# Norwich Western Link

# Environmental Statement

# Chapter 7: Noise and Vibration

# Appendix 7.2: Complimentary Traffic mitigation schemes assessment

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# Contents

# 1 Introduction

1.1.1 As part of the Proposed Scheme, several traffic mitigation schemes are proposed to improve traffic flows in the surrounding area. Full details of these schemes are presented in the **Transport Assessment** (Document Reference 4.01.00), however in summary, they are fairly minimal in nature and most do not require physical works.

1.1.2 As these measures are part of the Proposed Scheme it is important to consider any potential noise and vibration impacts they may cause on nearby sensitive receptors. This Appendix considers both the implications of the traffic mitigation schemes on the assessments within the **Environmental Statement: Chapter 7 Noise and Vibration** (Document Reference: 3.07.00), and the direct, local noise and vibration impacts of these schemes on nearby sensitive receptors.

1.1.3 This Appendix considers the same assessments as within the noise and vibration chapter:

- Construction noise and vibration from on-site activities;
- Construction traffic noise; and
- Operational road traffic noise (within the detailed calculation area and the wider road network).

# 2 Construction phase

## 2.1 Construction noise (on-site activities)

2.1.1 The traffic mitigation schemes are all outside of the Construction Noise Study Area (over 300m from the main works associated with the Proposed Scheme) for the Proposed Scheme. This means that any construction noise impacts associated with the traffic mitigation schemes would not affect the conclusions for the ten receptors assessed within the Noise and Vibration Chapter for the Proposed Scheme.

2.1.2 In terms of their local impacts, the majority of the traffic mitigation schemes require no physical works beyond new signage and road markings to instruct traffic. Where physical highway works are required, these are anticipated to be fairly minor, and will likely be brief in duration. The mitigation measures included in Section 7.6 of the Noise and Vibration Chapter and included within the Outline Construction Environmental Management Plan (OCEMP) **Appendix 3.1** (Document Reference 3.03.01) will be adopted for these works. Whilst there could be brief periods of disturbance for nearby receptors from some of the works, it is unlikely that noise levels would exceed the significance criteria for longer than the durations outlined within the Noise and Vibration Chapter (10 out of 15 days or 40 days in 6 months). On this basis, the construction noise effects are not significant in EIA terms.

## 2.2 Construction vibration (on-site activities)

2.2.1 Similar to the above, any works associated with the traffic mitigation schemes would not affect the conclusions presented within the noise and vibration receptors for construction works associated with the Proposed Scheme itself (excluding the traffic mitigation schemes).

2.2.2 Further, it is considered unlikely that construction plant will be required for the traffic mitigation schemes which would generate high levels of vibration. Where such plant is required (i.e. road rollers) it is anticipated that these would only be required for short periods. Whilst there could be brief periods of

disturbance for nearby receptors from some of the works, it is unlikely that vibration levels would exceed the significance criteria for longer than the durations outlined within the Noise and Vibration Chapter (10 out of 15 days or 40 days in six months). On this basis, the construction vibration effects are not significant in EIA terms.

### 2.3 Construction traffic noise

2.3.1 It is understood that the physical works associated with the construction of the mitigation schemes would be limited, and therefore unlikely to require many construction vehicles. The works would also be short-term in nature, and so any vehicles would only be required for brief periods. On this basis, it is considered that the traffic mitigation schemes would not result in any significant effects from construction traffic noise.

## 3 Operational phase

3.1.1 Similar to the Noise and Vibration Chapter, the assessment of operational noise for the traffic mitigation schemes has been considered both within the detailed calculation area for the Proposed Scheme and impacts to road traffic noise on the wider road network.

3.1.2 Given the traffic mitigation schemes are minor in nature, it has not been considered necessary to expand the Operational Noise Study Area to include all of the schemes. The impacts associated with implementation of the schemes have been considered with respect to the noise level changes from these routes in terms of their basic noise levels. This is considered proportionate relative to the minor nature of the schemes themselves.

3.1.3 The implications to the assessment of operational noise within the detailed calculation area is discussed first, followed by considerations of the impacts on traffic flows to the wider road network from the schemes themselves.

## 3.2 Impacts within the detailed calculation area

3.2.1 The traffic mitigation schemes are proposed in order to improve vehicle flows on roads in the vicinity of the Proposed Scheme and the wider area. Traffic data have therefore been prepared for the do-something scenarios assuming that the traffic mitigation schemes will go ahead as part of the Proposed Scheme. It is firstly important to consider how this traffic data differs from that excluding the traffic mitigation schemes, which has been used for the assessment within the Noise and Vibration Chapter.

3.2.2 In order to consider the potential for changes to the conclusions of the Noise and Vibration Chapter, key road links have been compared for the do-something 2029 scenario with and without the traffic mitigation schemes. The following roads were selected as they were the road links causing significant adverse noise effects within the detailed calculation area:

- The Norwich Western Link road itself;
- A1067; and
- A1270.

3.2.3 For all of these road links, the predicted traffic flows including the traffic mitigation schemes are lower than the traffic flows without the mitigation schemes. The percentage heavy duty vehicles and speeds are very similar between the two traffic data scenarios. As the traffic flows are lower, it is anticipated that the traffic mitigation schemes would present an improvement compared to the assessment within the Noise and Vibration Chapter. On this basis, it is considered that no further assessment of operational noise impacts from the traffic mitigation schemes is necessary within the detailed calculation area. The impact of the schemes on operational noise levels in the wider area is discussed below.

## 3.3 Wider road network impacts

3.3.1 Section 7.6 within the Noise and Vibration Chapter sets out the assessment of noise level changes as a result of the Proposed Scheme (not including the traffic mitigation schemes) on the wider road network. This assessment concluded that significant adverse and beneficial effects were predicted along some road links.

3.3.2 The basic noise levels have been re-calculated using the traffic data scenario including the mitigation schemes. As discussed in the Noise and Vibration Chapter, generally, noise level increases or decreases of 3 dB (in the short-term) or more would be considered significant and therefore only these links have been reported. The assessment focusses on the short-term noise level changes as required by DMRB LA 111.

3.3.3 In accordance with the Calculation of Road Traffic Noise methodology, basic noise levels have only been calculated for links with an annual average weekday traffic flow of greater than 1000 vehicles (over the 18 hour period from 06:00 – 00:00). Where roads have a traffic flow below this threshold, it is considered unlikely that significant effects would occur, as whilst the change in noise level could be high, the absolute noise levels would still be relatively low.

3.3.4 On this basis, significant adverse effects are anticipated at receptors within 50m of the kerb of the following roads:

- Mattishall Lane; and
- A1270 (west of Broadland Northway roundabout).

3.3.5 Significant beneficial effects are anticipated at receptors within 50m of the kerb of the following roads:

- B1535 (between A1067 and Heath Road);
- Dark Lane;
- Rectory Road (west of B1535);

- Bell Road (between Barnham Broom and Rush Green);
- Beech Avenue (between Maple Drive and Ringland Road);
- Short-Thorn Road; and
- Holt Road (between roundabout with Green Lane and Horsford).

3.3.6 Both the significant adverse and beneficial links as a result of the Proposed Scheme and the traffic mitigation schemes are shown on **Appendix 7.8 - Figure 7.10 wider network noise level changes from traffic mitigation schemes** (Document Reference 3.07.08).

3.3.7 Clearly, in terms of the road traffic noise impacts on the wider road network, the traffic mitigation schemes are beneficial in that there are fewer significant adverse effects and a greater number of significant beneficial effects, relative to the traffic data scenario without these schemes.

3.3.8 On this basis, it is considered that no additional significant effects would result from the traffic mitigation schemes, and they would only improve the situation for the Proposed Scheme presented in the Noise and Vibration Chapter.