

Bath & North East Somerset Council

MEETING/ DECISION MAKER:	Cllr Bob Goodman, Cabinet Member for Development and Neighbourhoods	
MEETING/ DECISION DATE:	On or after 30th June 2018	EXECUTIVE FORWARD PLAN REFERENCE:
		E 3064
TITLE:	Proposed boundary of the Air Quality Management Area in Temple Cloud	
WARD:	Mendip	
AN OPEN PUBLIC ITEM		
List of attachments to this report: Appendix 1: Map of the proposed Air Quality Management Area boundary, pre consultation Appendix 2: Map of the proposed Air Quality Management Area boundary, post consultation Appendix 3: The National Air Quality Objectives for Nitrogen Dioxide Appendix 4: The Temple Cloud 2016 and 2017 provisional monitoring data Appendix 5: The Consultation Report		

1 THE ISSUE

- 1.1 Under Part IV of the Environment Act 1995 local authorities are required to review and assess air quality within their area. Following a review of the air quality across the district an area within Temple Cloud has been identified as exceeding the Government's annual and hourly average objectives for Nitrogen Dioxide (NO₂) concentrations (in Appendix 3). The 40 micrograms per cubic metre (µg/m³) annual average objective was exceeded at five diffusion tube locations in 2017, by 5 to 29 µg/m³. The authority is therefore required to declare an Air Quality Management Area (AQMA) for the area of exceedance in Temple Cloud. A consultation exercise has been undertaken to obtain public views on the proposed AQMA, and to gauge agreement on its proposed boundary. The Cabinet Member is being asked to approve the recommended AQMA boundary.

2 RECOMMENDATION

The Cabinet Member is asked to;

- 2.1 Agree the proposed Air Quality Management Area (AQMA) boundary, which has been derived from the monitoring of Nitrogen Dioxide (NO₂) in Temple Cloud and through a public consultation.

3 RESOURCE IMPLICATIONS (FINANCE, PROPERTY, PEOPLE)

- 3.1 The work undertaken for this project has been funded from existing budgets within Public Protection and Health Improvement.

4 STATUTORY CONSIDERATIONS AND BASIS FOR PROPOSAL

- 4.1 The Council is legally required under Part IV of the Environment Act 1995 to declare an Air Quality Management Area, due to exceedances of the National Air Quality Objectives for Nitrogen Dioxide (NO₂) in Temple Cloud.
- 4.2 The Sustainable Community Strategy contains the ambition; 'To lead Bath and North East Somerset to an environmentally sustainable, low carbon and climate resilient future'. Reducing air pollution is a strategic issue that is addressed to achieve this. The action plan may also work in synergy with other issues, such as infrastructure planning, transport and green infrastructure.
- 4.3 Long and short term exposure to air pollution is known to have adverse effects on human health, and especially effects the most vulnerable. One of the six areas of focus as stated within the Council's Corporate Strategy 2016-2020 is 'Cleaner, greener and healthier communities'. Declaring an Air Quality Management Area and the subsequent development of an Air Quality Action Plan will positively contribute to this and is in line with the Council's 2020 vision and directorate plans.

5 THE REPORT

- 5.1 The ongoing review and assessment of air quality in the Bath and North East Somerset Council district has identified an area in Temple Cloud that exceeds the National Air Quality Objectives for Nitrogen Dioxide (NO₂). The 40 µg/m³ annual average objective was exceeded at five diffusion tube locations in 2017, by 5 to 29 µg/m³. In line with Part IV of the Environment Act 1995 the Council is required to declare an Air Quality Management Area here.
- 5.2 A public consultation exercise was carried out in accordance with Statutory Guidance issued by the Department for Environment, Food and Rural Affairs (Defra) – the Local Air Quality Management Policy Guidance (PG16). This consultation exercise focused on the boundary of the proposed AQMA and took place between Wednesday 14th February and Friday 23rd March 2018. Details and results from the consultation can be reviewed in Appendix 5: The Consultation Report.
- 5.3 Results from the consultation showed a 68% agreement with the proposed AQMA boundary. 10 requests were received to elongate the AQMA boundary to cover the whole stretch of A37 that runs through the village. In response to these views the proposed boundary has been altered.
- 5.4 A map of the proposed AQMA and its boundary pre and post consultation can be viewed in Appendix 1 and 2 respectively.

6 RATIONALE

- 6.1 The Council has a statutory obligation under Part IV of the Environment Act 1995 to declare an Air Quality Management Area where objectives have been

exceeded. The proposed Air Quality Management Area is outlined in Appendix 2. This area includes an area along the A37 through Temple Cloud which exceeds the 40 µg/m³ annual average objective for Nitrogen Dioxide (NO₂) concentrations. As concentrations above 60 µg/m³ have also been recorded, and this is indicative that the 1-hour average of 200 µg/m³ (18 occurrences a year) would also be exceeded, the area will also be declared for the 1-hour average objective.

7 OTHER OPTIONS CONSIDERED

- 7.1 Not to declare an Air Quality Management Area. This is not a viable option as the Council would be in breach of its duty under Part IV of the Environment Act 1995.
- 7.2 To declare the original Air Quality Management Area, which has a shorter, more condensed boundary. This option is ruled out due to the views of the public which emerged during the consultation period. The altered boundary is a slight elongation of the original, and covers the whole stretch of A37 through Temple Cloud which is lined by residential premises.

8 CONSULTATION

- 8.1 All parties were consulted in line with statutory guidance provided by the Department for Environment, Food and Rural Affairs (Defra) – the Local Air Quality Management Policy Guidance (PG16).
- 8.2 External consultees include: the Environment Agency, Highways England, All local authorities neighbouring Bath and North East Somerset Council, Other public authorities, Bodies representing local business interests and other organisations, the Temple Cloud with Cameley Parish Council and local residents.
- 8.3 Internal consultees include: the Ward Councillor, the Cabinet Member for Development and Neighbourhoods, the Cabinet Member for Transport and Environment, the Director of Public Health, Monitoring Officer, Section 151 Finance Officer, the Group Manager for Public Protection and Health Improvement, and other departments and staff.

9 RISK MANAGEMENT

- 9.1 A risk assessment related to the issue and recommendations has been undertaken, in compliance with the Council's decision making risk management guidance.

Contact person	<i>Lucy Boulton, 01225 396493</i>
Background papers	<i>None</i>
Please contact the report author if you need to access this report in an alternative format	

Appendix 1

Map of the proposed Air Quality Management Area boundary, pre consultation

Proposed AQMA in Temple Cloud

Author: N Courthold

Date: 16/11/17

Scale: 1:3000

Bath & North East
Somerset Council



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Appendix 2

Map of the proposed Air Quality Management Area boundary, post consultation

Proposed AQMA in Temple Cloud Post consultation

Author: N Courthold
Date: 05/03/18
Scale: 1:4000

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Somerset Council



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Appendix 3
The National Air Quality Objectives for Nitrogen Dioxide

Objective	Concentration measured as	Date to be achieved by (and maintained thereafter)
200 µg/m ³ (not to be exceeded more than 18 times a year)	1-hour mean	31.12.2005
40 µg/m ³	Annual mean	31.12.2005

Appendix 4
The Temple Cloud monitoring data

2016 data

Site	Data for 2016	Data at Façade
DT96 – Temple Cloud 1	<u>90</u>	<u>90</u>
DT108 – Temple Cloud 2	48	35
DT109 – Temple Cloud 3	46	41
DT110 – Temple Cloud 4	53	40
DT111 – Temple Cloud 5	51	51

2017 provisional data (awaiting peer review)

Site	Provisional data for 2017	Provisional data at Façade
DT96 – Temple Cloud 1	<u>67</u>	<u>67</u>
DT108 – Temple Cloud 2	50	34
DT109 – Temple Cloud 3	45	38
DT110 – Temple Cloud 4	<u>69</u>	49
DT111 – Temple Cloud 5	52	52
DT131 – Temple Cloud 6	11	9
DT132 – Temple Cloud 7	14	12
DT133 – Temple Cloud 8	21	16

Note: Nitrogen Dioxide (NO₂) concentrations measured in µg/m³. Exceedances of the NO₂ annual mean objective of 40 µg/m³ are shown in **bold**. NO₂ annual means exceeding 60 µg/m³ indicating potential exceedances of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

Consultation Report:

Air Quality Management Area (AQMA) in Temple Cloud

June 2018

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Report Reference Number	E3064
Date	June 2018

Executive Summary

In accordance with Part IV of the Environment Act 1995, where monitoring of air pollutants identifies exceedances of the National Air Quality Objectives an Air Quality Management Area (AQMA) must be designated.

Monitoring of Nitrogen Dioxide (NO₂) has highlighted a stretch of A37 road through Temple Cloud as exceeding the 40 µg/m³ annual average objective. Therefore, Bath and North East Somerset Council have begun the declaration process for an AQMA in Temple Cloud with a public consultation period on its proposed boundary. The consultation ran from Wednesday 14th February until Friday 23rd March 2018. Several methods of consultation were used throughout the period including: an online survey, attendance at the village Parish Council meeting, a public drop in event, social media, delivery of leaflets and emailing key consultees.

Results taken from the online survey, showed a 68% agreement with the proposed AQMA boundary. There were 10 suggestions from respondents to elongate the AQMA to fully cover the A37 stretch through the village. This was reviewed post consultation and the proposed AQMA has been altered to accommodate this.

Post consultation, the formal agreement of the Air Quality Management Area boundary in Temple Cloud will be a Cabinet Single Member Decision. The declaration of the area then follows a legal process, by which an order is created. During this time, the overall project moves on to Action Planning and drafting the Air Quality Action Plan (AQAP). Actions and measures suggested during this consultation on the proposed AQMA boundary will be considered, if viable, for the AQAP which is then, itself, subject to a further process of consultation.

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1 Introduction

Under Part IV of the Environment Act 1995, Local Authorities are required to review and assess air quality within their area. Bath and North East Somerset Council has a widespread monitoring network across the district. The results from monitoring air pollutants are compared to National Air Quality Objectives, which are derived from the European Directive limit values. The Department for Environment, Food and Rural Affairs (Defra) has issued guidance surrounding Local Air Quality Management (LAQM) for local authorities: Technical Guidance LAQM.TG16 and Policy Guidance LAQM.PG16.

Where exceedances of the National Air Quality Objectives occur, an Air Quality Management Area (AQMA) must be declared. Following this declaration, an Air Quality Action Plan (AQAP) is developed to identify actions, or measures, that will improve the air quality. The process to be followed is set out in the Defra guidance which local authorities are required to take account of.

Monitoring of the air pollutant Nitrogen Dioxide (NO₂) within the Bath and North East Somerset district has identified an area of exceedance in the village of Temple Cloud which is located along the A37 road (that runs from Bristol to Dorchester). Consequently, the Council is required to declare an AQMA in the village. A statutory period of public consultation forms part of the process; to agree the boundary and extent of the AQMA.

Setting the boundary of an AQMA involves an element of judgement as to the extent of the exceedance based on monitoring data, sources, receptors and other local factors. The dispersive nature of NO₂ results in concentrations quickly decreasing only a few metres from the source. Table 1 below lists the relevant exposures that must be considered when determining the boundary, along with the National Air Quality Objectives for Nitrogen Dioxide.

Table 1: The National Air Quality Objectives for NO₂, and where they apply

Objective (concentration in micrograms per cubic metre, µg/m ³)	Objectives should apply at:	Objectives should not generally apply at:
<p>Annual mean: 40 µg/m³</p>	<p>All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.</p>	<p>Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.</p>
<p>1-hour mean: 200 µg/m³ (18 exceedances per year)</p> <p>Guidance indicates that an annual mean NO₂ concentration greater than 60 µg/m³ may indicate an exceedance of the 1-hour objective.</p>	<p>All locations where annual mean objective would apply, together with hotels. Gardens of residential properties. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor location where members of the public might reasonably be expected to spend one hour or more.</p>	<p>Kerbside sites where the public would not be expected to have regular access.</p>

This report discusses the air quality of Temple Cloud, and details the public consultation which has taken place surrounding the proposed AQMA boundary. It does not cover appropriate actions and measures to be included in the Air Quality Action Plan in any detail as these will be covered in a later report. Responses from the consultation are discussed in Section 4.

2 The Issue

2.1 Background

The A37 road through Temple Cloud is very narrow in places and has several pinch points where larger vehicles, including Heavy Goods Vehicles (HGVs), are unable to pass one another. Consequently, they are forced to stop and give way. The additional engine power used to start again, negatively contributes to the vehicular emissions especially when travelling in an uphill direction.

Retaining walls and overhanging vegetation in Temple Cloud exacerbate the issue, and also act as physical barriers that can decrease air flow, resulting in higher pollutant concentrations (Jeanjean *et al.*, 2017). This is known as a street canyon effect (Vardoulakis *et al.* 2014). The unique conditions present in Temple Cloud have led to elevated Nitrogen Dioxide concentrations, and exceedances of the National Air Quality Objectives.

The main source of the NO₂ concentrations in Temple Cloud is vehicle emissions. A small fraction of NO₂ is directly emitted from vehicle exhausts; however the majority forms in secondary reactions within the atmosphere.

2.2 The Monitoring

The NO₂ data for 2016 and 2017 is displayed in Table 2 and Table 3 below. The diffusion tube monitoring sites can be viewed in Figure 1.

Table 2: Temple Cloud 2016 monitoring data

Site	Data for 2016	Data at Façade
DT96 – Temple Cloud 1	90	90
DT108 – Temple Cloud 2	48	35
DT109 – Temple Cloud 3	46	41
DT110 – Temple Cloud 4	53	40
DT111 – Temple Cloud 5	51	51

Table 3: Temple Cloud 2017 provisional monitoring data (awaiting peer review)

Site	Provisional data for 2017	Provisional data at Façade
DT96 – Temple Cloud 1	<u>67</u>	<u>67</u>
DT108 – Temple Cloud 2	50	34
DT109 – Temple Cloud 3	45	38
DT110 – Temple Cloud 4	69	49
DT111 – Temple Cloud 5	52	52
DT131 – Temple Cloud 6	11	9
DT132 – Temple Cloud 7	14	12
DT133 – Temple Cloud 8	21	16

Note: Exceedances of the NO₂ annual mean objective of 40 µg/m³ are shown in **bold**. NO₂ annual means exceeding 60 µg/m³ indicating potential exceedances of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

Due to concentrations exceeding 60 µg/m³, it is expected that the 1-hour mean objective of 200 µg/m³ (18 times in a year) would also be exceeded. The AQMA will therefore be declared for both the annual and 1-hour mean objectives.

2.3 The Proposed Air Quality Management Area (AQMA)

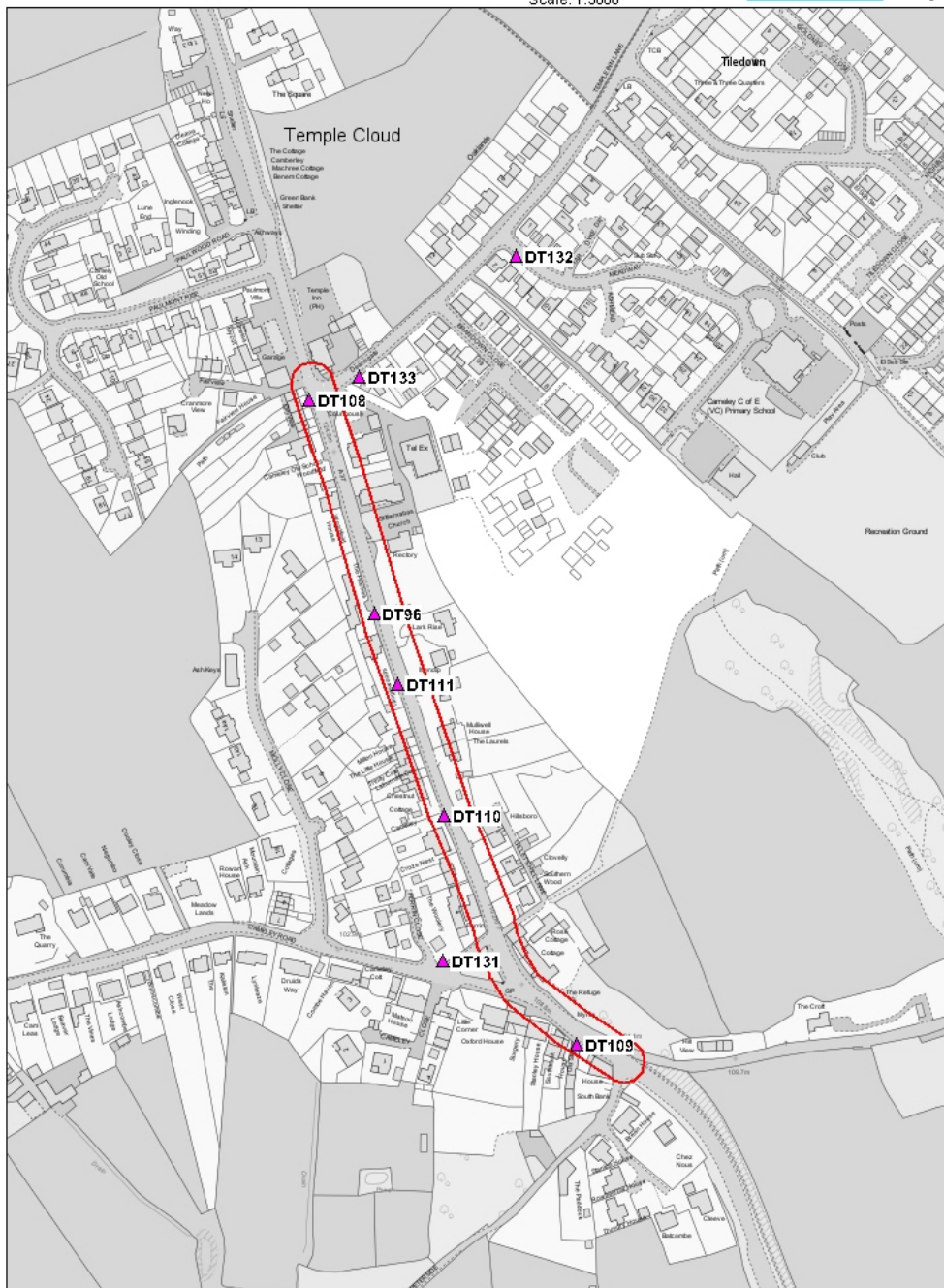
The proposed AQMA in Temple Cloud runs along the A37, starting just to the north of the A37/Temple Inn Lane junction and running just to the south of the A37/Eastcourt Road junction. The area will measure approximately 13 metres from the centre of the road, as displayed below in Figure 1. Any relevant building façades and gardens touched by or within this boundary are included in the AQMA.

Figure 1: Map of the proposed AQMA boundary in Temple Cloud

Proposed AQMA in Temple Cloud

Author: N Courthold
Date: 16/11/17
Scale: 1:3000

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3 The Consultation

The public consultation on the proposed Air Quality Management Area boundary ran from Wednesday 14th February, 9:00 to Friday 23rd March, 17:00.

The primary aims of the consultation were to:

- Gain opinion on the proposed Air Quality Management Area boundary
- Raise public awareness of the air quality issue within the village
- Encourage public engagement with the process; throughout the declaration of the Air Quality Management Area and then onto the Action Planning.

Within the Policy Guidance LAQM.PG16, 'Chapter 6: Consultation' lists the key statutory consultees in line with Schedule 11 of the Environment Act 1995. For England authorities, outside of London they are as follows:

- Defra;
- Environment Agency;
- All local authorities neighbouring the local authority in question;
- The County Council (if a District Council);
- Any National Park authority as appropriate;
- Other public authorities as appropriate; and
- Bodies representing local business interests and other organisations as appropriate.

An email was sent to all statutory consultees as listed above, and also to Highways England and the West of England Combined Authority (WECA), notifying them of the air quality issue in Temple Cloud and the subsequent AQMA boundary consultation. The relevant internal Bath and North East Somerset Council departments and consultees were also notified; including the Director of Public Health, the Ward Councillor, the Cabinet Member for Development and Neighbourhoods and the Cabinet Member for Transport and Environment.

The launch of the consultation deliberately coincided with a Parish Council meeting in the village. Two members of the Bath and North East Somerset Council Environmental Monitoring team attended and presented at the Temple Cloud with Cameley Parish

Council meeting on Wednesday 14th February. This marked the start of the consultation period. The presentation gave an overview of the air quality issue, as well as presenting the proposed AQMA boundary and explaining details about the declaration process and the consultation. Time for questions and answers was allocated at the end of the presentation.

An online survey was designed, which can be viewed in Appendix 2. The survey was kept as short as possible; to maximise response rate and focus the respondents attention onto a few key questions.

A drop in event was organised in the village at Temple Cloud Village Hall on 15th March 11:30am – 1:30pm. This public engagement session enabled members of the public to chat with officers, raise concerns, and ask questions. The social media platforms Facebook and Twitter were used throughout the consultation period to advertise the drop in event, and also the survey and proposed AQMA boundary.

An information leaflet was designed and printed for the consultation to provide details of the air quality issue, the legislation, the survey and the drop in event. Approximately 120 of these leaflets were delivered to residences in Temple Cloud; focusing on the houses along the A37 and near Cameley School in Temple Cloud. The leaflets were also available at the drop in event to take away. In addition, summary posters displaying the consultation details were put at several locations within the village; on available notice boards for example.

Finally, the local village newsletter was utilised and an article was prepared by the Bath and North East Somerset Council Communications team for the March Temple Cloud and Cameley newsletter.

Although this consultation period was solely on the proposed AQMA boundary, conversations and questions inevitably turned to proposed actions and measure that would help to improve the air quality. All suggestions and ideas were recorded and will be taken into consideration for the draft AQAP, if viable. However, the conclusions drawn from this report will focus on the AQMA boundary.

4 Consultation Responses

This section of the report discusses the consultation responses received. The majority of responses were received via the online survey. However, comments were also collected via email, and from face-to-face discussions throughout the consultation. The printable version of the online survey can be viewed in Appendix 2.

4.1 Online survey

The online survey received 50 responses, 34 in agreement and 16 not, as displayed below in Figure 2. The breakdown question by question is listed below:

Question 1: Do you agree with the proposed Air Quality Management Area boundary?

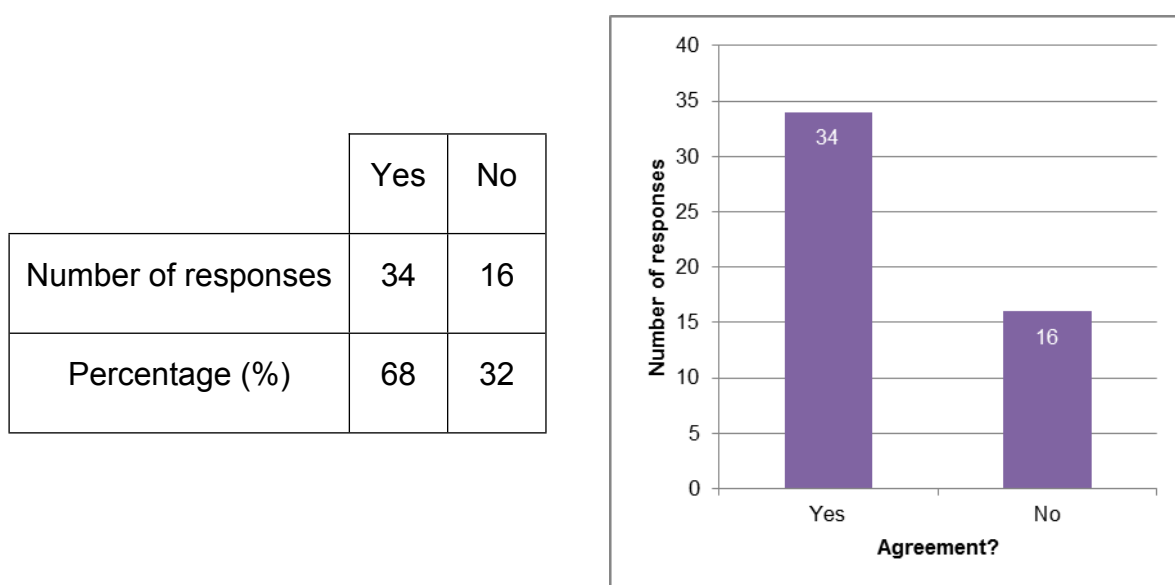


Figure 2: Graphical representation of the agreement with the proposed AQMA

Respondents who answered 'No' to question 1 were encouraged to provide the reasoning behind their answer. The full list of these reasons can be viewed in Appendix 1.

A common suggestion was to extend the AQMA further to the north and south than suggested; to cover the whole stretch of A37 that runs through the village. This was stated within 10 comments (from Question 1 and 2). A further 5 comments requested that Temple Inn Lane also be included in the AQMA, and Meadway and Oaklands were both mentioned once.

Elongating the AQMA boundary to further extend through the village is not supported by the monitoring data. However, to residents this seems logical as the same vehicle traffic is experienced by all the residences along the A37 in Temple Cloud. This has been reviewed and the decision taken to elongate the AQMA, so that all residences along the A37 are treated in an equal manner.

The comments which requested the inclusion of Temple Inn Lane, Meadway and Oaklands were considered. The diffusion tube monitoring sites DT132 and DT133 measured NO₂ concentrations well below the annual average objective of 40 µg/m³ and therefore provide evidence that the air quality issue does not extend beyond the A37. The concerns regarding Temple Inn Lane focused on its unsuitability for HGVs and the difficulty to turn in and out of its junction with the A37, rather than issues with air quality.

Question 2: Any further comments

Question 2 was designed to give respondents the opportunity to leave further comments and initial thoughts in regard to the Air Quality Action Plan. 32 comments were received. A full list of these comments can be viewed in Appendix 1.

The comments from the survey were reviewed in order to pick out recurring themes or suggested actions; these are listed below in Table 4.

Table 4: The themes and suggested actions from Question 2 of the online survey

Theme	Number of mentions
Negative points about Heavy Goods Vehicles; and them being partly to blame for the issue	8
Narrowness of the road, and its subsequent start/stop nature	5
Questions on the proposed actions that will help to improve the air quality	5
Health/general concerns	4
Volume of vehicles	4
Suggested action	Number of mentions
A bypass	2
Alter or improve the road layout	1

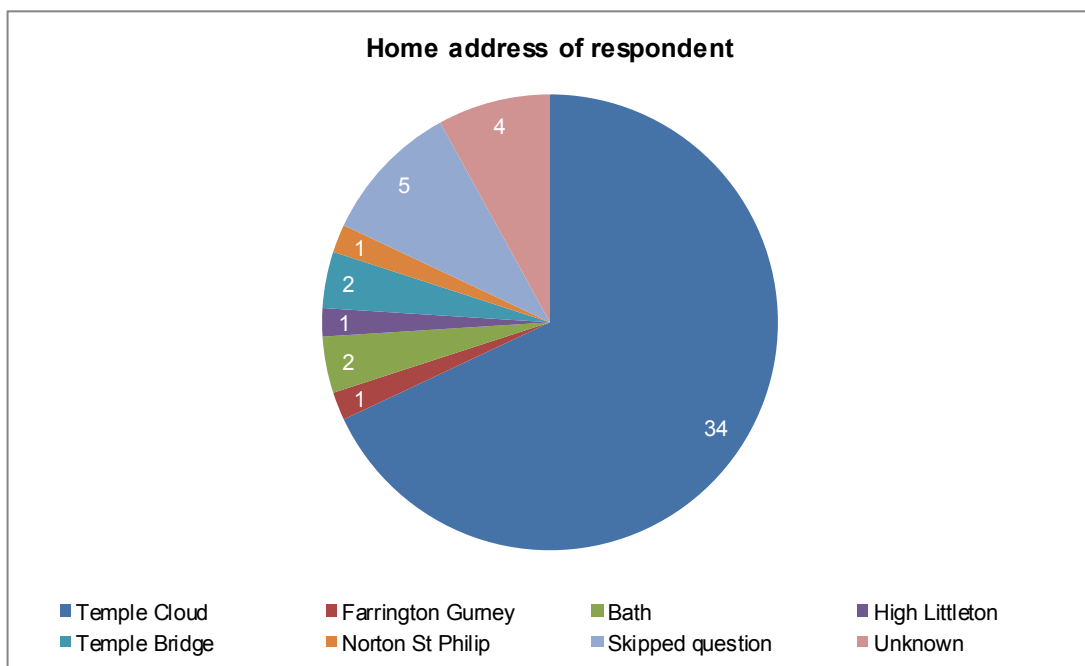
Make the speed limit uniform along the A37	2
Review the Hallatrow traffic light sequences; as queues form from here	3
Install electric vehicle charge points to encourage the uptake of electric vehicles	1
Restrictions on certain vehicles	2
Restrictions on new developments	3
Off carriageway cycle routes	1
An alternative/new route for HGVs to access the industrial estates; rather than Temple Inn Lane and Marsh Lane	3
Improve public transport links	1
Improve the flow of vehicles through the village, by use of traffic signals at the north and south	1

Question 3: What is your home postcode?

This question was designed to provide the home address of the respondent; to provide insight into whether the members of the public engaging with the consultation were from Temple Cloud, or further afield.

45 respondents (90%) answered this question, however 4 of the postcodes given did not return an exact address when searched and these were classified under 'Unknown'. The breakdown of addresses can be viewed in Figure 3. From the 41 known addresses, the majority of respondents lived in Temple Cloud, 83%. As air quality issues can be very localised and unique to a certain location, as is the case in Temple Cloud, it is unsurprising that many of the respondents are residents.

Figure 3: Graphical representation of the home address of the respondents



4.2 Google analytics

Google analytics was utilised to obtain the number of views on the Council's Temple Cloud air quality website page; www.bathnes.gov.uk/tcbreathe. The analytics were recorded every Friday throughout the consultation period. On each Friday the views noted are from the seven days prior to that date. As seen in Table 5 below, the numbers of views decreased throughout the consultation period. The spike in views at the beginning may be attributed to a few facts or events: the website page was new, the consultation details were newly released, key internal and external consultees were emailed at the start of the consultation period, and the Parish Council meeting took place.

Table 5: The google analytics recorded throughout the consultation period

Date checked on	Views
16 th February 2018	161
23 rd February 2018	34
2 nd March 2018	22
9 th March 2018	10
16 th March 2018	10
23 rd March 2018	11

4.3 Drop in event

The main purpose of this event was to gain public opinion on the proposed AQMA boundary. In addition, it gave members of the public an opportunity to raise concerns and ask questions. The event was positively received and 14 members of the public attended. Some lengthy discussions took place and Table 6 below summarises the feedback and comments received.

Table 6: Summary table of suggestions, ideas and concerns which were raised at the event

Suggestions, ideas and concerns
The A37/Temple Inn Lane junction was mentioned several times; the difficulty to pull in/out and the queues that form as a result.
Concerns about the parking and volume of HGVs that travel along Temple Inn Lane; and a suggestion to make it double yellow lines on both sides to ease vehicle flow.
HGVs have to use Temple Inn Lane due to the weight restricted bridge at the end of Eastcourt Road.
A speed limit reminder sign
Installation of a roundabout to the north east of the Temple Inn pub to connect Temple Inn Lane and the A37 – this would aim to relieve the current junction and improve vehicle flow.
Concerns around the start/stop nature and narrowness of the road. Suggestions surrounding this included road widening, and making the A37 stretch through the village one-way; controlled by traffic lights at either end.
The budget and funding available to implement potential measures was raised and discussed.
A bypass for Temple Cloud – previous plans for this didn't go ahead
The West of England Joint Spatial Plan was discussed. Concerns were raised over the proposed housing developments and link road between the A37 and the A4 at Hicks Gate. The general feeling was that this would increase the volume of vehicles travelling through the village.
Increased vehicles due to the new 'Knights Rise' development.
Concerns were raised over pedestrian safety when walking along the A37.
The unsuitability of the road for HGVs; proposed measures include taxation, a weight limit on the road and restricted hours.

Ideas surrounding moving queues of vehicles or backlogs to the more open sections of the road.

As often occurred throughout the AQMA boundary consultation, discussions at the drop in event also covered proposed actions. This proved inevitable as members of the public were eager to know what action was proposed in Temple Cloud to improve air quality. Any actions or measures that were suggested during this consultation period have been recorded and will be considered within the draft AQAP, if viable.

5 Conclusions

The public consultation was well received in Temple Cloud which was assisted by the active role taken by the Parish Council. Therefore, Temple Cloud residents were already aware of the issue and this is likely to have facilitated the positive receipt of the consultation.

32% of respondents to the online survey did not agree with the proposed AQMA boundary, and 10 comments within the survey comments requested for the AQMA boundary to be elongated to cover the whole length of the A37 through the village. This was reviewed post consultation and altered as the strength of feeling indicated that a change was warranted; and there would not be any adverse impact on the original area. The recommended AQMA boundary post consultation can be viewed in Figure 4. 5 comments asked for the inclusion of Temple Inn Lane; however the monitoring site DT133 did not identify an air quality issue here and concentrations were well below the 40 µg/m³ annual average objective.

Concerns raised in regard to Temple Inn Lane included its use as a HGV route to industrial estates, and the difficulty to turn in and out of its junction with the A37. These were noted.

The altered map of the proposed AQMA boundary post consultation is displayed in Figure 4. The proposed AQMA starts approximately 245 metres north of the A37/Temple Inn Lane junction and runs along the A37 to approximately 150 south of the A37/Eastcourt Road junction. The area will measure approximately 13 metres from the centre of the road.

Post consultation, the formal agreement of the Air Quality Management Area boundary in Temple Cloud will be a Cabinet Single Member Decision. The declaration of the area then follows a legal process, by which an order is created. During this time, the project moves on to drafting the AQAP; when potential actions and measures suggested during this consultation will be considered. They are recorded in this report for the sake of completeness. A second public consultation on the draft AQAP will take place later in the year.

Figure 4: Map of the proposed AQMA boundary in Temple Cloud, post consultation

**Proposed AQMA in Temple Cloud
Post consultation**

Author: N Courthold
Date: 05/03/18
Scale: 1:4000

Bath & North East
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6 Abbreviations

$\mu\text{g}/\text{m}^3$	Micrograms per cubic metre
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
Defra	Department for Environment, Food and Rural Affairs
HGV	Heavy Goods Vehicle
LAQM	Local Air Quality Management
LAQM.PG16	Local Air Quality Management Policy Guidance
LAQM.TG16	Local Air Quality Management Technical Guidance
NO_2	Nitrogen Dioxide

7 References

Defra (2016) Local Air Quality Management, Policy Guidance (PG16)

Defra (2018) Local Air Quality Management, Technical Guidance (TG16)

Jeanjean, A. P. R., Buccolieri, R., Eddy, J., Monks, P. S. & Leigh, R. J. (2017) Air quality affected by trees in real street canyons: The case of Marylebone neighbourhood in central London, *Urban Forestry & Urban Greening* 22, 41-53

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Appendix 1: Comments from the Temple Cloud online survey

Question 1: Do you agree with the proposed Air Quality Management Area boundary?

Number	Comment	Suggestion/Theme
1	It needs to extend further and as far as Temple Bridge traffic is too fast along this stretch of road and calming is required. Faster traffic is a contributing factor.	Extend/elongate the area
2	This should extend into Temple Cloud.	Extend/elongate the area
3	It should be lengthened to include the whole length of the road that goes through the village. My son had asthma and we live at the top end and I think fumes had a strong part in his illness	Extend/elongate the area
4	Boundary should be extended along A37 towards Clutton, as traffic jams appear to be increasing in frequency	Extend/elongate the area
5	I think it would be good if it was lengthened to include the road past the traffic lights, as there is often a build-up of traffic at peak times.	Extend/elongate the area
6	This does not offer insights or information into how this will be enforced or supported and what it will entail for those of us who regularly travel this road	n/a
7	You will just move the problem elsewhere, where exactly do you expect the vehicle to reroute too?	n/a
8	Drivers have been hit enough	n/a
9	Should be extended throughout the A37 through the village	Extend/elongate the area
10	I believe it should include up to the traffic lights and down to the 30mph sign South of TC, as well as Temple Inn Lane where traffic is usually queuing.	Extend/elongate the area Include Temple Inn Lane
11	The vehicles are moving to the first section and away from the last section so how can the fumes suddenly stop and start at your boundaries?	n/a
12	I would like Temple Inn Lane/Oaklands to be included because of the high volume of industrial and commercial vehicles that uses this lane. There are a lot of children with their families walk/cycle on this road to go to school.	Include Temple Inn Lane Include Oaklands
13	Include Temple Inn Lane and Meadway	Include Temple Inn Lane Include Meadway
14	There must be high levels north of the pedestrian traffic lights when traffic is queueing at red lights. The north end of the boundary should be extended to north of the chip shop, which is usually how far back traffic is stationary queueing at the red traffic lights in rush hours!	Extend/elongate the area
15	Temple Inn Lane should be included due to increase volume of traffic in the area.	Include Temple Inn Lane
16	Temple Inn Lane needs to be assessed as well.	Include Temple Inn Lane

Question 2: Any further comments

Number	Comment	Suggestion/Theme
1	The road is generally taking considerably more HGV traffic than it used to. This is probably leading to the issue you are seeing.	HGVs
2	Although the a37 is a major route the main road in Temple Cloud is very narrow along the proposed AQMA. I would guess that HGVs causing congestion here are a main cause for air pollution. Most are too wide for the road. Good luck finding a solution. :-)	HGVs + narrow sections
3	The only real solution is a bypass for Pensford also there are very limited transport links from here and most houses have 2 or more cars	Bypass Improved transport links
4	Measures need to be implemented to limit the amount of pollution in the area. It is no good treating the symptoms (i.e. suggesting that overhanging trees be cut back). The problem needs to be addressed by restricting access to the worst pollutants through the village	Restrictions on worst vehicles
5	I would like to know how residents will be affected	Concern of residents
6	Was monitoring done to the south and north along the a37. We live at temple bridge and traffic backs up outside our house regularly as a result of traffic waiting for the lights at whitecross going south and also as a result of waiting for lorries to pass in temple cloud when traveling north.	Queues from White Cross and the village
7	Traffic flow along the whole of the A37 from Temple Cloud to Farrington Gurney needs slowing and regulating so a constant even flow of vehicles is the result. At present traffic leaving the 30mph zone speeds up and slows down in an erratic fashion leading to long tailbacks at traffic lights. Stationary vehicles build up local levels of pollutants in smaller spots along the whole route.	A37 speed regulation to encourage an even flow
8	n/a	n/a
9	It would be good to know when you plan to take action off the back of the consultations i.e. if the findings are negative, what do you plan to do to improve air quality?	Action
10	The road is narrow at this point and not only do you have general A37 traffic, you have a constant stream of heavy lorries and trucks making their way to the Trident industrial estate on Marsh Lane, via the A37 and Temple Inn Lane. There needs to be another access to the industrial estate considered, especially with the two new housing developments at the beginning of temple inn lane. It is making access along that road very difficult, dangerous and detrimental to the road quality, air quality and verges. If a private access was made to the Trident works, either along the disused railway line from Hallatrow, starting opposite the Station pub, or from the Bath road between Hallatrow and High Littleton, this would greatly reduce the heavy traffic and help to improve the air quality on the Temple Cloud section of Temple Inn Lane.	HGVs + narrow sections A second access to the industrial estate needed Temple Inn Lane
11	There doesn't seem to be much of a plan for the future if it is particularly poor air quality. I cannot imagine that you can reduce traffic!	Action
12	What is the objective and likely outcome?	Action

13	I am deeply concerned that BaNES will waste tax payer funds surveying and consulting and yet will still fail completely to address the problem in any meaningful way. The solutions are obvious and almost cost free... On a sliding scale of success: 1) Close the A37 to all vehicular traffic through the village; 2) Close the A37 to all LGV's except emergency service vehicles; 3) No further changes to the traffic lights at Temple Inn Lane; 4) Remove RA1 status and cease all expansion of housing in the village, which in turn will raise traffic flow; 5) Placing a weight and width restriction on Temple Inn Lane; 6) Remove the A37 from the LGV designated routes and LGV satnavs; 7) Ban all diesel vehicles over 2 litres - ANPR enforcement; 8) Ban all diesel vehicles older than 10 years - ANPR enforcement; Accepting investment will be required there would also be some merit in: a) A bypass; b) Classifying the road(s) as a "dangerous route"; c) Creating new off carriageway cycle routes; d) Encouraging electric vehicles by installing free charging points; However, I suspect (and fear) this consultation will be used to reduce the speed limit, which in itself will have no effect without investment in truvelo (or similar). I note that the highest emissions are measured where the layby on private property is used as a passing point for LGVs, inevitably idling here. The issue is very clearly one; of the road no longer being suitable for Large Goods Vehicle use. Certainly until electric LGVs become commonplace...	Action Restrictions on vehicles Restrictions on further development Temple Inn Lane – weight and width restriction Ban on diesels Bypass Classify road as “dangerous” Off carriageway cycle routes Free EV charge points Against speed limit reduction HGVs
14	The building work on Temple Inn Lane, and at the pub site has increased heavy vehicles hugely in the last 18 months. It would be interesting to note the air quality here, while this is going on. It's been challenging living here.	HGVs due to developments
15	Air Quality Management PLUS traffic management. The A37 is not a trunk road and shouldn't have to have the equivalent of Motorway traffic going through the village of Temple Cloud as well as other villages along the A37 route to Bristol.	Volume of vehicles
16	Too many lorries through the village and too many cars.	Volume of vehicles
17	We have young children ourselves that go to the local Cameley school .This level of pollution is unacceptable the population in the village is growing and the level of large vehicle traffic through the village is totally unacceptable and unsafe for villagers we have lived in the village for 8 years in the worst polluted spot on your map the large vehicle traffic has gone up tenfold in this time it's now unsafe to walk up our own pedestrian footpath due to large vehicles mountain curbs and not being able to pass added now by this totally unacceptable pollution data something has to change before someone get killed!	Health/general concerns Volume of vehicles HGVs Safety of road
18	No	n/a
19	The air quality, traffic noise and traffic danger on this stretch of the A37 has become increasingly bad over the last few years. It must be addressed as a matter of public health and safety	Volume of vehicles Safety/health concerns
20	None	n/a
21	Temple Inn Lane has become an extremely busy and even congested road since the new housing development of 70 houses was begun. All the	Temple Inn Lane – HGVs + negative effects of the development

	<p>anticipated cars will further congest this road. Added to this are the HGVs which use this road from the industrial unit on Marsh Lane. These HGVs and cars add to the pollution on the A37. Is it not time that the HGVs were diverted elsewhere? Marsh Lane is a quiet lane with few pedestrians whereas TI Lane has to accommodate many pedestrians including primary school children and parents twice daily. I think by diverting the HGVs to exit Marsh Lane by Hallatrow would relieve both pollution and congestion and give safer access to pedestrians. The HGVs cannot pass each other on the A37 and have to stop at pinch points - with engines running to allow safe passing. Fewer HGVs would cause less pollution by removing the need for vehicles to stop to allow single file passing.</p>	<p>Divert HGVs Narrow sections of road</p>
22	<p>The traffic lights at White Cross cause queues at the Eastcourt Road junction southbound and also because the traffic is pulsed through the village from the lights this also causes build ups northbound in the same spot. A third cause of queueing at the Eastcourt Road junction is northbound lorries having to wait their turn to go up the very narrow hill. It seems to me that these three factors must adversely affect the air quality (as well as noise pollution).</p>	<p>Queues due to lights at White Cross Narrow sections causing queues</p>
23	<p>The whole of the A37 is far too busy with large HGV's constantly polluting the air.</p>	<p>HGVs</p>
24	<p>Could this extend north along the A37 towards Clutton. Have sample been taken further north?</p>	<p>Extend AQMA to the north</p>
25	<p>n/a</p>	<p>n/a</p>
26	<p>Bare minimum we need to urgently address speed throughout the whole village. Why is Clutton 30mph and then speed up to 40mph through TC. The narrow area within the air quality boundary should be 20mph, just like other chew villages. We should use new road layout designs (narrowing etc.) to stop the whole of a37 as you enter village from North feeling like a highway! Alongside this, any further housing developments in village should be refused due to NO2 emissions.</p>	<p>Address speed limits – make uniform Rethink road layout Refusal of further housing developments</p>
27	<p>I live on the main road where the monitor measured 53ug/m. I moved to Temple Cloud many years ago from Bristol to escape the fumes etc. I now find that it would have been healthier to stay in Bristol and that for years I have been subject to such levels of pollution. Might I suggest that you come up with some way of helping me.</p>	<p>Health concerns Action</p>
28	<p>From the initial consultation it appears that the concentration of poisonous gases from the vehicles is increased due to slow or stationary vehicles on the hill in Temple Cloud, due to the lack of funding for an ideal solution, the only answer appears to be by way of village-wide traffic control, with lights controlling traffic flow at likely times of congestion at the top (The Flats) or outside the bottom of the village to allow for more free flowing traffic on the hill thus reducing the build-up of gases in the middle of the village. This should also help to reduce congestion at the Temple Inn Lane junction due to have a considerable increase in domestic vehicle movements as new housing becomes occupied - this I suspect will only increase the poor air quality problem as the arrangement currently stands. -</p>	<p>Start/stop vehicles on the narrow points Traffic control – with lights at the top or bottom of the village – to ease vehicle flow Temple Inn Lane Developers to contribute/help</p>

	Could be the house builders have money to add to the traffic control pot?	
29	This needs to be made all the way through the village, not just ending at the pub	Extend the AQMA further
30	None	n/a
31	Need to alter traffic light sequence at Hallatrow to allow more traffic through the Temple Cloud end therefore stopping high increase of stationary traffic.	Review Hallatrow light sequence
32	N/a	n/a

Appendix 2: Temple Cloud online survey



Temple Cloud - proposed Air Quality Management Area boundary

Welcome to the consultation...

Background

Bath and North East Somerset (BANES) Council is legally required to review air quality under Part IV of The Environment Act 1995.

We monitor the air pollutant Nitrogen Dioxide (NO₂) because of its known adverse effects on human health.

Motor vehicles are the dominant source of NO₂.

There are two **National Air Quality Objectives** for NO₂ concentrations;

Objective	Micrograms per cubic metre (µg/m ³)
1-hour average	200 (18 exceedances per year)
Annual average	40

Where exceedances of these objectives occur, we are required to declare an Air Quality Management Area (AQMA). Following the declaration of an AQMA an Air Quality Action Plan (AQAP) is developed to identify actions to reduce the NO₂ concentrations.

Temple Cloud

There have been consistent exceedances of the annual average NO₂ objective. As a result an AQMA will be declared.

The proposed AQMA boundary is marked in red on the map below.

Key

DT = Diffusion tube, monitor NO₂ concentrations

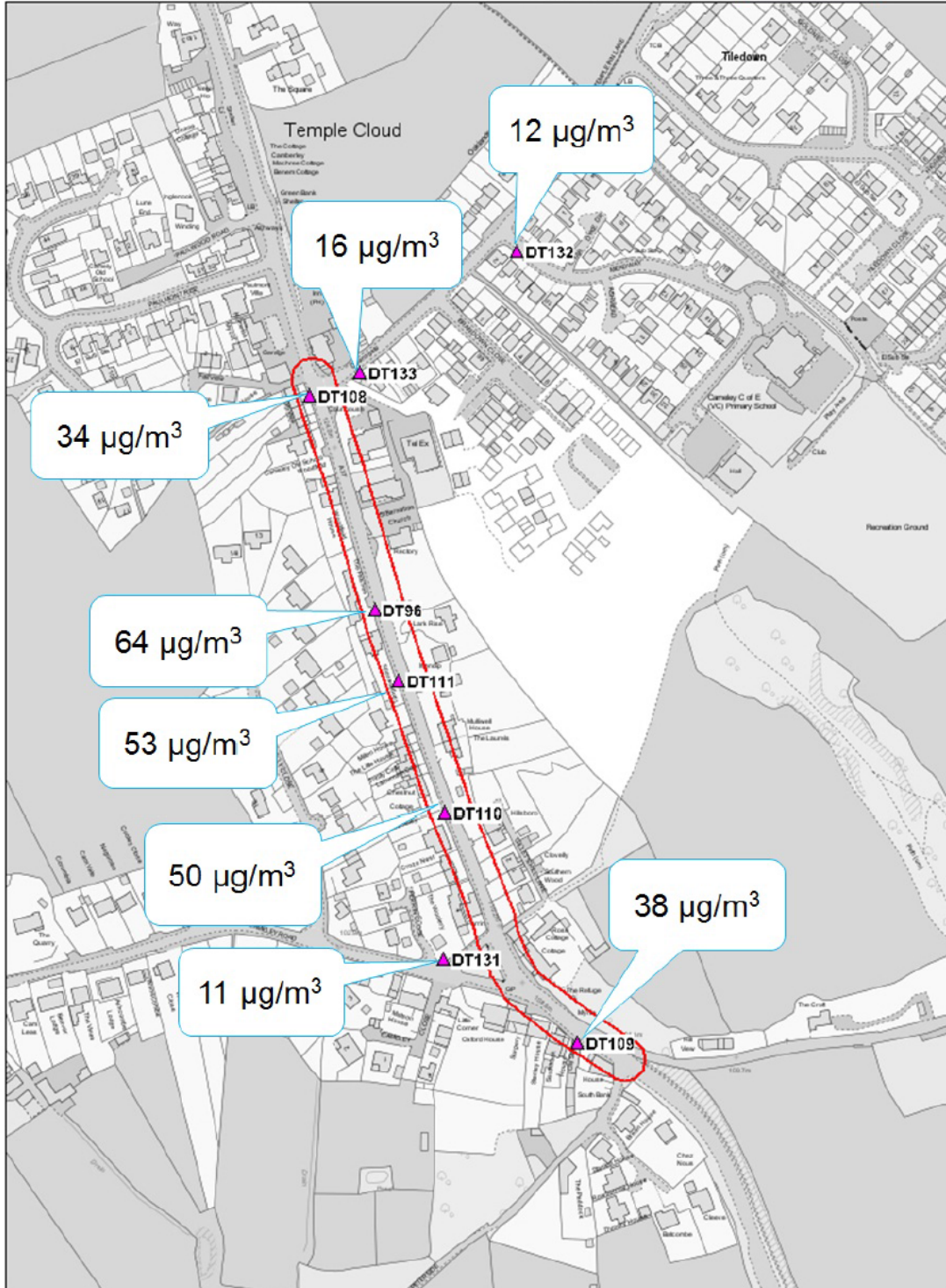
Speech bubble values = Provisional annual average 2017 monitoring data (adjusted to the nearest exposure) at given location

The proposed AQMA boundary

Proposed AQMA in Temple Cloud

Author: N Courthold
Date: 16/11/17
Scale: 1:3000

Bath & North East
Somerset Council



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*** 1. Do you agree with the proposed Air Quality Management Area boundary?**

- Yes
- No, because...

Later in 2018 we will be launching a further public consultation, that will relate to the draft Air Quality Action Plan.

We will be asking for your thoughts and suggestions then, but if you have any immediate thoughts please comment below.

2. Any further comments

3. What is your home postcode? (this will be used for survey analysis only, not communications)

Many thanks for taking the time to respond.

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