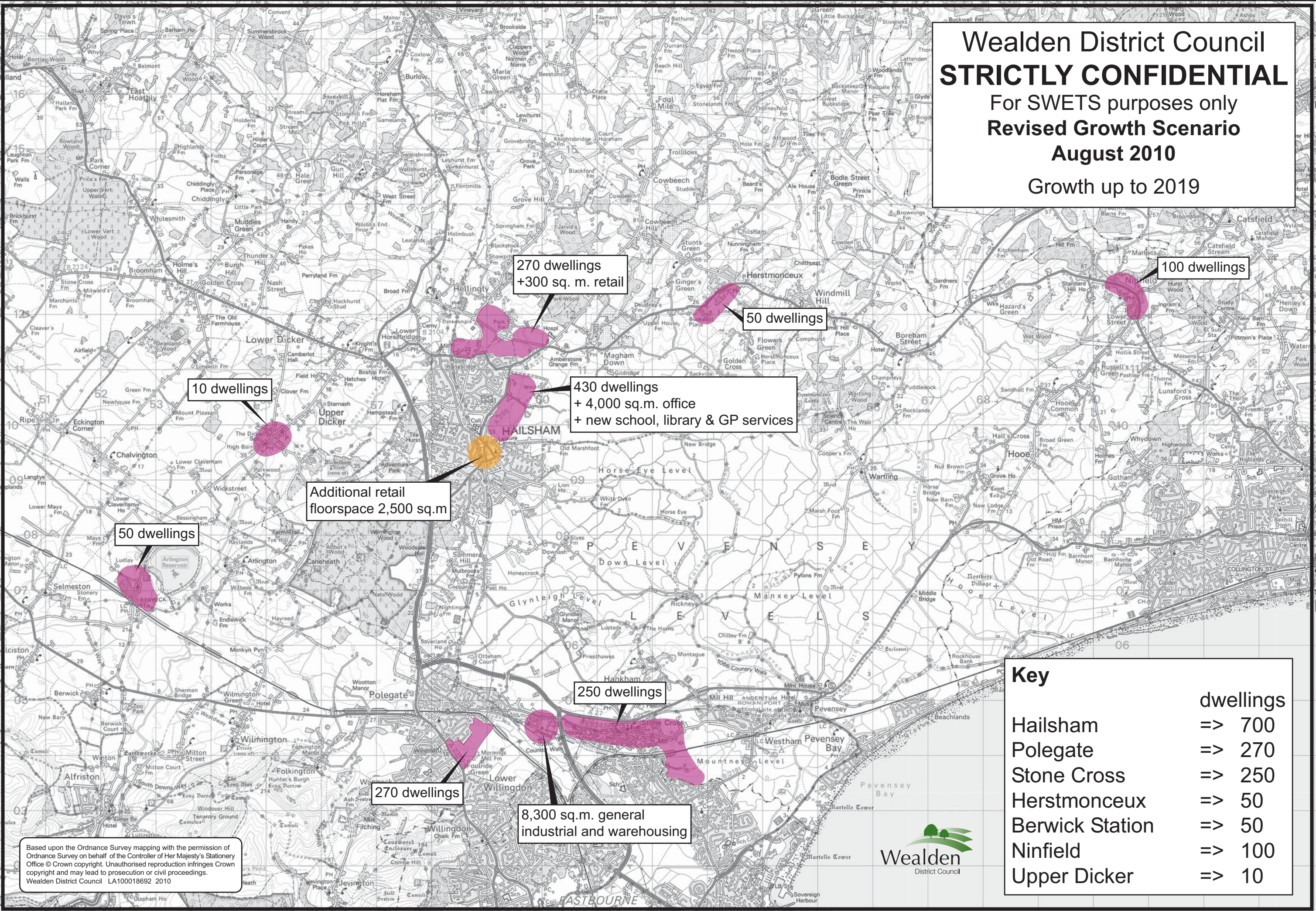
**South Wealden and Eastbourne Transport Study (SWETS) November  
2010**

**APPENDIX 8**

**THE SPATIAL DISTRIBUTION AND QUANTUM OF GROWTH FOR BOTH  
EASTBOURNE AND WEALDEN**



Wealden District Council  
**STRICTLY CONFIDENTIAL**  
 For SWETS purposes only  
**Revised Growth Scenario**  
**August 2010**  
 Growth up to 2019



270 dwellings  
+300 sq. m. retail

100 dwellings

50 dwellings

430 dwellings  
+ 4,000 sq.m. office  
+ new school, library & GP services

10 dwellings

Additional retail  
floorspace 2,500 sq.m

50 dwellings

250 dwellings

270 dwellings

8,300 sq.m. general  
industrial and warehousing

**Key**

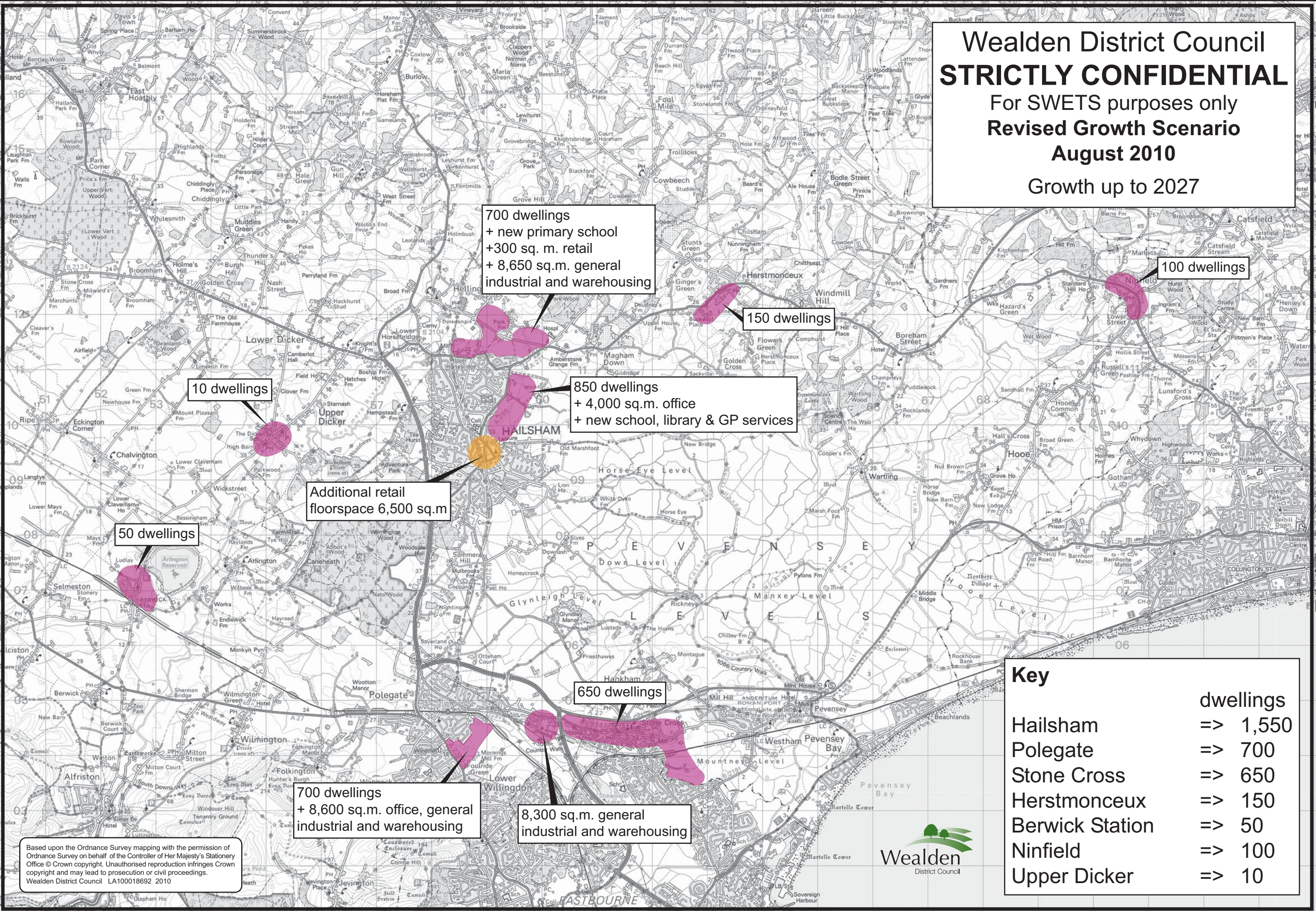
Location	dwellings
Hailsham	=> 700
Polegate	=> 270
Stone Cross	=> 250
Herstmonceux	=> 50
Berwick Station	=> 50
Ninfield	=> 100
Upper Dicker	=> 10

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 Wealden District Council LA100018692 2010





Wealden District Council  
**STRICTLY CONFIDENTIAL**  
 For SWETS purposes only  
**Revised Growth Scenario**  
**August 2010**  
 Growth up to 2027



700 dwellings  
 + new primary school  
 +300 sq. m. retail  
 + 8,650 sq.m. general  
 industrial and warehousing

100 dwellings

150 dwellings

850 dwellings  
 + 4,000 sq.m. office  
 + new school, library & GP services

10 dwellings

Additional retail  
 floorspace 6,500 sq.m

50 dwellings

650 dwellings

700 dwellings  
 + 8,600 sq.m. office, general  
 industrial and warehousing

8,300 sq.m. general  
 industrial and warehousing

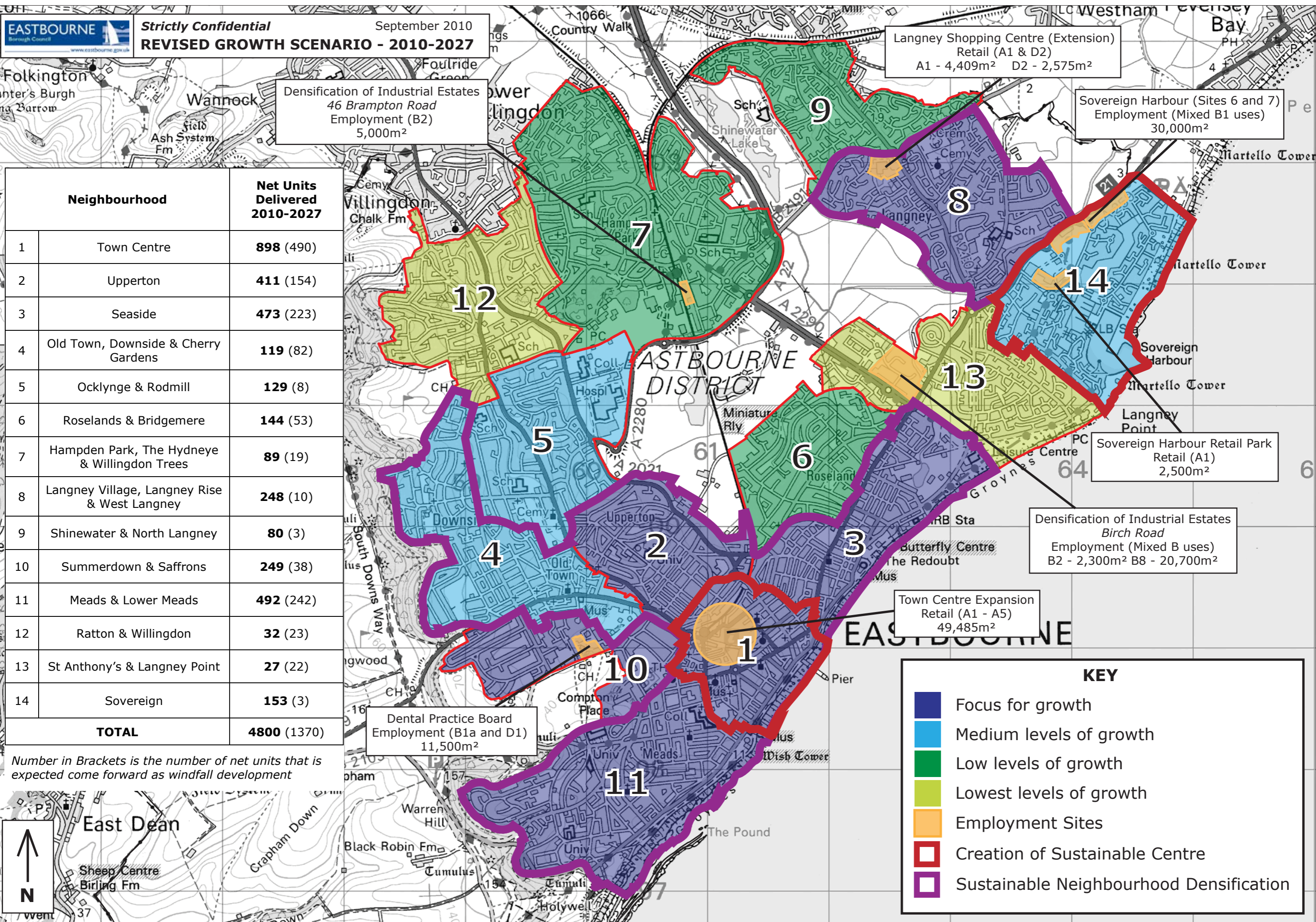
**Key**

dwellings	=>	1,550
Hailsham	=>	700
Polegate	=>	650
Stone Cross	=>	150
Herstmonceux	=>	50
Berwick Station	=>	100
Ninfield	=>	10
Upper Dicker	=>	10

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Neighbourhood		Net Units Delivered 2010-2027
1	Town Centre	898 (490)
2	Upperton	411 (154)
3	Seaside	473 (223)
4	Old Town, Downside & Cherry Gardens	119 (82)
5	Ocklynge & Rodmill	129 (8)
6	Roselands & Bridgemere	144 (53)
7	Hampden Park, The Hydneye & Willingdon Trees	89 (19)
8	Langney Village, Langney Rise & West Langney	248 (10)
9	Shinewater & North Langney	80 (3)
10	Summerdown & Saffrons	249 (38)
11	Meads & Lower Meads	492 (242)
12	Ratton & Willingdon	32 (23)
13	St Anthony's & Langney Point	27 (22)
14	Sovereign	153 (3)
<b>TOTAL</b>		<b>4800 (1370)</b>

Number in Brackets is the number of net units that is expected come forward as windfall development



Langney Shopping Centre (Extension)  
Retail (A1 & D2)  
A1 - 4,409m<sup>2</sup> D2 - 2,575m<sup>2</sup>

Sovereign Harbour (Sites 6 and 7)  
Employment (Mixed B1 uses)  
30,000m<sup>2</sup>

Densification of Industrial Estates  
46 Brampton Road  
Employment (B2)  
5,000m<sup>2</sup>

Sovereign Harbour Retail Park  
Retail (A1)  
2,500m<sup>2</sup>

Densification of Industrial Estates  
Birch Road  
Employment (Mixed B uses)  
B2 - 2,300m<sup>2</sup> B8 - 20,700m<sup>2</sup>

Town Centre Expansion  
Retail (A1 - A5)  
49,485m<sup>2</sup>

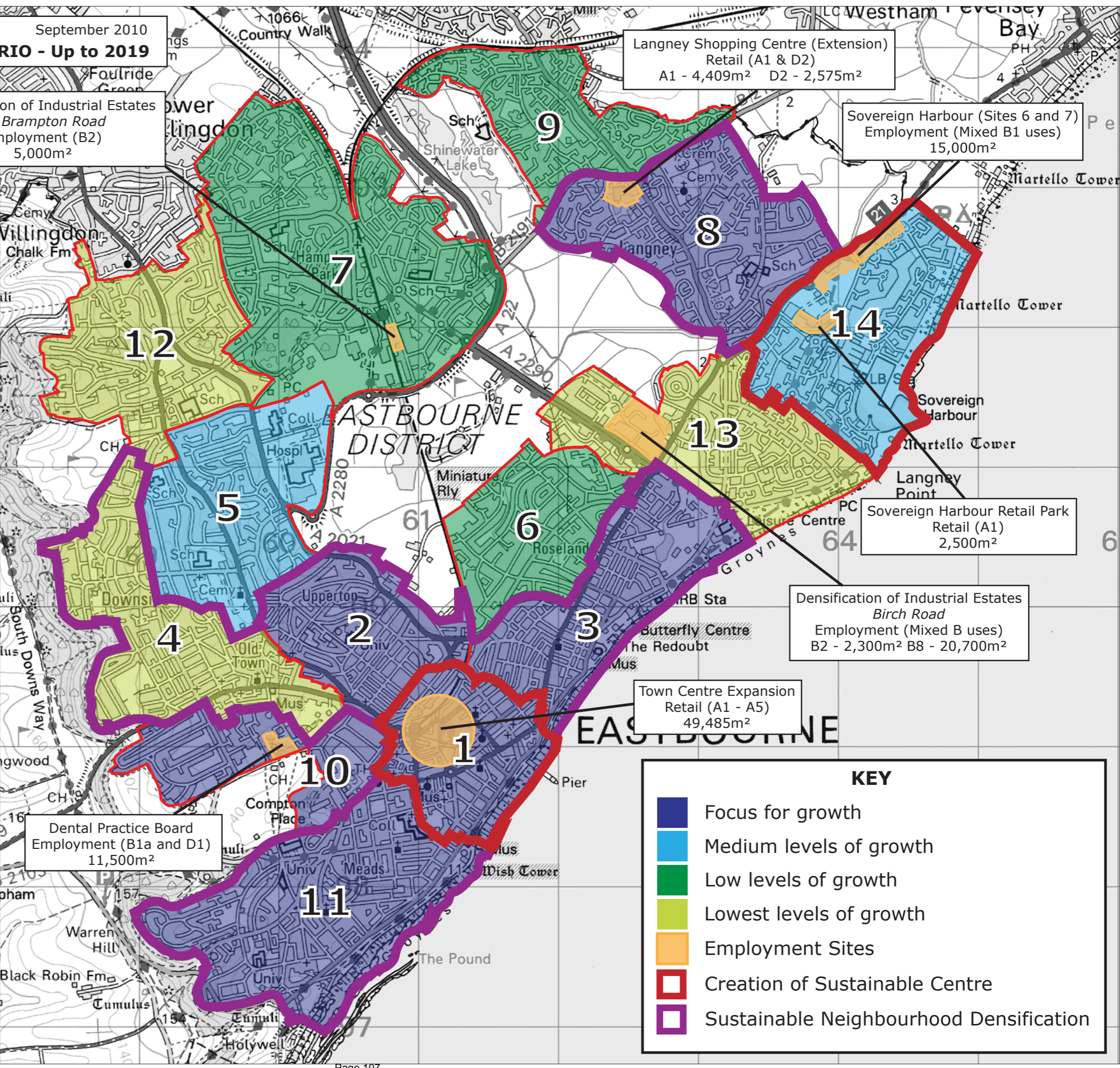
Dental Practice Board  
Employment (B1a and D1)  
11,500m<sup>2</sup>

**KEY**

- Focus for growth
- Medium levels of growth
- Low levels of growth
- Lowest levels of growth
- Employment Sites
- Creation of Sustainable Centre
- Sustainable Neighbourhood Densification



Neighbourhood		Net Units Delivered 2010-2019
1	Town Centre	394
2	Upperton	257
3	Seaside	250
4	Old Town, Downside & Cherry Gardens	37
5	Ocklynge & Rodmill	121
6	Roselands & Bridgemere	91
7	Hampden Park, The Hydneye & Willingdon Trees	55
8	Langney Village, Langney Rise & West Langney	211
9	Shinewater & North Langney	69
10	Summerdown & Saffrons	205
11	Meads & Lower Meads	230
12	Ratton & Willingdon	7
13	St Anthony's & Langney Point	4
14	Sovereign	150
<b>TOTAL</b>		<b>2081</b>



Langney Shopping Centre (Extension)  
Retail (A1 & D2)  
A1 - 4,409m<sup>2</sup> D2 - 2,575m<sup>2</sup>

Sovereign Harbour (Sites 6 and 7)  
Employment (Mixed B1 uses)  
15,000m<sup>2</sup>

Densification of Industrial Estates  
46 Brampton Road  
Employment (B2)  
5,000m<sup>2</sup>

Sovereign Harbour Retail Park  
Retail (A1)  
2,500m<sup>2</sup>

Densification of Industrial Estates  
Birch Road  
Employment (Mixed B uses)  
B2 - 2,300m<sup>2</sup> B8 - 20,700m<sup>2</sup>

Town Centre Expansion  
Retail (A1 - A5)  
49,485m<sup>2</sup>

Dental Practice Board  
Employment (B1a and D1)  
11,500m<sup>2</sup>

**KEY**

- Focus for growth
- Medium levels of growth
- Low levels of growth
- Lowest levels of growth
- Employment Sites
- Creation of Sustainable Centre
- Sustainable Neighbourhood Densification

