

15.0 CUMULATIVE EFFECTS

INTRODUCTION

- 15.1. This draft chapter presents the proposed structure for the final assessment of Cumulative Effects, and identifies some of the issues which are expected to arise based on the work done to date. Until the ES is prepared in a final form, and all of the assessment work is complete, it is not possible to present a full draft chapter. The approach will have regard to the advice and suggested methodology set by PINS Advice Note 17, and this process began during ES Scoping.
- 15.2. Cumulative impacts comprise the combined effects of reasonably foreseeable changes arising from the Proposed Development, and other development, within a specific geographical area and over a certain period of time. The significance of cumulative impacts needs to be assessed in the context of characteristics of the existing environment. This is to ensure that all of the developments:
- Are mutually compatible; and
 - Remain within the environmental capacity of the area and its environs.
- 15.3. There are two types of cumulative impacts that require consideration and which will feature in the final ES:
- The combined or synergistic impacts caused by the combination of a number of impacts **on a particular receptor** (taking into consideration impacts at both the construction and operational phases), which acting together may cause a more significant impact collectively than individually. An example could be the culmination of disturbance from dust, noise, vibration, human presence and visual intrusion on sensitive wildlife (e.g. certain bat species) adjacent to a construction site. These are referred to as **'Impact Interactions'**; and
 - The combined impact of the Proposed Development together with other known and committed developments, i.e. schemes with planning permission, (taking into consideration impacts at both the construction and operational phases), or those identified in local planning policy documents. Many of the draft ES chapters already include some consideration of these types of potential cumulative impacts resulting from the **Proposed Development and Committed Schemes**.
- 15.4. The 'impact interactions' are being assessed in the relevant technical chapters of this ES, with each thematic chapter identifying the relevant receptor or receptors likely to be affected. For example, the cumulative impacts of construction activity, considering noise, air quality, and landscape impacts on wildlife within and close to the site are addressed in the Ecology Chapter, with relevant cross-references to the noise and air quality chapters where appropriate.

- 15.5. A summary overview of impact interactions in relation to representative receptors will be provided in this chapter based on the final ES chapters and will seek to provide a balanced judgement of the likely overall effects on representative receptors.
- 15.6. In order to assess the cumulative impacts of the proposed development and other developments nearby a number of committed development projects have been identified through the scoping process. As referred to in the preceding draft Chapters, the main sites of relevance are the Northampton South Urban Extension located on the opposite side of the M1 (north-west of Collingtree), and although not a commitment, the Rail Central proposed SRFI to the west of the Northampton Loop railway line, between Milton Malsor and Blisworth. The approach to assessing cumulative effects will first consider the effect of the Northampton Gateway scheme with committed developments before assessing the potential additional cumulative effect if Rail Central were to be developed too.
- 15.7. The potential cumulative effects of the Northampton Gateway scheme and these schemes are being assessed in the relevant technical chapters of this ES, and will be summarised in the final version of this Chapter. Many draft chapters already contain initial conclusions regarding likely cumulative effects.
- 15.8. For the purposes of the Transport Assessment a larger number of committed and proposed sites are taken into account and have been agreed with the relevant consultees (through the Transport Working Group) – see draft Chapter 12 of this ES. Those ES chapters which rely on data produced through the Transport Assessment process - principally those relating to Air Quality, and Noise - equally take account of the cumulative effect of the commitments assumed in the Transport Assessment. This wider list of commitments are not relevant to most other Chapters, and will therefore not be considered in this Chapter.
- 15.9. The assessment of cumulative impacts will be based on professional experience of similar types of schemes, the types of receptors being assessed and the nature of the Proposed Development. The assessment of impact interactions is approached from the perspective of changes in baseline conditions at specific sensitive receptors, based on information presented in the technical chapters of this ES. The main focus is on the cumulative effects on human receptors or communities rather than other environmental receptors which are covered in the various ES Chapters.

15.2 ASSESSMENT OF IMPACT INTERACTIONS

- 15.10. The approach to the assessment of impact interactions will seek to identify broad representative sensitive receptors to provide an appraisal of likely cumulative effects. It is not intended to address each and every individual receptor which has been covered in the technical ES chapters. As set out in the ES chapters, each assessment seeks to identify ways to effectively minimise or eliminate adverse effects on the key receptors so as to limit and manage the residual effects. This cumulative assessment will consider those residual effects in combination.

- 15.11. The receptors identified for this process are representative of sensitive receptors. It is considered that geology, soils and groundwater, on-site cultural heritage features, and ecological receptors are topic specific, and highly site specific, and therefore are not considered further in this wider assessment.
- 15.12. Table 15.1 below presents the proposed approach to showing impact interactions between the relevant environmental topics following implementation of the recommended mitigation measures set out in the relevant ES chapter. This table will be populated in due course, but the narrative below the Table provides a draft summary of the emerging picture in terms of cumulative effects.

Table 15.1: Matrix of effects interactions – construction phase

Significance of impact at representative sensitive receptors				
Topic	Residents at Collingtree and Milton Malsor	Residents at Blisworth	Residents at Roade	Users of Local Road Network
Socio-economic				
Landscape Character				
Visual impacts				
Drainage and Flood Risk				
Noise				
Air Quality				
Lighting				
Transport				
Overall Interaction of effects				

- 15.13. The construction process will have a range of different impacts on different communities close to the Proposed Development. It is important to note that the impacts will be temporary and intermittent during construction works, and that the impacts on any given community or receptor change as the construction activity moves within the site. An overarching Construction Environmental Management Plan (CEMP) will be adopted to manage, reduce and control any effects during construction, and the construction works will be phased to minimise effects and bring forward mitigation measures early where practical. This will include measures to manage dust, construction noise, and lighting, as well as the routing of construction traffic.
- 15.14. Nevertheless, there will inevitably be some adverse effects from construction, particularly during the earliest phases of the process. The worst impacts are predicted during the enabling works when the Main Site will be cleared and in advance of the new vegetation

having become fully established. These impacts, including noise, will be most apparent at the closest receptors on the west of the M1 – those to the east of the M1 (e.g. in Collingtree) are less likely to experience the effects of construction noise as a result of the M1 noise between the site and those receptors.

- 15.15. The construction of the Roade Bypass will have impacts on a smaller number of receptors, but will create some adverse impacts on those affected. The properties closest to the route are likely to experience noise disturbance. Again, the impacts will be reduced by the landscaping once implemented, and by the fact the bypass is in part in cutting. However, the construction process will also be much shorter for the bypass than the Main Site, so any effects will be experienced for a shorter period of time.
- 15.16. It should be noted that a minor positive impact is predicted as a result of the creation of jobs during construction of the Proposed Development.
- 15.17. Table 15.2 will summarise the impact interactions between the relevant environmental topics assessed once the development is operational and following the implementation of the recommended mitigation measures.

Table 15.2: Matrix of effects interactions – Operational

Significance of impact at representative sensitive receptors				
Topic	Residents at Collingtree and Milton Malsor	Residents at Blisworth	Residents at Roade	Users of Local Road Network
Socio-economic				
Landscape Character				
Visual impact				
Drainage				
Noise				
Air Quality				
Lighting				
Transport				
Overall Interaction of effects				

- 15.18. Once the proposed development is complete, the overall residual effects on local residents is anticipated to be minor negative. However, the effects are likely to be varied and include some neutral or negligible effects, and some positive effects.
- 15.19. There is a degree of balance in assessing overall cumulative effects between the potential adverse effects in relation to views and landscape change, and lighting effects, and adverse impacts on some receptors relating to noise and air quality, with positive effects in relation to

economic benefits, reduced flood risk and improved drainage, and improvements to transport reliability, journey times and reduced congestion. The centres of surrounding villages will all see reductions in through-traffic, with local benefits in terms of noise and air-quality.

- 15.20. With regards to the assessment of landscape character effects, judgements here too represent balance between the change created by the proposed introduction of new built development with the benefits of retained existing woodland and other features and the significant new landscaping proposed, including new footpaths and accessible open spaces. From the work undertaken to date it is considered that the negative effects do not combine to have a cumulative effect greater than minor effects overall over the longer-term.

15.3 ASSESSMENT OF IMPACTS WITH COMMITTED DEVELOPMENT

- 15.21. The draft ES technical chapters consider the cumulative effects with other committed developments. For many environmental receptors the impacts are highly site specific and there is limited interaction with other sites. For example, cumulative site drainage and flood-risk effects are limited due to the requirements of the guidance and regulations which requires each site to retain (or improve upon) greenfield runoff rates. With each site implementing Sustainable Drainage Systems to manage and control water even large sites close together can have very limited or no cumulative adverse effects, and can have significant beneficial effects where flood-risk elsewhere is reduced.
- 15.22. For other parts of the ES, there are potential cumulative effects from the relevant sites, such as on the landscape, habitat diversity and connectivity, and on the agricultural land resource. The final ES chapters will each provide a specific assessment, and many of the draft Chapters already do so. To date, there are seen to be some but limited cumulative effects with the allocated and approved Northampton South urban extension to the east of the M1 at Collingtree, although both would result in the loss of agricultural or other currently undeveloped landscape.
- 15.23. The draft chapters also suggest that there could be some significant cumulative effects arising if the Rail Central SRFI were also approved. The comments made in the draft ES are primarily judgement based rather than technical, in part due to the relatively limited information about the Rail Central proposals to date. This assessment will be progressed if and when more details become available. However, it's clear based on the professional judgements reached that there could be some potentially significant cumulative effects if Rail Central was approved in due course alongside the Northampton Gateway.
- 15.24. In particular, there would be additional transport impacts on both the strategic and local road network which would create a need for additional mitigation measures. The combined transport impacts could result in some potentially significant or severe adverse local effects. Were both schemes approved there would also be an additional urbanising influence on the wider local landscape which may also generate more significant local effects.

- 15.25. The assessment of cumulative effects began at the ES Scoping Stage, focused on completion of matrices in accordance with the PINS Advice Note 17. These matrices are below. Matrix 1 contains the those committed developments of most direct relevance to the Proposed Development site and the 'study area' (or Zone of Influence, 'Zol') identified for the ES. Matrix 2 will be completed as part of the detailed and final assessment using the final ES chapters, and any updated information about the Rail Central SRFI.

'MATRIX 1' – summary of Cumulative Effects Assessment Stages 1 and 2

ID	Application Ref (if relevant)	Applicant, and brief description	Distance from project	Status	Tier	Stage 1		Stage 2			
						Within ZOI	Progress to Stage 2?	Temporal Overlap?	Scale/nature likely to have significant effect?	Other factors?	Progress to Stage 3 / 4?
1		Bovis Homes. Sustainable Urban Extension at Collingtree	Less than one km	Allocated in Adopted Core Strategy (2014). Planning permission approved at appeal, July 2016	1	Yes	Yes	Yes, likely to overlap for construction and operation/ occupation	Some potential – transport, air quality, visual, noise as key potential effects	n/a	Yes
2		'Rail Central' SRFI – Ashfield Land	Less than one km	Emerging NSIP – Scoping Report submitted	2	Yes	Yes	Yes – potentially for both construction and operation	Yes – potentially significant impacts on transport, air quality, visual and noise, socio economic	Alternative SRFI site	Yes
3		Highways England 'Smart Motorways' programme (M1 motorway) - north and south of Junction 15 (13-16)	Less than one km	Committed programme of Highways England	3	Yes	Yes	Yes – potentially for both construction and operation	Transport. Intended to have positive impacts on M1 traffic conditions	Potential implications for the detail of proposed Junction 15 improvements	Yes

Cumulative Effects

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MATRIX 2 – Summary of potential cumulative effects (stages 3 and 4)

IN LINE WITH THE PINS GUIDANCE MATRIX 2 WILL BE COMPLETED ONCE EIA HAS PROGRESSED TO FINAL STAGE

ID	Tier	Application Ref (if relevant)	Applicant, and brief description	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP	Residual cumulative effects
1	1		Bovis Homes. Sustainable Urban Extension at Collingtree.	<i>This will identify relevant effects with reference to environmental issues (ES chapter topics)</i>	<i>This will reflect the conclusions drawn from the final ES chapters.</i>	<i>This will reflect the conclusions drawn from the final ES chapters.</i>
2	2		'Rail Central' SRFI – Ashfield Land	<i>This will identify relevant effects with reference to environmental issues (ES chapter topics)</i>	<i>This will reflect the conclusions drawn from the final ES chapters.</i>	<i>This will reflect the conclusions drawn from the final ES chapters.</i>
3	3		Highways England 'Smart Motorways' programme (M1 motorway) - north and south of Junction 15 (13-16)	<i>This project is included as a 'commitment' within the detailed transport modelling and TA exercise. It is therefore factored into the ES, including the Air Quality and Noise Assessments. No additional or separate assessment of effects is considered necessary.</i>	<i>This will reflect any relevant conclusions from the final Transport Chapter and TA.</i>	<i>This will reflect any relevant conclusions from the final Transport Chapter and TA.</i>