

RICHARD BUXTON SOLICITORS

ENVIRONMENTAL, PLANNING & PUBLIC LAW

**19B Victoria Street
Cambridge CB1 1JP**

Tel: (01223) 328933

www.richardbuxton.co.uk
law@richardbuxton.co.uk

Northaw and Cuffley Parish Council

Hearing Statement for Policy SADM33 Sites, HS26-HS31

23 April 2020

Partners: Richard Buxton* MA (Cantab) MES (Yale), Lisa Foster Juris D MSc (UEA) MA (York), Simon Kelly BA MSt (Oxon), Paul Taylor BA (Oxon)

Solicitors: Hannah Brown MA (Cantab), Matthew McFeeley BSc MPP Juris D, Lucy Cooter BA (Hons), Sarah Knox-Brown MA (Hons)

Consultants: Paul Stookes* PhD MSc LLB, Kristina Kenworthy BA (Hons) LLM Env (UCL)

Solicitor and Practice Manager: Caroline Chilvers BA (Hons) Office Manager: Kath Kusyn

Authorised and regulated by the Solicitors Regulation Authority No.74899

* Solicitor-advocate

Introduction

1. The Parish Council (“PC”) **supports** the allocation of sites HS26, HS27, HS28 and HS31 for a combined total of 161 new dwellings in the parish.
2. The PC **opposes** the allocation of HS29 and HS30, as recorded in NCPC 2016.¹ In 2016 the PC commissioned Aecom to provide advice on the Local Plan Consultation Draft 2016 (appended to the PC’s October 2016 consultation). Aecom assessed two principal issues: (1) harm to the Green Belt by release of HS29 and HS30; and (2) transport impacts arising from the Northaw and Cuffley allocations.
3. Aecom’s summary findings on Green Belt are that allocation of sites HS29 and HS30 is inappropriate **“on the grounds of national and local green belt policy, landscape sensitivity and the lack of a defensible northern boundary.”**
4. Aecom’s summary findings on transport are that traffic from the proposed HS29 and HS30 sites could not be accommodated on the local highway network without severe impacts, even with mitigation.
5. In April 2020 the PC commissioned Railton to look at updated transport evidence. Railton’s conclusions (TN01 - copy appended) can be summarised as follows:
 - There has been a material change in circumstances since Aecom undertook its work in 2016 as more than 2,000 dwellings are now proposed in Broxbourne close to Cuffley;
 - Work undertaken on behalf of Broxbourne Borough Council (“BBC”) suggests that its allocations could lead to significant increases in Cuffley traffic;
 - There is no evidence to show that the Broxbourne allocations have been taken into account in the Welwyn Hatfield Borough Council (“WHBC”) modelling work;
 - There is an absence of any modelling work that properly accounts for cumulative traffic flows associated with significant development in both WHBC and BBC. This absence is most acute in areas close to their shared border, and in Cuffley, that are close to major allocations on both sides of the border;
 - The conclusion drawn by Aecom in 2016 that the sites suffer from poor accessibility still stands. Accessibility has reduced since 2016 due to significant reductions in bus services. Walking, cycling and bus use do not offer easy or convenient access to the railway station and there is little or no spare capacity in the station car park to accommodate car trips.
6. In January 2020, at Full Cabinet, WHBC voted to remove HS29 and HS30 to avoid High Harm to the Green Belt (Minutes of Special Cabinet 30/1/20).
7. In September 2016, several large housing developments (up to 2,000 dwellings) were announced for BBC sites in Goffs Oaks (1km from Cuffley) and West Cheshunt (2km from Cuffley).

¹ These sites were additional site allocations since the 2015 Local Plan consultation so did not feature in the PC’s 2015 consultation.

Matters 1-2

Questions: 168-173 Surface water run-off/ drainage

8. In January 2017 WHBC refused development consent for 600+ dwellings on a site (23+ha) to the south western edge of the parish of Cuffley (known as the “Metropolis Site”). The southern edge of the parcel encompasses sites HS29 and HS30.
9. The Officer’s Report (“OR”) identified surface water drainage as a material consideration since the site is *“highly problematic in terms of land drainage. Research indicates that, pre-development, there were also a number of ponds along Northaw Road East.”*
10. The problematic drainage issue directly bears on deliverability of housing on HS29 and HS30. *“In terms of topography, the majority of the site is steeply sloping. The highest point of the site is located towards the north east corner from where levels fall downhill towards the western site boundary and towards the B156 (Northaw Road East) located to the south”.* The OR referred to run-off **cascading** through the development – noting it would be extremely difficult to mitigate.
11. Development on HS29 and HS30 would exacerbate surface water flooding as it would remove any natural drainage which presently functions to absorb some water runoff.
12. The promoters have not assessed how development of the site will impact on groundwater and the existing problem with groundwater flooding along Northaw Road East. Given the long thin site shape and the modest site areas of HS29/HS30, there is inadequate surface area for a suitable drainage solution to replace the natural drainage which now occurs.

Questions: 180-181 Atmospheric pollution

13. In February 2020 WHBC commissioned Aecom to provide a technical update on air quality matters. Aecom records that *“air quality is of concern for [the Cuffley] area and will be continually monitored by the Council in particular Station Road....”* Aecom does not dispute the very fundamental issue long raised by the Parish Council² that no quantitative assessment has been undertaken of the cumulative impact on air quality of the proposed allocations in the local plan. See Aecom ¶3.14 which records criticisms raised in a further report on Cuffley air quality matters lodged by local residents in November 2019, prepared by Dr Claire Holman, Brook Cottage Consultants, *Technical Note: Local Plan Impacts on Air Quality and Climate Change...*³ Aecom’s conclusion ¶3.19 *“It is encouraged that WHBC do update documents as appropriate”* (e.g. that updates should be done as Dr Holman has identified). To date as far as the Parish Council is aware, no such update is available.

Questions: 189-192 – Traffic issues

Q: 189 What are the off-site highway ramifications of these proposals?

14. There has been a lack of any proper assessment of the cumulative traffic impacts of allocations within WHBC and BBC. See Railton ¶5-19.

Q: 190 Without improvements, would there be unacceptable harm to highway safety and/or the free flow of traffic within Cuffley?

² The PC’s initial report in 2017 prepared by Air Quality Consultants identified that air quality for residential properties that are on Station Road and Cuffley Hill is at a level that could cause health issues.

³ We lodged this with the programme officer and a copy provided to WHBC. The programme officer has confirmed that neither the February Aecom 2020 report and the BBC report have not been added to the examination library.

15. Yes. This conclusion was drawn by Aecom in its 2016 work for the PC. Railton TN01 explains that the level of impact is now likely to be even greater since the 2016 work did not allow for the large allocations within Broxbourne close to the sites.

Q: 191 Are the sites' overall viabilities sufficient to be able to support any required highway improvements as well as any other required contributions to additional infrastructure and facilities?

16. No, there are no proposals and the sites are of a size which could not fund anything other than minor modifications

Q: 192 If not, what other options have been considered to try to achieve viable development sites?

17. The previous rejected scheme (see ¶8 above) included only new site access arrangements. The Highway Authority has not prioritised the B156 for any major investments. The existing building line along the B156 would make any road widening or reconfiguration scheme uneconomic.

18. The PC has genuine concerns that the supporting documentation, including the 2016 Sustainability Assessment, does not address a number of critical issues relating to Northaw and Cuffley, in particular railway capacity, highway capacity and the impact on air quality arising from road traffic.

19. Railton has concluded that there is inadequate traffic impact assessment work to assess cumulative impacts within the natural catchment area for the Cuffley Rail Station. In particular, as explained at Railton ¶9, housing growth in the adjoining borough will exacerbate traffic in Cuffley.

Matter 3 – Questions: 193-195 Sustainability – See Railton ¶15-19

20. Cuffley is described in the Local Plan as a sustainable location because of the existence of a rail station. The Cuffley line runs from Stevenage to Moorgate and draws commuters from West Cheshunt and Goffs Oak, as well as Cuffley and Northaw. Available loading data published by the DfT shows that in 2018 the Cuffley line was in excess of passenger capacity by 5.7%, despite the fact that passenger capacity had increased between 2017 and 2018 by 10%. However, within the Local Plan evidence base, there is no analysis of rail capacity, and this should be considered to be a major omission in the overall assessment of sustainability and impact.

21. There are also parking capacity problems because the station car park, and a second car park at Sopers Road opposite, are at capacity on a normal working day. On street parking is constrained by parking regulations.

22. There is only one bus route, 242, that connects the proposed new developments in Broxbourne to Cuffley Station, and during the rush hour there are only 4 buses in 3 hours.

23. Walking or cycling from the Goffs Oak direction would be extremely challenging as there is a very steep and long hill which would deter all but the most athletic commuter.

24. The conclusions that can be drawn from this analysis are:

- Within the rail catchment area there are 2,500+ additional residential units proposed
- Circa 16% of employed additional residents will use the railway, the majority Cuffley Station
- Walking or cycling to the Station will be unattractive

- The bus service is poor in rush hour
- The majority of new residents using Cuffley Station will drive
- There will be no car parking capacity available for additional commuters

Matter 4 Green Belt and Landscape

Questions: 198-206 relating to HS28 - See ¶1 above, the PC supports HS28.

Questions: 207-217 relating to HS29/30 - (to reduce repetition see ref to ¶“X” below)

Q: 207 Do sites HS29/30 impinge in a meaningful way upon the existing gap in the built environment between Cuffley and Potter Bar

Yes ¶29

Q: 208 Do they contribute to the checking of the unrestricted sprawl of large built up areas?

Yes ¶29

Q: 209 Is there mitigation that could be implemented to reduce any harm to openness?

No ¶31

Q: 210 Would the proposed new boundary to urban development be as robust as the existing one, in the context of visually preventing urban sprawl and maintaining openness?

No ¶31

Q: 211 If the boundary is to be moved, is the current proposal the most appropriate location for a new Green Belt boundary.

No ¶¶28,31 (no natural boundary features)

Q: 212 If not are there other more defensible boundaries that could be chosen?

No ¶¶28,31

Q: 213 Is there scope to improve the permanence of any new boundary through the introduction of woodland planting to create enhanced physical features?

No ¶25. Trees would create an artificial boundary on a steep slope and it is the topography across and up the slope that are important landscape features (¶29). Aecom deems the boundary at risk from further “rounding off” development

Q: 214 Is the overall assessment of high harm a sound interpretation of the contribution that sites HS29/30 makes to the purposes and openness of the Greenbelt?

Yes ¶¶25-26

Q: 215 Can this level of harm be appropriately applied to the entirety of the sites?

Yes ¶¶ 25-26

Q: 216 In these contexts, is the allocation of these site justified, effective and consistent with national planning policy?

No - contravenes Green Belt protections – ¶¶ 30-35

Q: 217 Do exceptional circumstances exist to release these sites from the Green Belt and if so, (other than Welwyn/Hatfield's housing need), what are they?

No - release of sites which result in High Harm is not justified ¶ 30

General comments

25. HS29 & HS30 form the southern part of Green Belt Parcel 87. The August 2018 [EX88B] and March 2019 [EX99A] Green Belt studies record that release of the parcel as a whole or in part would result in High Harm to the Green Belt. ***“The parcel is open and rural in character and strongly distinct from Cuffley which slopes down eastwards from the parcel edge.”*** The July 2019 Landscape Sensitivity Appraisal (“LSA”) [EX156] describes the overall landscape character of Cuffley as *“A pronounced landform consisting of narrow ridges and valley bowls. Slopes are prominent and dips run parallel to provide natural enclosure and a relatively distinctive landform pattern.”* (LSA p.191)
26. The March 2019 Green Belt assessment records that P87 makes a significant contribution to two Green Belt purposes: Purpose 3, Safeguarding the countryside from encroachment and Purpose 5, assisting the urban regeneration by encouraging development away from Green Belt land. Aecom agrees that both HS29 and HS30 fulfil Green Belt purposes as safeguarding against encroachment into the countryside. The current site boundaries for these sites are isolated from the existing settlement. High Harm and two significant contributions to the Green Belt attract significant weight *against* allocation of Green Belt sites.⁴
27. HS29 and HS30 fail to meet the exceptional circumstances test in the NPPF. WHBC agreed (January 2020) in an exercise of planning judgment, voting to remove HS29 and HS30 from the plan due to objective assessment of high harm to the Green Belt. The Courts have reaffirmed that a finding of exceptional circumstances is a matter of planning judgment for the Local Planning Authority.⁵ It is unclear how WHBC's January 2020 vote impacts on the legal position for HS29/HS30.
28. The critical issue is that there are no natural features to define the northern boundaries of either HS29 or HS30. For this reason, Aecom disagreed with WHBC's assessment of the suitability of the sites: *“WHBC conclusions do not appear to have given enough weight to the weak defensible northern boundary of [HS30]. The fragile boundary is even weaker when the site is joined with the reduced Cuf12 site to the east which has no existing northern boundary”* and in relation to HS29 records: *“As with HS30, WHBC conclusions do not appear to have given enough weight to the weakness of the northern boundary of [HS29] which is even less defensible when the two sites (HS29 and HS30) are joined.”* Central to the PC's argument that HS29/30 are unsuitable is the criteria in NPPF 85 that changes to the Green Belt should *“define boundaries clearly using physical features that are readily recognisable and likely to be permanent.”*

⁴ See Site Selection Background (SSR) 2019, para 9.6/table 9.2 and Table 9.3.

⁵ Compton PC v Guildford BC [2019] EWHC 3242 (Admin); Calverton PC v Nottingham CC [2015] EWHC 1078 (Admin)

29. Allocation of these sites risks further Green Belt encroachment as Aecom records: there would be pressure to 'round off' the urban form by development the area of land between HS29/30 and so the boundary would not be defensible. This is because HS30 is part of the larger parcel which has high landscape sensitivity and high physical and visual openness.
30. Aecom concludes that the allocation of HS29/30 "*would constitute ribbon development which is a form of urban sprawl*" contrary to the NPPF.
31. The Inspector's December 2017 Green Belt Review Note [EX39] (p.3) characterises "openness" as "*the most important consideration and records that "topography" and existing "major physical features"* and the relationship of the site to the Countryside as essential to whether development and loss of openness would harm the fundamental character of the Green Belt.
32. The Green Belt assessment of HS29 and HS30 records key topographical features of the steeply sloped site: "*The land contains the characteristic of open countryside, being predominantly uncontained and comprising arable fields. The land is open, no urbanising development and slopes down from a ridge at the urban edge, marking a strong distinction between settlement and countryside.*"
33. WHBC acknowledges that the steep sloping topography is particularly relevant as the land falls away from the settlement "*such that any development would significantly impact on the setting of the settlement and negatively affect the Green Belt*" (SSR ¶ 22.8).
34. Although at ¶ 22.9 WHBC seeks to distinguish HS29/HS30 from the larger parcel, that is a false distinction since the whole of the site slopes away (it is one landscape feature). Development of housing at the low point on the site would completely erode the value of the site to contribute to the setting of Cuffley on the approach along the B156 and the Green Belt.
35. The facts here are very different from that dealt with by the Inspector in the Compton case, where in the judgment of Ouseley J (¶59) the site was "*of medium Green Belt sensitivity. It shares little of the character of the countryside around it; most of the site is flat, rather featureless, contains a runway and hard surfacing and can be regarded in part as previously developed land. It is separated from much of Ockham by a valley and a small knoll. Development here would be fairly self-contained visually and would not add to the appearance of sprawl.*"

Landscape

36. In July 2019 WHBC updated the LSA to complement the ongoing Green Belt work, since protecting sensitive landscapes is not one of the express purposes of the Green Belt protections in national policy.
37. The July 2019 LSA records moderate to high sensitivity for LCA 53c which encompasses HS29 & HS30 on the southern boundary. It specifically mentions as medium sensitivity the "Ridgeway" extending from the Western Edge of Cuffley. The LSA records key sensitivities and mitigation potential to minimise adverse impacts on the landscape and visual character to "*minimise intrusion on the distinctive landform patterns comprising marrow ridgelines and valley bowls*" (p 195).

Conclusion

38. For the reasons set out above the PC strongly urge the Inspector to remove HS29/30 from the draft local plan.

Technical Note 01: Representations on Sites HS29 and HS30

Project: Welwyn Hatfield Local Plan

Subject: Cuffley Transport Impact

Client: Northaw and Cuffley Parish Council

Prepared by: Bruce Bamber, Director Railton TPC Ltd

Date: 21/04/20

Introduction

1. This Technical Note has been prepared on behalf of Northaw and Cuffley Parish Council in relation to representations opposing the allocation of sites HS29 (73 dwellings) and HS30 (75 dwellings).
2. Transport modelling work was undertaken by Aecom in 2014 and 2016^(1,2,3) on behalf of Welwyn Hatfield Council in relation to the Welwyn Hatfield Local Plan. Work was also undertaken by Aecom in 2016 under separate instruction from Northaw and Cuffley Parish Council to assess the impact of the HS29 and HS30 allocations. Since 2016 much larger allocations have been identified in close proximity to Cuffley as part of the Broxbourne Local Plan. Railton TPC Ltd has been asked by the Parish Council to review the various reports that are available and assess whether traffic impacts around Cuffley may be more severe than predicted by Aecom in 2016.
3. The assessment work is based on a review of the data sources listed in **Appendix 1**.
4. The first part of this Technical Note deals with traffic modelling work. The second part considers the issue of sustainable access.

Modelling Work

Initial Modelling Work

5. The initial traffic modelling work undertaken by Aecom in 2014 and 2016^(1,2,3) on behalf of Welwyn Hatfield Council in relation to the Welwyn Hatfield Local Plan adopted an approach based on a generalised 'blanket' growth in traffic outside of Welwyn Hatfield. No specific account was taken of large allocations located in close proximity to Cuffley that may lead to much greater than 'average' growth in traffic on local roads around Cuffley. Indeed, Broxbourne is not specifically mentioned in any of the 2014 or 2016 Aecom reports undertaken on behalf of Welwyn Hatfield.

Conclusions of October 2016 Aecom Advice Note prepared for Parish Council

6. The October 2016 Aecom Advice Note⁽⁴⁾, prepared on behalf of the Parish Council, concluded that traffic from the proposed HS29 and HS30 sites could not be accommodated on the local highway network around Cuffley without severe impact even with mitigation. The work assumed

only 200 dwellings as committed development in Broxbourne around Goff's Oak. The report also found the HS29 and HS30 sites to have poor levels of sustainable access.

Changes since 2016

7. The October 2016 Advice Note on behalf of the Parish Council assumed a modest level of housing growth within Broxbourne comprising 200 dwellings east of Cuffley. This assumption is no longer valid since the emerging Broxbourne Local Plan now proposes 965 dwellings at Goff's Oak and Rosedale Park, between 1km and 3km east of Cuffley and 1,250 dwellings in a new Garden Village at Brookfield approximately 7km to the north-east of Cuffley.
8. A review of Google Maps travel time data indicates that the B156 through Cuffley represents either the most direct route or a viable alternative route between the local allocations in Broxbourne and a range of major destinations in an arc from Enfield and Barnet to the south clockwise to Hatfield to the north-west. It therefore appears highly likely that these significant Broxbourne developments will lead to significantly increased traffic through Cuffley.
9. Some modelling has been undertaken by WYG in relation to the Broxbourne Local Plan. WYG's November 2017 Report⁽⁵⁾ considers the potential impacts of proposed allocations within Broxbourne. It does not take into account the specific allocations that form part of the Welwyn Hatfield Local Plan. Nevertheless, the results that can be derived from the model outputs attached as Appendices B and Q of the November 2017 Report suggest that the B156 east of Cuffley will experience an increase in traffic during the AM peak hour associated with Broxbourne developments of 20% even with the various mitigations measures that are proposed within Broxbourne. In the PM peak hour, the modelling suggests a decrease of 12% although there is no commentary available to explain the discrepancy between the AM and PM peak situations.
10. The modelling work undertaken on behalf of Welwyn Hatfield does not take into account specific allocations within Broxbourne and the modelling work undertaken by WYG on behalf of Broxbourne does not take into account the specific allocations within Welwyn Hatfield. There is therefore an absence of any work that properly accounts for cumulative impacts, particularly in areas such as Cuffley that are both close to the boundary between the two Boroughs and close to significant allocations on both sides of the border.

2019 Modelling

11. Aecom, working on behalf of Welwyn Hatfield, undertook some additional modelling using COMET for the Welwyn Hatfield area as reported in October 2019⁽⁶⁾ to test two options for jobs and dwelling allocations. The report refers to a 'COMET LP4 Forecasting Report Final June 2019'. This report should form part of the Evidence Base but is not currently available. It is not, therefore, possible to properly assess the assumptions that have been made in the latest modelling to account for development outside of Welwyn Hatfield but close to Cuffley.
12. Figures 4-7 of Aecom's October 2019 report show significant traffic increases on the B156 through Cuffley (both Station Road and Northaw Road East). However, the report compares 2036 flows including traffic associated with the development options 1 and 2 with the modelled 2014

base flows. It is not possible to disaggregate the flows associated with development in Broxbourne or with the proposed allocations in Cuffley. The work is not, therefore, helpful in understanding how future traffic is affected by the allocations in and around Cuffley.

Sustainable Access

Bus Services

13. Only one bus service passes the proposed HS29 and HS30 sites: The No. 242 that runs between Waltham Cross and Potters Bar. The 2016 Aecom Advice Note identified 4 services in the AM peak hour and 3 services in the PM peak hour. Current timetables show that the level of service has reduced to 1 service in the AM peak hour and no services in the PM peak hour. Indeed, the service now only operates 5 services in each direction daily Monday-Saturday.
14. Aecom concluded that both sites had a low level of accessibility. The level has now, therefore, reduced even further.

Access to Railway Station

15. It is generally accepted that 800m represents a reasonable maximum convenient walking distance to train stations that would positively encourage train use. Work undertaken by WYG⁽⁷⁾, undertaken on behalf of Welwyn Hatfield, based on information available from the National Travel Survey (NTS) indicates that the mean distance walked to railway stations in the UK excluding London is 1,010m. The walking distance between the station and the centre of each site, via the most direct available route is 1.1km for HS30 and 1.3km for HS29. These distances are in excess of both the recommended walk distance and the average walk distance. It would be reasonable to conclude that it is not a convenient walk between the sites and the train station.
16. The walk journey between the sites and the station is made more difficult by the need to negotiate an intervening steep hill requiring around 15m of ascent in each direction. This makes the walk journey impossible for some people with constrained mobility and adds to the disincentive for even the most physically able.
17. The significant hill and the high traffic flows on Station Road and Northaw Road East also represent a disincentive for people to cycle to and from the station.
18. There is hardly any bus service between the sites and the train station.
19. The sites do not offer easy or convenient access to the railway station on foot, by bicycle or by bus so, for most, the only reasonable method of travelling to and from the station would be by car. There is, however, little or no spare capacity at the exiting station car park and there are no plans to expand parking provision. It would be possible for train users to be dropped off or picked up at the station but this is a highly inefficient and harmful practice as it generates a double car trip on already congested roads with the vehicle engine generating high emissions from a cold start in an urban area.

Summary and Conclusion

20. Work undertaken in 2016 by Aecom on behalf of the Parish Council concluded that traffic from the proposed HS29 and HS30 sites could not be accommodated on the local highway network without severe impact even with mitigation. This conclusion was drawn without reference to more than 2,000 dwellings in Broxbourne, close to Cuffley, currently being promoted through the Broxbourne Local Plan. The limited information that is available from the transport evidence base (WYG Report 2017) accompanying the Broxbourne Local Plan Review suggests that the major development within Broxbourne will lead to a significant increase in traffic on the B156 through Cuffley in the AM peak period. This finding is consistent with an assessment of available routes between the major allocations in Broxbourne and significant destinations to the south, west and north-west. There is no available evidence to suggest that the latest modelling work undertaken in support of the Welwyn Hatfield Local Plan has allowed for the impact of Broxbourne allocation traffic on Cuffley.
21. There is no modelling work that properly accounts for cumulative traffic flows associated with significant development in both Welwyn Hatfield and Broxbourne Boroughs. This lack is felt most acutely in areas close to the border between the two Boroughs and in areas such as Cuffley that are close to major allocations on both sides of the border.
22. Aecom, working on behalf of the Parish Council concluded in 2016 that both site HS29 and HS30 suffer from a low level of accessibility. This conclusion is still applicable although sustainable access has reduced further since 2016 with a significant reduction in the level of available bus services. Walking, cycling and bus use do not offer easy or convenient access to the railway station and there is little or no spare capacity in the station car park to accommodate car trips. Rail users could be dropped off or picked up but this approach generates two car trips for every one train trip and is harmful in that it disproportionately increases congestion and air pollution in the local area.
23. Overall, it is concluded that insufficient modelling work has been undertaken to assess the potential traffic impact of sites HS29 and HS30 and the sites suffer from poor accessibility and a lack of sustainable access.

Appendix 1: Source Documents

Sources referenced in text:

1. WHaSH (Welwyn/Hatfield and Stevenage/Hitchin) Highway Model: Model Development Report, Aecom, October 2014 (client: **Welwyn Hatfield Borough Council**)
2. WHaSH Highway Model: Model Forecasting Report, Aecom, December 2014 (client: **Welwyn Hatfield Borough Council**)
3. WHaSH Highway Model: Welwyn Hatfield Local Plan Mitigation Testing, Aecom, August 2016 (client: **Welwyn Hatfield Borough Council**)
4. Advice Note for Northaw and Cuffley Parish Council on Welwyn Hatfield Borough Council Draft Local Plan Consultation, October 2016 (client: **Northaw and Cuffley Parish Council**)
5. Broxbourne Transport Modelling: Technical Note summarising the use of the Broxbourne Highway Model to support the production of the Broxbourne Transport Strategy, WYG, November 2017 (client: **Broxbourne Borough Council**)
6. COMET Welwyn Hatfield Local Plan 2036 Options, Aecom, October 2019 (client: **Welwyn Hatfield Borough Council**)
7. Paper presented at the PTRC Transport Practitioners' Meeting, WYG, London 2015

Other sources reviewed but not referenced in text:

Broxbourne Local Plan Development: Forecasting Report, JMP, October 2015 (client: **Broxbourne Borough Council**)

Broxbourne Transport Strategy and Local Plan Mitigation Assessment, Aecom, August 2017 (client: **Broxbourne Borough Council**)