

A5 SN5: Transport - Summary Note

Key Evidence Base Documents

Ref.	Document	Date Published
EP41	Mid Sussex Transport Study – Stage 3 Report	December 2016
BP17(i)	Highways England – Statement of Common Ground	December 2016
BP17(ii)	West Sussex County Council (Highways) – Statement of Common Ground	January 2017

Summary

- A5.1 The Council has worked closely with stakeholders to produce an evidence base that robustly assesses the likely impacts of the development proposed in the District Plan on the strategic and local transport network; and identify feasible and deliverable measures to remedy locations where a severe impact is identified as a result of this development.
- A5.2 Providing the proposed remedial schemes are introduced, the evidence base demonstrates that the District Plan would not worsen the performance of the highway transport network, relative to the Reference Development Case; and would not have an adverse impact upon traffic flows in the Ashdown Forest.

Background

- A.5.3 The Mid Sussex Transport Study - Stage 3 was commissioned April 2015 to report on the likely transport impacts of the Pre-Submission District Plan (June 2015). Because of the timing of commissioning, it was not possible to examine the transport implications of the later Focused Amendments to the Pre-Submission Draft District Plan, published November 2015 - expressly an increase to the District Plan housing provision and the inclusion of a strategic development for 600 homes to the east of Pease Pottage.
- A5.4 A Stage 3 Interim Study reporting on the Pre-Submission District Plan without the Focused Amendments was published November 2015 noting the need for further transport work. Due to an industrywide shortfall in consultant capacity, it did not commence until February 2016.
- A5.5 The brief for the further Stage 3 work was circulated to Crawley Borough and Horsham District Councils, East Sussex and West Sussex County Councils and Highways England prior to commencement. The draft findings of the further Stage 3 work was circulated to the same bodies April 2016.
- A5.6 A draft report was published May 2016 and circulated to West Sussex County Council and Highways England for a technical response. Despite working closely throughout the Study, in July 2016, Highways England raised queries about the cumulative effect of growth across Mid Sussex, as a whole, on the strategic road network, including the effects of recent consents and the allocations in adopted Neighbourhood Plans that would lead to delays of 30 seconds or more on their network, now seen as severe. Further work was agreed to establish the small number of junctions where such delay might occur and establish how such impacts might reasonably be mitigated.

- A5.7 The revised assessment criteria indicated no additional impact on the strategic road network. Highways England indicated they were satisfied with the results of the work September 2016.
- A5.8 A final draft of the Study was circulated for comment to West Sussex County Council and Highways England December 2016. Highways England subsequently signed a Statement of Common Ground. West Sussex County Council signed a Statement of Common Ground January 2017. The Statements sets out agreement that the Study is accurate and fit for purpose to test the impact of the development strategy proposed by the District Plan on the road networks in the remit of the two bodies; and that the development strategy would not have a severe residual impact subject to suggested mitigations measures proposed by the Study, agreed as feasible to deliver within an appropriate timescale.
- A5.9 The final Mid Sussex Transport Study Stage 3 Report (MSTS S3) issued January 2017 is the most recent iteration of the Mid Sussex Transport Study and is used as the transport evidence to support the submitted District Plan including the Focused Amendments (August 2016).

Overview

- A5.10 MSTS S3 examines the impact on the transport network of development proposed in the District Plan using a variant of the West Sussex County Transport Model (WSCTM).
- A5.11 The WSCTM is an AM peak-only model and the Study assessment focuses on this peak period. Likely impacts during the PM peak are assessed using a transposed AM peak, as indicative of impacts on the Strategic Road Network (SRN) but not as definitive results for the local Mid Sussex network.
- A5.12 The Study predicts the highway and passenger travel patterns associated with development by comparing proposed development scenarios against a 'Reference Case' which accounts for committed land uses, windfalls and transport changes; and committed transport schemes and specific development site access arrangements. It tests the ability of the transport network to handle these travel patterns without causing adverse impacts.
- A5.13 The proposed development scenarios tested are a 'Development Case' with development proposed by the District Plan and Neighbourhood Plans and residual development as developable sites based on the Strategic Housing Land Availability Assessment (SHLAA); an 'Alternative Development Case' with the addition of a broad location Science and Technology Park as a site specific development to the west of Burgess Hill; and a 'Sensitivity Test' that excludes the strategic development at Pease Pottage from the aforementioned scenarios with the shortfall made up from additional developable sites based on the SHLAA. All scenarios include a package of known required remedial transport interventions identified from previous work on the Study.
- A5.14 The development scenario that best accords with the District Plan as submitted is the 'Alternative Development Case' which accounts for proposed strategic development at Burgess Hill (Northern Arc) – DP9; strategic development at Pease Pottage – DP9A; SHLAA development to meet the residual housing requirement – DP5; broad location Science and Technology Park to west of Burgess Hill – DP2; proposed Neighbourhood Plan development – DP5; and accounts for windfalls – DP5.

A5.15 The model also assesses sensitive locations including testing whether the development scenarios would impact upon the local air quality (atmospheric pollution arising from increased traffic emissions as a consequence of new development) of the environmentally sensitive Ashdown Forest Special Area of Conservation to the south east of East Grinstead.

Summary of development scenarios and components used in Mid Sussex Transport Study

	Reference Case	Development Case	Alternative Development Case	Development Sensitivity Test	Alternative Development Sensitivity Test
Proposed travel demand components					
Northern Arc Strategic Development – Burgess Hill		3,500 homes/ 1,411 jobs	3,500 homes/ 1,411 jobs	3,500 homes/ 1,411 jobs	3,500 homes/ 1,411 jobs
Land East of Pease Pottage		600 homes	600 homes		
SHLAA development (proposed)		601 homes	601 homes	1,219 homes	1,219 homes
Science and Technology Park			2,500 jobs		2,500 jobs
Neighbourhood Plan development (proposed)		1,512 homes/ 2,737 jobs	1,512 homes/ 2,737 jobs	1,512 homes/ 2,737 jobs	1,512 homes/ 2,737 jobs
Windfalls	495 homes	495 homes	495 homes	495 homes	495 homes
Committed/ completed travel demand components					
Committed development (including adopted Neighbourhood Plans)	5,799 homes / 2,652 jobs	5,799 homes / 2,652 jobs	5,799 homes / 2,652 jobs	5,799 homes / 2,652 jobs	5,799 homes / 2,652 jobs
Completed development (since 2008)	4,071 homes/ 6,382 jobs	4,071 homes/ 6,382 jobs	4,071 homes/ 6,382 jobs	4,071 homes/ 6,382 jobs	4,071 homes/ 6,382 jobs
Total for each scenario	10,365 homes / 9,034 jobs	16,578 homes/ 13,182 jobs	16,578 homes/ 15,682 jobs	16,596 homes/ 13,182 jobs	16,596 homes/ 15,682 jobs

A5.16 Following discussions with Highways England and West Sussex County Council, network performance was assessed using two key measures:

- Any junction where an approach arm ratio of flow to capacity (RFC) >90% in the development scenarios and the increase in RFC is >5% compared with the reference case; and
- Any junction where an approach arm RFC is >90% in the development scenarios and the increase in average delay per vehicle is >30 seconds compared with the reference case.

A5.17 The Study highlights any areas on the network that are predicted to experience unacceptable levels of congestion. Working with Highways England and West Sussex County Council, remedial schemes were devised and assessed to achieve a 'no worse off' outcome when compared to the development case.

Findings

A5.18 The Study finds a number of highway junctions at Tables 9-12 that fail the above key performance measures. Discussions were held with Highways England and West Sussex County Council to obtain their opinion and stance on the network predictions; and where remedial action is considered desirable and achievable to achieve a 'no worse off' outcome compared to the reference case.

Junctions requiring mitigation

Strategic Road Network Junctions

A23/A2300, Hickstead (Alternative development case scenarios only – PM peak)

- Mitigation required. The identified outline measures are in the form of a signalised roundabout improvement, with free flow left slip to and carriageway widening on A2300 east, at a cost of £1.2m. The final proposals will be subject to outcomes of modelling for the A2300 business case.

Primary Road Network Junctions

A264/B2028, Copthorne (All development scenarios – AM peak)

- Mitigation required but already identified in the form of an enlarged roundabout with localised widening through committed scheme at Copthorne. Expected to cost in the order of £0.7m.

A264/A2220, Copthorne (All development scenarios except Alternative Case Sensitivity – AM peak)

- Mitigation required but already identified in the form of an enlarged roundabout with localised widening through committed scheme at Copthorne. Expected to cost in the order of £1.5m.

Other 'A' Roads

A2300/Northern Arc Spine Road, Burgess Hill (All scenarios – AM/PM peak)

- Mitigation required. The identified outline measures are in the form of a large roundabout with carriageway widening on A2300 west, at a cost of £3m. Satisfactory performance has been confirmed using a junction model.

Analysis of M23/A23 Grade Separated Junctions (layout)

A5.19 The Study also makes an assessment of the layout standard that would be required at the entry merging and exit diverging slip roads, at M23 and A23 grade separated junctions. No layout improvements were identified in the Development Case that were not also in the Reference Case. Several were identified in the Alternative Development Case but not in the Reference case and would need to be looked at further in bringing forward the Science and Technology Park proposal to the west of Burgess Hill:

- A23/B2115 Warninglid
 - Northbound exit, PM peak
- A23 / A2300 Hickstead
 - Northbound exit, PM peak;
- A23 / B2118 Sayers Common
 - Northbound entry, AM and PM peak;
 - Southbound exit, PM peak;

- A23 / B2117 Hurstpierpoint
 - Southbound entry, PM peak;
- A23 / A281 Red House
 - Northbound exit, PM peak;
- A23 / A273 Pyecombe
 - Northbound exit and entry, PM peak.

A5.20 The Study concludes that these could be a constraint on the Alternative Development Case scenario being delivered and would likely be a condition for approval for the Science and Technology Park (although it should be noted that further transport work would be a requirement in bringing such a proposal forward).

Ashdown Forest

A5.21 The Study finds a small AADT increase in Ashdown Forest, at 2031, on the A26 (+28) in the Alternative Development Case scenarios, but this would fall a long way short of the threshold measure of significance - a flow increase of 1,000 vehicles or more, 2-way AADT, when compared to the Reference Development Case. The Study concludes that the District Plan would not cause traffic flows on the key routes to impact significantly upon the Ashdown Forest.

Conclusion

A5.22 The Study concludes that the impact of development proposed in the submitted District Plan including the Focused Amendments will not greatly affect its performance in terms of capacity, congestion and traffic delay. This is because the increases in local trip volumes are not overwhelming compared with the Reference Case and because certain remedial transport interventions are already defined as a requirement (these alongside the further measure identified in MSTs S3 are costed and accounted for in the Mid Sussex Infrastructure Delivery Plan).

A5.23 The Study proposes remedial interventions to resolve deficient performance at four junctions within the network at an estimated total cost in the region of £6.4m. Delivery of two of these schemes is estimated to cost a total of £2.2m, already secured through a legal agreement associated with a committed scheme at Copthorne. All the schemes are included in the Mid Sussex Infrastructure Delivery Plan.

A5.24 Provided that the proposed remedial schemes are introduced, it is concluded that the District Plan would not worsen the performance of the highway transport network, relative to the Reference Development Case; and would not cause traffic flows on the key routes to impact significantly upon the Ashdown Forest.