19 Assessment of Cumulative Effects

19.1 Introduction

19.1.1 The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 (EIA Regulations) Schedule 4 Part 1(4) requires consideration, within the Environmental Statement (ES), of the cumulative effects of proposed developments. The term 'cumulative' is not defined within EIA Directive (2011/92/EU), or subsequently the EIA Regulations, however the European Commission (EC) guidelines (European Commission, 1999) define 'cumulative impacts' as '*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project.*'

19.1.2 Therefore the cumulative effects refer to how an environmental receptor/resource may be subject to a particular type of impact from more than one development/project. The impacts from multiple developments/projects may overlap, or act in combination, at a particular location or upon a particular receptor/resource, thereby leading to more significant environmental effects than if the impacts were considered in isolation. For example, two visually intrusive developments/projects proposed within a sensitive landscape may lead to more significant landscape and visual effects than just one of the developments/projects considered in isolation.

19.1.3 Design Manual for Roads and Bridges (DMRB) HA218/08 (Highways Agency, Scottish Government, Welsh Assembly Government and The Department for Regional Development Northern Ireland, 1993) defines cumulative impact assessment and expands on the above definition, as:

- 'the combined impact of a number of different environmental topic-specific impacts from a single environmental impact assessment project on a single receptor/resource; and
- the combined impact of a number of different projects within the vicinity (in combination with the environmental impact assessment project) on a single receptor/resource.'

19.1.4 This chapter therefore includes consideration of both:

- the potential for different environmental topic-specific impacts of the proposed Scheme to cumulatively impact receptors/resources, i.e. the accumulation of impacts; and
- the combined impacts of other 'reasonably foreseeable' projects, in line with the EC guidelines, within the vicinity which have the potential to cumulatively impact receptors/resources.

19.1.5 The assessments, as reported in Chapters 7 to 18 of this ES have, for certain topic areas, already taken into account the potential for cumulative impacts as part of a 'worst-case scenario'. Where this is the case, this chapter references back to the relevant technical chapter and does not aim to arbitrarily extract the cumulative element of these assessments.

19.2 Approach and Methods

General Approach

19.2.1 This chapter identifies the potential for significant cumulative effects based on the two scenarios defined in the HA218/08, cited in paragraph 19.1.3.

19.2.2 In accordance with HA205/08 (Highways Agency, Scottish Government, Welsh Assembly Government and The Department for Regional Development Northern Ireland, 1993) 'reasonably foreseeable', is '*interpreted to include other projects that are 'committed'*,' including

- confirmed trunk road and motorway projects (i.e. those projects subjected to statutory processes);
- development projects with valid planning permissions granted by The Highland Council (THC) for which formal EIA was a requirement or for which non-statutory EIA was undertaken, and
- land allocated in adopted development plans, particularly for major developments.

19.2.3 A wider review of other major developments, beyond those that are 'committed', was also undertaken to ascertain whether such major developments should also justifiably be included in the cumulative impact assessment by virtue of their scale, location, and/or timing.

Identification of Cumulative Impacts

Combined Impacts of the Proposed Scheme

19.2.4 To consider the potential for a combined impact of different environmental topic-specific impacts on a single receptor/resource (i.e. Bullet Point 1 of paragraph 19.1.3), a review was undertaken of these impact assessments developed as part of the EIA process. The review focussed on predicted impacts, to identify potential for significant cumulative impacts, at locations of high sensitivity including

- properties in close proximity to the proposed Scheme;
- the settlements of Smithton, Culloden, Balloch, Nairn and Auldearn; and
- ecological designations and habitats of protected species.

19.2.5 The cumulative impact assessment considers the residual impacts summarised in Chapter 21 (Summary of Significant Residual Impacts). The significant residual impacts are those which are anticipated as significant post the application of proposed mitigation, in the context of the EIA Regulations, for the operation of the proposed Scheme.

19.2.6 These significant residual impacts generally have the greatest potential to contribute to a significant cumulative impact. However, it is acknowledged that there is potential that multiple non-significant impacts in combination could result in a significant cumulative impact, and therefore all residual impacts were reviewed including non-significant residual impacts reported in the individual assessments of this ES.

19.2.7 Residual impacts were considered on a locational and/or receptor basis, for example the potential for a cumulative impact on a residential receptor to occur due to both traffic, noise and land-take, or a cumulative impact on a watercourse affected at various sections and/or by changes to both ecological and hydrological conditions.

Combined Impacts of the Proposed Scheme and Other Developments

19.2.8 To consider the combined impact of different projects on a single receptor/resource in combination with the proposed Scheme (i.e. Bullet Point 2 of paragraph 19.1.3), 'committed' developments (as defined in paragraph 19.2.2) identified in Appendix 15.5 of Chapter 15: People and Communities: Community and Private Assets) were reviewed. The locations of these 'committed' developments are illustrated on Figures 15.3 and 15.4, including development land allocations in the Inner Moray Firth Local Development Plan (2015) which sits alongside The Highland-wide Local Development Plan (2012) and planning applications within a study area, offset 500m from the proposed Scheme. Other major developments were also considered and included if relevant (paragraph 19.2.3).

19.2.9 There are a number of planned and committed projects that are likely to take place within the vicinity of the proposed Scheme. Some projects that are currently planned may already have been realised prior to the construction of the proposed Scheme, some are likely to commence, or be under construction, during the construction phase of the proposed Scheme and, finally, some may commence after the proposed Scheme has been completed.

19.2.10 Information regarding other developments and timing of construction is often not available or not sufficiently detailed. The Scottish Government Planning Circular 3 2011 notes that '*Generally, it would not be feasible to consider the cumulative effects with other applications which have not yet been determined, since there can be no certainty that they will receive planning permission*'. Therefore professional judgement was used during the review to scope out the cumulative impact of

- development land allocations where no planning permission has been granted;

- planning application that has not been approved (at the time of publishing this ES); and
- permitted planning applications for small scale residential/commercial development including single dwellings, discharging of planning conditions, demolition and/or change of use.

19.2.11 Professional judgement was used, where necessary, to qualitatively ascertain the likelihood of significant cumulative environmental impacts on receptors from both the proposed Scheme and other developments.

Limitation to Assessment

19.2.12 The cumulative assessment has utilised, where available, information with regard to likely 'other' developments, including the wider programme of schemes to be progressed to achieve full dualling of the A96 from Inverness to Aberdeen. This assessment has therefore only been able to take into account information available at the time of publication of this ES. As such the potential for cumulative impacts due to future schemes cannot be fully quantified.

19.3 Potential Cumulative Impacts

Combined Impacts of the Proposed Scheme

19.3.1 Throughout the ES, each discipline chapter has identified potential and residual impacts occurring at specific locations (receptor/resource) and where relevant, reference has been made between chapters where there may be the accumulation of impacts. For example, impacts on amenity value may result from noise, air quality, landscape and visual impacts in combination.

19.3.2 This section identifies and describes key areas along the proposed Scheme where multi-disciplinary cumulative impacts are particularly evident, in order to provide a concise and clear identification of the accumulation of different types of impact on the same receptor/resource.

19.3.3 It should be noted that for each environmental topic the potential for the accumulation of different impacts on a particular receptor was considered as part of the scoping and subsequent assessment process, and is therefore incorporated into the impact assessments reported in this ES. This required, for example, assessment of potential impacts to different sections of the same watercourse, considering both habitat loss and risk of mortality to protected species. The assessment approach also required technical specialists to review and take account of other subject areas (e.g. water quality specialists working with ecologists).

19.3.4 Although baseline conditions are already modified by the existing A96, as the proposed Scheme is predominantly offline, there is the potential for cumulative impacts on receptor/resources that are in closer proximity to the proposed Scheme. Post the implementation of mitigation, residual impacts of Moderate or above significance associated with the operation of the proposed Scheme relate to the environmental topics of noise, landscape, visual, community and private assets, effects on all travellers and cultural heritage (Chapter 21: Summary of Significant Residual Impacts).The potential for cumulative effects to occur as a result of the combination of significant impacts, particularly with regards to noise, visual and land take, have been addressed. No additional mitigation outside of that currently identified within the individual assessments has been identified.

19.3.5 Non-significant residual impacts, such as air quality, were also considered in combination with other topics and no significant cumulative impacts resulting from these were identified.

19.3.6 There is the potential for cumulative effects to occur as a result of the combination of impacts, particularly in relation to land-take, noise, landscape and visual, as identified in Chapter 15 (Community and Private Assets) and Chapter 16 (Effects on all Travellers) but these cumulative effects would not require any additional mitigation outside of that currently identified within the individual assessments.

19.3.7 Potential for cumulative impacts in the context of ecological and biodiversity receptors was considered in Chapter 10 (Ecology and Nature Conservation) and also as part of a Habitats Regulations Appraisal (HRA) (Jacobs 2016) under the requirements of the EC Habitat Directive

(92/43/EEC). That assessment determined that there would be no adverse significant cumulative effects on ecology and nature conservation receptors as a result of the proposed Scheme.

Combined Impacts of the Proposed Scheme and Other Developments

19.3.8 Table 19.1 identifies committed and other major developments identified as relevant and considered in the assessment.

Table 19.1: Cumulative Impacts Potential for Committed Developments

Planning Ref.	Name	Permitted	Land Take Required	Potential for Significant Cumulative Effects
Not applicable	A96 Dualling Programme	Not (applicable) at this stage	Not known at this stage	Y
LA14	Mixed Use at Delnies	Granted permission in principle	N	N
PA04	Land at Stratton and East Seafield, Inverness	Y	Y	N
PA19	Land to West and South of Inverness Airport, Dalcross (Inverness Airport Business Park)	Y	Y	N
PA18	New Town Tornagrain	Y	Y	N
PA20	Highland Food Stop (including 56 bedroom hotel) (Ozzy Ali's restaurant)	Y	Y	N
PA30	Blackcastle Quarry	Awaiting Decision	Y	N
PA31	Former Fabrication Yard Ardersier (Establish port and port related services)	Y	Y	N

As noted in Section 19.2 (Approach and Methods) there is a commitment from the Scottish Government to dual the A96 between Inverness and Aberdeen. The potential for cumulative impacts will depend on the design of the individual dualling schemes, and it is therefore recognised that the A96 Dualling Programme has the potential for cumulative impacts, depending on the design and associated impacts of each scheme.

19.3.9 The potential options for the upgrade to the A96 Aberdeen – Inverness Trunk Road have been subject to a Strategic Environmental Assessment (SEA) Tier 1 (Halcrow 2014) and Tier 2 (CH2M 2015). The SEA Post-adoption statement (CH2M 2016) noted that a preferred option for the A96 Dualling Inverness to Nairn (including Nairn Bypass) was announced by Transport Scotland in October 2014, and the broadly defined improvement strategy options assessed in the SEA included a strategy for full dualling between the east of the A96 Inverness to Nairn (including Nairn Bypass) and Aberdeen. The SEA therefore considers the delivery of dualling for the following three geographic sections, in combination with the A96 Dualling Inverness to Nairn (including Nairn Bypass):

- The Western Section: extends from the tie-in of the Inverness to Nairn (including Nairn Bypass) proposed Scheme (east of Nairn) to Fochabers (approximately 46km).
- The Central Section: extends from east of Fochabers to east of Huntly (approximately 31km).
- The Eastern Section: extends from east of Huntly to the proposed junction with the Aberdeen Western Peripheral Route (approximately 42km).

19.3.10 The SEA findings and outputs, including the Monitoring Framework, provide the basis for the overall consideration of environmental issues and influence further local surveys to inform the design process for the future stages of design and assessment, with the understanding that each scheme will be reconsidered at the local level, within the context of additional information and road design detail.

19.3.11 It is noted that in addition to the cumulative impact assessment reported in this chapter, an in-combination assessment was undertaken as part of the HRA for the proposed Scheme (Jacobs 2016). This determined that there would be no adverse effects on any European/Ramsar sites as a result of the proposed Scheme in-combination with other proposed developments (plans or projects).

Construction - Proposed Scheme and Other Developments

19.3.12 Whilst the details of other schemes forming part of the A96 Dualling Programme are not yet available, it is considered that the other schemes may be progressed in relatively quick succession. Therefore there is the potential for cumulative impacts in terms of the likelihood of construction impacts being experienced by particular receptors/resources over an extended period spanning the construction phases of the full dualling programme. However, impacts during these construction periods are considered to generally occur in relatively close proximity to construction works (such as noise or changes to visual amenity). Furthermore impacts at any one location generally only occur during particular activities and at particular times within the overall construction programme, are not long-term or permanent and are therefore not anticipated to be significant.

19.3.13 The final nature of potential cumulative impacts resulting from the A96 Dualling Programme would be dependent on the phasing of construction of the further schemes. Whilst they are not anticipated to be significant, they would require continuing consideration as specific information on these additional schemes becomes available.

19.3.14 There is also the potential for cumulative impacts to occur in combination with the Tornagrain New Town Proposal, where construction elements have commenced, depending on the overall timing of the construction of the new town and the proposed Scheme. These impacts are more likely to occur if construction activities are undertaken in close proximity to the New Town location but would not be long term or permanent and it is therefore considered that cumulative impacts would not be considered significant.

19.3.15 There is also the potential for cumulative impacts to occur in combination with the remaining committed developments identified in Table 19.1, depending on the overall phasing of the construction of these developments and the proposed Scheme. However, these cumulative impacts are likely to be relatively localised, are not long-term or permanent and it is therefore considered that cumulative impacts would not be considered significant.

19.3.16 Whilst the potential for cumulative impacts has been identified during the construction phase of the proposed Scheme in combination with other committed developments, no additional mitigation over and above that already put forward for the proposed Scheme has been found necessary. Interaction with construction activities of other committed developments will be addressed through the Construction Environment Management Plan.

Operation - Proposed Scheme and Other Developments

19.3.17 Operational impacts resulting from the wider A96 Dualling Programme such as land-take, property demolition, ecological, cultural heritage and landscape/visual impacts cannot be considered in detail at this stage, as there is no information available for those sections, although the consultation process for the A96 Dualling Programme has identified areas of potential consultee focus such as loss of Ancient Woodland Inventory (AWI) and impacts on corn bunting habitat. These areas have been addressed on a scheme-specific basis as described in Chapter 11 (Habitats and Biodiversity) of this ES, and will remain a focus for the future sections of the A96 Dualling Programme.

19.3.18 The A96 Dualling Inverness to Aberdeen Strategic Business Case (2014) indicated that with the full dualling programme in place, traffic volumes are forecast to increase. However, dualling of the full route also reduces journey times and accident numbers. The sequential effects of the increased traffic volumes will be assessed through the DMRB assessment process for the future sections.

19.3.19 For operational impacts related to the other committed developments, the traffic model for the proposed Scheme has taken into account future committed developments and has informed the following aspects of the EIA reported in this ES. Therefore any potential cumulative environmental

impacts of these traffic changes are incorporated within these assessments and no supplementary assessment is required:

- Chapter 7 (Air Quality).
- Chapter 8 (Noise and Vibration).
- Chapter 13 (Road Drainage and the Water Environment):
  - Water quality of receiving watercourses; and
  - Drainage design.
- Chapter 16 (People and Communities: All Travellers):
  - Non-motorised users such as pedestrians and cyclists; and
  - Driver stress.

19.3.20 With regard to landscape and visual impacts there is the potential for cumulative impacts in combination with regard to the identified committed development. However it must be noted that the existing A96 is already a feature that is present within the landscape and as such, impacts are currently being experienced by a number of the identified receptors/resources and detailed landscape mitigation proposals to reduce the effects of the proposed Scheme have been identified as part of the landscape and visual assessments.

19.4 Mitigation

19.4.1 No additional mitigation over and above that already put forward for the proposed Scheme has been found necessary to further mitigate adverse cumulative impacts.

19.4.2 Detailed development of mitigation for potential cumulative/wider scale impacts is beyond the scope of the current EIA. However, there is on-going consultation on the wider A96 Dualling Programme between Transport Scotland and a number of organisations including Historic Environment Scotland (HES), Scottish Natural Heritage (SNH), Scottish Environment Protection Agency (SEPA), THC and other local authorities along the route.

19.5 Conclusions

19.5.1 No significant cumulative impacts resulting from the proposed Scheme, or as a result of the proposed Scheme in combination with other committed developments have been identified.

19.5.2 It is acknowledged that, depending on the detailed design for the remaining dualling schemes of the A96 Dualling Programme, additional cumulative impacts are possible. This possibility will continue to be considered at a strategic level by Transport Scotland and will form part of future scheme assessments as more information becomes available.

19.6 References

CH2M *(on behalf of Transport Scotland)* (2015). A96 Dualling Programme: Strategic Environmental Assessment - Tier 2 Environmental Report.

CH2M *(on behalf of Transport Scotland)* (2016). A96 Dualling Programme: Strategic Environmental Assessment - Post Adoption Statement.

Halcrow *(on behalf of Transport Scotland)* (2014). A96 Dualling Programme: Strategic Environmental Assessment - Tier 1 Environmental Report.

Highways Agency, Transport Scotland, Welsh Assembly Government and the Department of Regional Development for Northern Ireland (1993). Design Manual for Roads and Bridges Volume 11, Section 2, Part 7 HA 218/08 Glossary of Terms used in DMRB Volume 11, Section 1 and 2, 2008.

Jacobs *(on behalf of Transport Scotland)* (2014). A96 Dualling Inverness to Aberdeen Strategic Business Case.

Jacobs (*on behalf of Transport Scotland)* (2016). A96 Dualling Inverness to Nairn (including Nairn Bypass) DMRB Stage 3 Habitats Regulations Appraisal.

The Highland Council (2007). The A96 Growth Corridor Development Framework.

The Highland Council (2012). Highland-wide Local Development Plan (HwLDP).

The Highland Council (2015). Inner Moray Firth Proposed Local Development Plan (IMFLDP).

EU Directives and National Legislation

Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora [1992] (Habitats Directive).

Directive 2011/92/EU of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment [2011] (EIA Directive).

Scottish Government (2011). Infrastructure Investment Plan.

The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011. SSI 2011/139.