

19 Cumulative Impacts

This chapter considers potential for cumulative impacts of the proposed scheme, and those of the proposed scheme in combination with other major proposed developments.

Potential for cumulative impacts due to the combined effect of a number of different environmental impacts of the proposed scheme on a single receptor/resource was assessed, based on the findings of the topic chapters in this ES. No significant cumulative impacts were identified.

The likely longer term upgrade of the full route of the A9 from Perth to Inverness was identified as having the potential to have a cumulative impact in terms of effects on traffic volumes and the potential consequent environmental impacts that may be experienced. This was therefore incorporated into the relevant assessments reported in Chapters 7-17 of this ES.

No other committed nationally important or major developments were identified that may contribute to a cumulative impact in combination with the proposed scheme.

19.1 Introduction

19.1.1 European Commission guidelines (European Commission, 1999) define 'cumulative impacts' as follows:

'Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project'.

19.1.2 DMRB HA218/08 provides guidance on cumulative impact assessment (Highways Agency et al., 2008a) and expands on the above definition, advising that a cumulative impact may arise as the result of:

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

19.1.3 This chapter therefore includes consideration of both the impacts of the proposed scheme on receptors, and the impacts of other 'reasonably foreseeable' projects in line with the EC guidelines.

19.1.4 The assessments as reported in Chapters 7-17 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 this approach 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 considers two categories of scenario to identify potential for significant cumulative impacts, based on the DMRB HA218/08 guidance cited in paragraph 19.1.2 above.

19.2.2 In accordance with DMRB HA205/08 (Highways Agency et al., 2008b) 'reasonably foreseeable', in the above definition has been interpreted to include other 'committed' projects, including:

- confirmed trunk road and motorway projects (i.e. gone through the statutory processes); and
- development projects with valid planning permissions as granted by Perth & Kinross Council, and for which formal EIA is a requirement or for which non-statutory EIA has been undertaken.

19.2.3 However, a review of other major developments beyond those that are committed was also undertaken, to ascertain whether any should justifiably also be included in the assessment by virtue of their scale; location; or timing.

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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 19.1.2), a review was undertaken of the topic-area environmental assessments undertaken as part of the EIA process.
- 19.2.5 The cumulative impact assessment paid particular attention to the impacts summarised in Chapter 21 (Residual Impacts), which are those that are expected to remain as significant in the context of the EIA Regulations after application of any proposed mitigation, as these 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.
- 19.2.6 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

- 19.2.7 To consider the combined impact of a number of different projects on a single receptor/resource in combination with the proposed scheme (i.e. Bullet Point 2 of paragraph 19.1.2), allocated development land and identified planning applications or permissions listed in Chapter 7 (Community and Private Assets) were reviewed. There is often little information available regarding these developments or likely timing, so professional judgement was used where necessary to qualitatively ascertain likelihood of significant environmental impacts on receptors that may also be affected by the proposed scheme.
- 19.2.8 Chapter 7 considered submitted planning applications and committed development including confirmed land use allocations in the Perth & Kinross Council draft Local Development Plan (2012), where they occurred within the 500m study area for that assessment. This cumulative impact assessment also reviewed a number of additional large-scale developments beyond this study area to identify any that should be added to the assessment:
- Cross Tay Link Road: the draft Local Development Plan (2012) refers to proposals to provide an alternative route for vehicles travelling through Perth, via a new crossing over the River Tay. Whilst this would be a large development, it is currently not committed, with three broad corridor options only identified and no more detailed information available. It was therefore necessarily excluded from this assessment.
 - Almond Valley Village Site: Policy 45 of the draft Local Development Plan (2012) proposed that a masterplan would be prepared for a mixed use development on the western edge of Perth, to the south of the proposed scheme. This would include a range of housing types, retail provision and community facilities such as a school. An outline planning application was submitted in 2008, however Perth & Kinross Council has confirmed that this was refused on 04 January 2012 and a subsequent appeal was dismissed in September 2012. There is currently no planning permission or live appeal/court challenge for this site, and no commitment to proceed. It was therefore necessarily excluded from this assessment.
 - A9 Dualling Programme: the proposed scheme forms part of a wider programme of projects to upgrade the full A9 from Perth to Inverness. There is ministerial commitment for this to be in place by 2025, and the wider programme was therefore included in the context of potential for cumulative impacts during both construction and operation of the proposed scheme.

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Limitations to Assessment

- 19.2.9 The cumulative assessment has utilised available information on likely other developments, including the wider programme of schemes to be progressed to achieve full dualling of the A9 from Perth to Inverness. However, this assessment has only been able to take into account currently available information, and potential for cumulative impacts to occur due to subsequent schemes is therefore identified in this assessment but can not be quantified.

19.3 Potential Cumulative Impacts

Combined Impacts of the Proposed Scheme

- 19.3.1 The review of the findings of each topic area to identify potential for significant cumulative impacts focussed on predicted impacts at areas of high sensitivity in the vicinity of the proposed scheme, or where extensive works are proposed, such as the following:
- rural properties in close proximity to the road, such as Broompark Cottage;
 - the main settlements of Luncarty and Birnam; and
 - the Ordie Burn and Shochie Burn, forming part of the River Tay SAC.
- 19.3.2 It should be noted that within each topic area, any potential for a number 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 for example required consideration of the overall project works (e.g. assessing potential impacts to different sections of the same watercourse), considered both habitat loss and risk of mortality to protected species. The approach to assessment also required specialists to review and take account of other subject areas (e.g. water quality specialists working with ecologists).
- 19.3.3 Residual impacts of the proposed scheme are comparatively limited, with a large proportion being of Neutral or Negligible significance during construction and/or operation of the proposed scheme. There are also relatively few impacts remaining after implementation of mitigation that would be considered significant in the context of the EIA Regulations.
- 19.3.4 The comparatively limited residual impacts is partly due to the fact that the proposed scheme is largely online widening, which limits the area of land required and also means that the baseline conditions are already modified by the existing A9 trunk road and are generally unlikely to be significantly different during operation of the proposed scheme.
- 19.3.5 It is recognised that during construction, those properties closest to the works may experience the effects of land-take (of which impacts on two residential properties; Broompark Cottage and Glen Ordie Cottage, are assessed as significant), and may also be subject to temporary disturbance such as changes to visual amenity and noise due to construction activities. Mitigation is proposed in the relevant chapters to mitigate these impacts, and it is not considered that residual impacts identified in this ES would in combination constitute an additional significant cumulative effect on any receptor.
- 19.3.6 Potential for cumulative impacts in the context of the River Tay SAC, including the Ordie and Shochie Burns, was considered in Chapter 10 (Ecology and Nature Conservation) and also as part of a Habitat Regulations Appraisal under the requirements of the EC Habitat Directive. This determined that there would be no adverse effects on the conservation objectives of the River Tay SAC as a result of the proposed scheme.

Combined Impacts of the Proposed Scheme and Other Developments

- 19.3.7 Potential developments in the vicinity of the proposed scheme include a number of planning applications (Table 7.28 of Chapter 7: Community and Private Assets) and various housing land use allocations as shown on Figure 7.4. Due to the type of development proposed and/or its

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location, it is not considered that any of these are likely to result in significant environmental impacts on receptors potentially affected by the proposed scheme.

- 19.3.8 As noted in Section 19.2 (Approach and Methods), the wider programme of projects to upgrade the full A9 from Perth to Inverness was also included in the assessment. This was considered in the context of potential for cumulative impacts during both construction and operation of the proposed scheme, as set out below. As explained in Chapter 1 (Introduction), only the Kinraig to Dalraddy scheme is at a similar stage of design development, with design information and likely programming information therefore available and taken into account.
- 19.3.9 For operational impacts, whilst the detail of other schemes forming part of the A9 dualling programme is not yet available, the cumulative assessment has been able to take into account cumulative traffic impacts, utilising the Transport Model for Scotland (TMfS07) which takes into account other committed projects in its traffic predictions, including the full dualling of the A9. Other impacts resulting from dualling such as land-take, property demolition, ecological, cultural heritage and landscape/visual impacts cannot be considered in detail at this stage.
- 19.3.10 The potential for cumulative impacts will depend on the design of the individual dualling schemes, and it is therefore recognised that the dualling of the A9 has potential for additional cumulative impacts, depending on the designs of the remaining dualled sections of the A9 and the associated impacts.
- 19.3.11 In addition to the cumulative impact assessment reported in this chapter, an in-combination assessment was undertaken as part of a Habitat Regulations Appraisal for the River Tay SAC (Jacobs, 2014). This determined that there would be no adverse effects on the conservation objectives of the River Tay SAC as a result of the proposed scheme in-combination with other proposed developments (plans or projects).

Construction

- 19.3.12 The Kinraig to Dalraddy scheme, forming part of the A9 Dualling Programme, is currently at a similar stage of design development to that of the proposed scheme. The current programme for construction of the Kinraig to Dalraddy scheme is 18 months from 2015/2016 with opening in 2017 (Atkins, 2013). Construction of the proposed scheme is anticipated to commence in early 2017, and Transport Scotland does not currently anticipate that this will overlap with construction of the Kinraig to Dalraddy scheme. No other A9 projects are being progressed on a similar timeframe to the proposed scheme.
- 19.3.13 Whilst the construction phases of the proposed scheme and the Kinraig to Dalraddy scheme are unlikely to overlap, it is anticipated that they will be progressed in relatively close succession and the potential for cumulative impacts in terms of the likelihood of construction impacts being experienced by a particular receptor/resource over an extended period spanning the construction phases of both projects was also considered. However, impacts during construction generally occur in relatively close proximity to construction works (such as noise or changes to visual amenity), and furthermore impacts at any one location generally only occur during particular activities and at particular times within the overall construction programme. A review of available information regarding the construction phase of the Kinraig to Dalraddy scheme (Atkins, 2013) and the proposed scheme (refer to Chapter 4 (The Proposed Scheme), did not identify potential for significant cumulative impacts as a consequence of the construction phases occurring in relatively close succession.
- 19.3.14 It is therefore not anticipated that significant cumulative construction impacts are likely to occur due to the combined impacts of the proposed scheme with other reasonably foreseeable projects.

Operation

- 19.3.15 Traffic modelling (TMfS07) has indicated that the proposed scheme is not likely to notably affect the traffic demand at a local level (Luncarty to Pass of Birnam), but that the cumulative effect of full

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implementation of wider programme of A9 dualling works may be to increase traffic flows on the A9 by attracting additional usage of this strategic route. To ensure that the potential cumulative impact of the proposed scheme in combination with other projects anticipated as part of the A9 Dualling Programme was taken into account, traffic data utilised in the EIA therefore include the traffic increase predicted as a consequence of implementing the full programme of works to dual the A9.

19.3.16 Traffic data have informed the following aspects of EIA reported in this ES, and therefore any potential cumulative environmental impacts of these traffic changes are incorporated within these assessments, and no supplementary assessment is required:

- Chapter 9 (Road Drainage and the Water Environment):
 - water quality of receiving watercourses; and
 - drainage design.
- Chapter 14 (Air Quality).
- Chapter 15 (Noise & Vibration).
- Chapter 16 (Effects on All Travellers):
 - non-motorised users such as pedestrians and cyclists; and
 - driver stress.

19.4 Conclusions

19.4.1 No significant cumulative impacts of the proposed scheme or of the proposed scheme in combination with other developments have been identified. However, it is acknowledged that depending on the detailed design for the remaining dualled sections of the A9 additional cumulative impacts are possible. This will continue to be considered at a strategic level by Transport Scotland and in future scheme assessments as more information becomes available.

19.4.2 As described in this chapter, the assessments for environmental topic areas reported in Chapters 7-17 of this ES include an allowance for likely changes as a result of the overarching A9 Dualling programme to 2025, where appropriate.

19.5 References

Atkins (2013). A9 Dualling Kincaig to Dalraddy. DMRB Stage 3 Environmental Statement.

European Commission (1999). Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, May 1999. Quoted in Highways Agency et al. (2008a).

Highways Agency et al. (2008a). DMRB Volume 11, Section 2, Part 7: Glossary of Terms Used in The Design Manual for Roads and Bridges Volume 11 Sections 1 and 2, August 2008. Highways Agency, Scottish Government, Welsh Assembly Government and Department for Regional Development Northern Ireland.

Highways Agency et al. (2008b). DMRB Volume 11, Section 2, Part 5 HA205/08: Assessment and Management of Environmental Effects, August 2008. Highways Agency, Scottish Government, Welsh Assembly Government and Department for Regional Development Northern Ireland.

Jacobs (2014). A9 Dualling: Luncarty to Pass of Birnam. Habitat Regulations Appraisal: River Tay SAC.

Perth & Kinross Council (2012). Proposed Perth and Kinross Local Development Plan.