



www.landuse.co.uk

Basildon Local Plan Sustainability Appraisal

Second Addendum

Prepared by LUC
February 2020

Project Title: Basildon Local Plan Sustainability Appraisal – Second Addendum

Client: Basildon Borough Council

Version	Date	Version Details	Prepared by	Checked by	Approved by
1.0	19/02/2020	Final Draft	Sarah Temple Josh Allen	Josh Allen	Jeremy Owen
2.0	28/02/2020	Final Report	Sarah Temple Josh Allen	Josh Allen	Jeremy Owen

Sustainability Appraisal Addendum

Introduction

- 1.1 Basildon Borough Council (BBC) commissioned LUC in April 2013 to carry out a Sustainability Appraisal (SA) incorporating Strategic Environmental Assessment (SEA) of the Basildon Core Strategy and associated Development Planning Documents. In late 2014 the decision was made to consolidate all plan-making work into a single new Local Plan to manage growth and development up to 2034. The Draft Local Plan was published for consultation alongside an accompanying SA Report in January 2016, under Regulation 18 of the Town and Country Planning Regulations (2012). Following the Regulation 18 consultation, further work was undertaken to prepare and appraise final options for inclusion in a Publication Local Plan. The Publication Local Plan was published for consultation alongside an accompanying SA Report in November 2018 under Regulation 19 of the Town and Country Planning Regulations (2012).
- 1.2 During consultation on the Publication Local Plan, the Council received notification of several site options from site promoters. An SA Addendum was therefore produced in March 2019 that reported the significant effects of each omission site for comparison with the other site options appraised throughout the plan-making process, including the final site allocations. The Revised Publication Local Plan was submitted to the Secretary of State on the 28th of March 2019 for Examination.
- 1.3 This SA Second Addendum reports a change in the baseline evidence used to appraise the submitted Local Plan before considering the effects on the conclusions reached in the last SA Report published in November 2018 alongside the publication Basildon Local Plan. Further details on the nature of the changes and their implications are set out below.

Air quality baseline update

- 1.4 The SA Report accompanying the publication Basildon Local Plan for Regulation 19 consultation in 2018 noted air pollution within the vicinity of the Fortune of War roundabout on the A127 was poor.¹ The Borough's Air Quality Topic Paper² highlighted a risk of statutory Nitrogen Oxide (NO₂) levels³ being exceeded along the A127 in the period to 2022, before declining in accordance with national trends to levels well below the EU Limit value.
- 1.5 In July 2017, the Department for the Environment, Food and Rural Affairs (Defra) issued BBC and Rochford District Council with a Direction in respect of the Air Quality Framework Directive⁴. The Direction required the preparation of an Air Quality Management Plan (AQMP) to address three recorded exceedances in NO₂ levels on the A127⁵ identified by the Pollution Climate Mapping (PCM) model. The PCM model predicted three locations along the A127 route in Basildon and Rochford likely to continue to exceed the NO₂ annual mean EU Limit Value of 40 µg/m³ beyond 2020. **Table 1** sets out the recorded exceedances.

¹ Basildon Council (2017) 2017 Air Quality Annual Status Report [online] Available at: http://www.essexair.org.uk/Reports/Basildon_ASR_2017.pdf

² Basildon Council (2017) Air Quality Topic Paper [online] Available at: <http://www.basildon.gov.uk/CHttpHandler.ashx?id=7833&p=0>

³ Transport or combustion processes produce NO₂, commonly associated with respiratory illnesses, such as asthma.

⁴ Directive 2008/50/EC on ambient air quality and cleaner air for Europe: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1486474738782&uri=CELEX:02008L0050-20150918>

⁵ Defra Direction (July 2017):

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/746095/air-quality-no2-plan-directions-2017.pdf

Table 1 – PCM NO₂ exceedances along A127

Location	Authority	2018 NO ₂	2020 NO ₂
Fortune of War Junction	Basildon Borough	50	45
Noak Bridge Junction	Basildon Borough	51	46
Rayleigh Weir Junction	Rochford District	49	45

- 1.6 Whilst the data provided by this model provides an overview of the scale of the air quality issue along the route, the model is at a national level so there is potential for discrepancies between the modelled results and the extent of the actual problem on the ground. Therefore, Essex County Council (ECC) in conjunction with Ringway Jacobs undertook some more detailed modelling in 2018 and 2019 to confirm the scale and location of the exceedances. The local modelling identified no exceedance at the Fortune of War Junction and Rayleigh Weir Junction but identified two points of exceedance at the Noak Bridge Junction and an additional point of exceedance at A127/A132 Nevendon Interchange.

Table 2 – Essex County Council Model NO₂ exceedances along A127

Location		Authority	2018 NO ₂	2020 NO ₂
Noak Bridge Junction	A176, Upper Mayne Road	Basildon Borough	49.2	43.8
	A127	Basildon Borough	46.5	42.6
Nevendon Interchange		Basildon Borough	49.9	46.7

- 1.7 The ECC model was used to calculate the total daily reduction in vehicles required to meet the required NO₂ limit value by 2020: 22,484. This figure was used as the basis for identifying appropriate measures to reduce traffic flows on the A127 through the AQMP.
- 1.8 A business case for the implementation of a preferred AQMP was submitted to Defra in May 2019⁶. The business case explored three main mitigation packages:
1. **Speed limit reduction scheme:** A 50mph speed limit along the A127 from the Fortune of War Junction to Pound Lane Junction. Businesses within the zone would be offered advice and support on upgrading to cleaner vehicles and installing electric charging points and cycle parking. They would be encouraged to cycle, walk and use public transport more in their daily commutes.
 2. **A non-charging Clean Air Zone (CAZ):** A defined area where targeted action is taken to improve air quality, including funding local businesses within the zone to upgrade their fleet of vehicles using cleaner technologies.
 3. **A charging CAZ:** A charging CAZ discouraging specific types of vehicle from travelling along the A127. A charging CAZ would displace traffic onto other routes and create new non-compliances in those areas. Any traffic displacement away from the business areas would be into residential areas. This could increase both the air quality non-compliances and the road traffic collision rates.

⁶ Outline Business Case (ECC, May 2019): <http://www.basildonmeetings.info/documents/s103054/LOCAL%20AIR%20QUALITY%20MINISTERIAL%20DIRECTION%20-%20APPROVAL%20OF%20OUTLINE%20BUSINESS%20CASE%20enc.%202.pdf>

- 1.9 The preferred AQMP to address NO₂ exceedances included the speed limit reduction scheme on the A127 in combination with a non-charging CAZ. In June 2019, Defra issued a new direction to BBC to implement the speed limit reduction scheme on the A127 as soon as possible, but to undertake further air quality and transport modelling to demonstrate what measures would need to be implemented by the authorities to deliver compliance quicker than 2023 at the exceedance locations including consideration of a small charging CAZ and/or access restriction (charge or ban) for HGVs.⁷
- 1.10 An updated business case for the speed reduction scheme⁸ on the A127 was submitted to Defra by ECC in October 2019 but Defra has yet to respond. The speed reduction scheme was rolled out in March 2020. However, at this point in time (March 2020) it is unknown whether the suite of additional measures required to deliver compliance will include the non-charging measures modelled in the original business case prepared by ECC, a small charging CAZ, access restrictions or a combination of these additional schemes.

Summary of relevant SA effects in the SA Report accompanying the Basildon Local Plan Regulation 19 consultation

- 1.11 Three SA objectives within the SA framework used to appraise the likely effects of the Basildon Local Plan and its reasonable alternatives consider traffic congestion and associated air quality effects:
- **SA objective 8:** Improve the health and wellbeing of the Borough's residents and reduce inequalities in health related to development and the environment.
 - **SA objective 15:** Reduce air, land and noise pollution and improve their respective quality through direct action or mitigation measures.
 - **SA objective 19:** Reduce traffic congestion and its related pollution levels by improving travel choice and channelling development to sustainable locations.
- 1.12 The SA Report identifies significant positive effects against SA objective 19 for policies T2 (Improvements to Carriageway Infrastructure), T4 (Improvements to Public Transport Infrastructure and Services), T5 (Transport Improvement Areas) and T6 (Managing Congestion). This is because the primary purpose of Policies T2 and T5 is to alleviate congestion and support proposed development in the Local Plan. Policy T4 seeks to deliver improvements to public transport, in addition to pedestrian and cycle routes. Policy T6 requires new developments do not contribute to traffic congestion and ensure that mitigation measures are put in place to offset any impacts on the transport network.
- 1.13 The SA Report also identifies a significant positive effect against SA objective 8 for Policy T4. This is because the policy seeks to protect and enhance pedestrian routes, cycle networks and Public Rights of Way as a means of improving public transport infrastructure. This is likely to encourage sustainable transport use with indirect benefits on health through reduced traffic emissions.
- 1.14 A significant positive effect is identified for policy CC1 (Responding to Climate Change) against SA objective 19 because the policy seeks to deliver improvements to public transport and a wider range of active modes of transport. These measures, along with encouraging development locations that have good access to services, are likely to reduce the need to rely on private cars which in turn should help to reduce levels of congestion and pollution in the Borough. A significant positive effect is also identified for policy HC1 (Health and Wellbeing Strategy) against SA objective 8 because it seeks to provide opportunities for walking and cycling.
- 1.15 Significant positive effects are identified for policies NE1 (Green Infrastructure Strategy) and NE6 (Pollution Control and Residential Amenity) against SA objective 15. Policy NE1 seeks to secure the provision of Green Infrastructure alongside development which achieves a reduction in

⁷ Defra Direction (June 2019):

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/813209/air-quality-direction-basildon-2019.pdf

⁸ Full Business Case (ECC, October, 2019)

pollution to air, water and soil. Policy NE6 requires all development proposals to be located and designed in such a manner so as to not cause significant adverse effects upon the environment, the health of residents or residential amenity by reason of pollution to land, air or water. A significant positive effect is identified for Policy NE6 (Pollution Control and Residential Amenity) against SA objective 8 because the policy seeks to prevent development from having an adverse effect on people's health by reason of pollution.

- 1.16 However, overall, the Local Plan's provision of at least 15,465 homes and 91.5ha of employment land supply in Basildon has the potential to generate significant adverse cumulative impacts on both SA objectives 15 and 19. In both instances these significant adverse effects are recorded as uncertain in the SA Report in acknowledgement of the potential mitigating effects of the other policies in the Local Plan (described above), and in acknowledgement of anticipated technological advances leading to reduced pollution over the plan period.
- 1.17 In addition, the SA Report acknowledges the potential for the effects arising from development in Basildon Borough through the Publication Local Plan to combine with the effects of other development planned in neighbouring boroughs and districts as well as county-wide initiatives such as transport infrastructure projects within and adjacent to Basildon Borough. The provision of roughly 65,000 homes, albeit over slightly different plan periods, in the coming years is likely to significantly increase traffic flows in the short, medium and long term, increasing the potential for an intensification in air pollution which could in turn affect the health of existing and new residents.
- 1.18 Finally, the SA Report noted that preliminary planning work is underway to construct a new tunnel under the Thames to the east of Tilbury and Gravesend, called the 'Lower Thames Crossing' providing better connections to the southern bank of the river and the M25. This national infrastructure project is likely to cause significant disruption during its construction, but in the long term make a significant positive contribution to the accessibility of the region, which may in fact encourage greater growth in Basildon, increasing traffic and air pollution.

Changes in SA effect as a result of the air quality baseline updates

Basildon Local Plan Individual Policy Effects

- 1.19 Several allocations within the publication Basildon Local Plan are located in reasonably close proximity⁹ to latest points of exceedance identified at Noak Bridge Junction and the Nevendon Interchange, notably:
- **Policy E2 (Existing Employment Areas for General B-Class Uses):** This policy contains a list of 12 existing employment areas in the Borough, four of which are located within 500m of the exceedance points:
 - DST House, St Nicholas Lane, Basildon
 - Pipp's Hill, Basildon
 - Cranes, Basildon
 - Burnt Mills, Basildon
 - **Policy H4 (New Gypsy and Traveller Pitch and Travelling Showpeople Plot):** This policy allocates ten pitches to site H5, which is within 500m of the A127/A132 Nevendon Interchange.
 - **Policy H10 (Noak Bridge Junction):** This allocation is located next to Noak Bridge Junction.
 - **Policy E5 & H5 (Land West of Gardiners Lane South, Basildon):** The site is located in 500m of the A127/A132 Nevendon Interchange.

⁹ The World Health Organization's (WHO) Review of Evidence on Health Aspects of Air Pollution Project suggests that NO₂ has a gradient of 200-500m.

- 1.20 Site allocation policy H9 requires development not to come forward until such time as air quality within the vicinity of the site has been shown to be within statutory limits for NO₂, in order to ensure residents of this development are not exposed to unsafe air quality. The Local Plan site allocation policies in close proximity to the points of exceedance do not contain such text and therefore have the potential to generate **significant adverse effects** against SA objectives 8, 15 and 19, at least in the short term until an agreed AQMP can be successfully implemented. Given the uncertainty around the final suite of measures to be employed within the A127 AQMP, **it is recommended that all site allocation policies listed above include a requirement for development not to come forward until the known exceedances in NO₂ have been managed.**

Basildon Local Plan Cumulative Effects

- 1.21 The forecast traffic model built to project the NO₂ exceedance estimates in ECC's business cases for 2020, 2023 and 2030 is based on National Trip End Model (NTEM) forecasts. The NTEM considers significant development committed in or adjacent to the study area; however, the model does not factor in the growth in vehicle trips associated with the planned growth within the new Basildon Local Plan up to 2034, or indeed planned growth in neighbouring authorities (summarised above).
- 1.22 The scale of growth planned in Basildon over the plan period and in neighbouring districts and boroughs over a similar plan period has the potential to significantly increase traffic on the A127 and connected roads, increasing the significance and projected length of NO₂ exceedances. Consequently, ECC in conjunction with Ringway Jacobs produced further modelling work to determine the likely air quality effects of the Borough's planned growth.¹⁰ The latest modelling work concludes that *"NO₂ compliance thresholds are very likely to be achieved in 2023 in the absence of mitigation measures"*.
- 1.23 In the absence of traffic and associated air quality modelling projections that factor in the growth planned within the new Basildon Local Plan and neighbouring local plan areas, it cannot be determined whether the latest version of Basildon's AQMP, or indeed future versions incorporating a charging CAZ, will be sufficient to reduce NO₂ levels below 40 µg/m³ throughout the plan period.
- 1.24 Defra's latest direction requests further air quality and transport modelling exploring the impacts and feasibility of a small charging CAZ and/or access restriction (charge or ban) for HGVs. Until this additional modelling is available and a decision has been made on the additional measures to be employed to mitigate the NO₂ exceedances it is not possible to establish the likely effects of the final AQMP in combination with the Basildon Local Plan and other relevant plans, programmes and projects.
- 1.25 **Consequently, the conclusions reached within the SA Report which accompanied the publication Basildon Local Plan (summarised in the section above) still stand.**
- 1.26 Although the full suite of measures to be included in the AQMP has yet to be determined, a high-level distributional impact assessment has been carried out to establish whether the preferred AQMP (a speed reduction scheme and non-charging CAZ) would result in new impacts on air quality, affordability, accessibility, noise, severance, security and accident rates. **Table 3** summarises the conclusions of the high-level distributional impact assessment included in the business case document prepared by ECC.

Table 3 – High-level distributional impact assessment findings

Impact Variable	Findings
Air Quality	The schemes within the AQMP are designed to improve air quality below the NO ₂ annual mean EU Limit Value of 40 µg/m ³ .
Affordability	The schemes have the potential to disproportionately affect parts of Basildon that contain low income households, notably around Burnt Mills and North

¹⁰ Basildon Local Plan Air Quality Review (ECC and Ringway Jacobs, February 2020)

Impact Variable	Findings
	Benfleet. Considering the disbenefits of the schemes associated with increased journey times and associated increases in private vehicle operational costs, the average cost per household within Basildon town was found to be £64.64 per year. Given the average household income within the area is roughly £29,225 and the additional costs would be spread out over each year, the cost is not considered to be significant.
Accessibility	<p>The vast majority of the wider transport network was not considered to change as a result of the schemes within the AQMP. However, the schemes were only found to increase traffic flows on the A176 between Lee Chapel South and Kingswood in south Basildon. Amenities in this area include two schools (Woodlands School and Lee Chapel Primary school) and a series of medical facilities (G&S Dental Practice, Well Basildon pharmacy, Knares medical practice and Basildon University Hospital). This could have negative impacts on children travelling to school, as well as elderly and disabled residents travelling to medical appointments. Whilst traffic flows are expected to increase in this location, the percentage change compared to the Do Minimum scenario is less than 10%. This suggests that whilst there could be an impact in this location, it is likely to be minor and therefore not significant.</p> <p>To the south of the A176, on the road leading off the A176 into Basildon University Hospital, the traffic modelling predicts improvements in traffic flows. Similarly, the percentage change in traffic movements is less than 5% so the benefits are not considered to be significant.</p>
Noise	The AQMP was found to result in reduced noise along the A127. Consequently, this impact variable was screened out.
Severance	Guidance on traffic flows from the Highways Agency (1993) and vehicle composition from DfT (2015) suggest severance could arise if traffic flows exceed 8,000 vehicles per day and the predicted change in traffic flows is greater than 10%. The traffic modelling indicated that there are no changes in traffic flows above 10% and therefore this impact was screened out.
Security	The nature of the schemes within the AQMP were not considered to generate any adverse impacts on security so this impact variable was screened out.
Accidents	The nature of the schemes within the AQMP were not considered to increase the likelihood of accidents so this impact variable was screened out.

1.27 In identifying limited potential for **the adopted speed reduction scheme on the A127 and the yet to be adopted non-charging CAZ to generate significant effects, the impact assessment suggests that there will be limited potential for the schemes to generate significant effects in-combination with the publication Basildon Local Plan, or other plans or programmes.**

LUC
February 2020