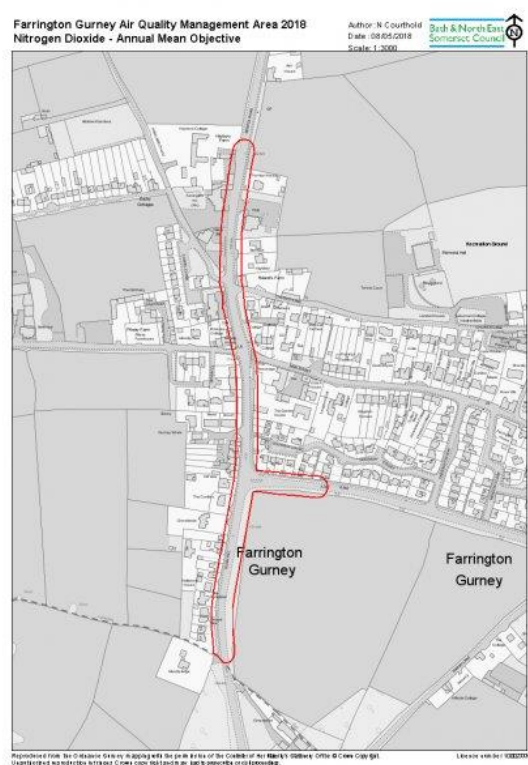


Evaluation of the Clean Air Community Engagement Project in Temple Cloud and Farrington Gurney



Approval

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1.0 Introduction

Bath & North East Somerset (B&NES) Council has declared a Climate and Ecological Emergency. The Council is committed to reducing local residents' exposure to air pollution in order to protect the environment and improve health. There are over 180 air quality monitoring sites across B&NES using automatic reference analysers and non-automatic passive diffusion tubes. Using data from these devices, B&NES is required to report levels of nitrogen dioxide concentrations, (NO₂) primarily caused by vehicle emissions and build-up of road traffic. This is monitored by the public protection team within the Council, so data has been usefully resourced from them.

B&NES had identified five localities where NO₂ levels exceeded the national annual average objective and have therefore targeted these areas as part of the Local Air Quality Management (LAQM) plan¹. Two of these 5 five areas, termed Air Quality Management Areas (AQMAs); are the villages of Temple Cloud and Farrington Gurney in the southwest of B&NES (*refer to image 1*). In the Temple Cloud AQMA, there are estimated to be approximately 158 people (in 63 properties) living within the area most affected. The figure for Farrington Gurney AQMA is approximately 44 (in 18 properties). Please refer to *Image 2*.

Temple Cloud is situated on the A37 and is the main thoroughfare between Bristol and Shepton Mallet. The road is regularly used by large heavy-duty vehicles and due to restricted road width through the village vehicles cannot pass one another, being forced to stop and give way. This often leads to long queues of idling traffic and high concentrations of vehicle emissions. This build-up of traffic combined with high/overhanging vegetation and large retaining walls creates a situation known as a 'street canyon' effect - decreasing air circulation and resulting in higher pollutant concentrations (David Lear, 2021).²

Farrington Gurney is a flat village with a wide carriage way and is also situated on the A37. Two locations in Farrington Gurney were identified as having NO₂ concentrations above national recommendations. These are located at the A37 junction with the A362 and near the Farrington Inn pub. In both instances traffic builds up on the A37, slowing vehicles and queuing – resulting in higher engine pollutant concentrations. (David Lear, 2021)².

¹ <https://www.bathnes.gov.uk/services/environment/pollution/air-quality>

² https://www.bathnes.gov.uk/sites/default/files/14_appendix_f_air_quality_model_report_0.pdf

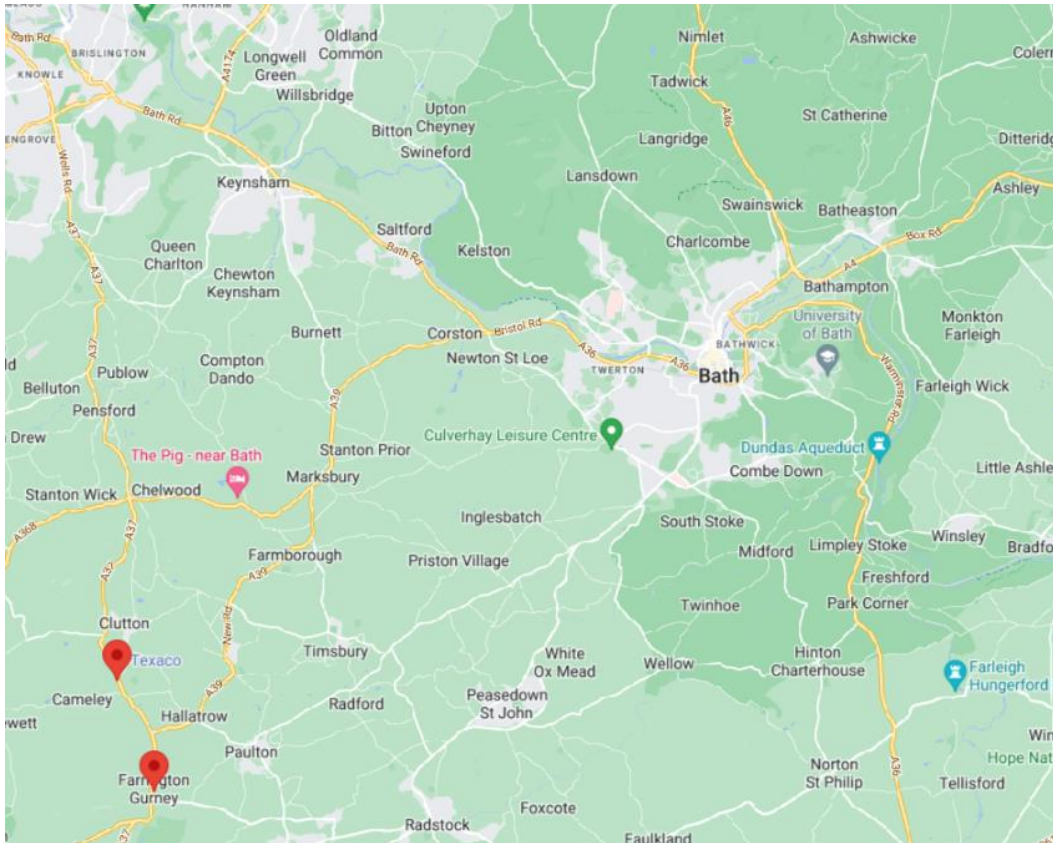


Image 1: Temple Cloud and Farrington Gurney pinpointed on a map. Positioned in the south western side of B&NES.

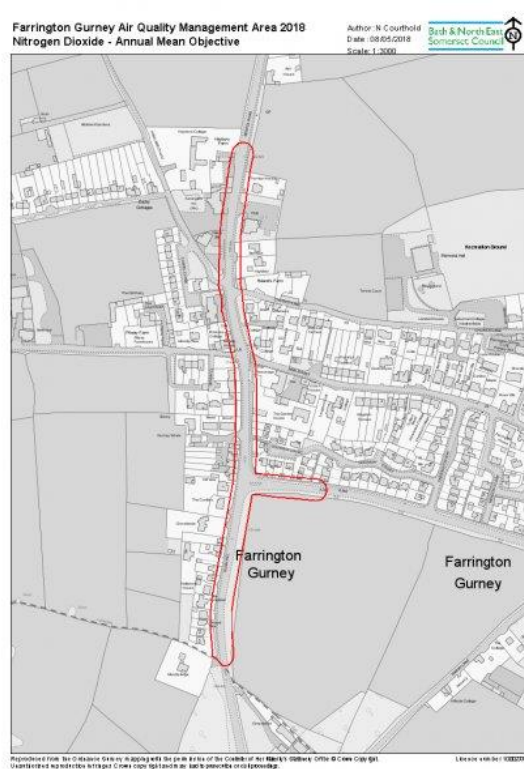


Image 2: AQMA's parameters in Temple Cloud and Farrington Gurney in 2018 contributing to the AQMA Plan

1.1 Health Impacts of Air Pollution

Air pollution is associated with a number of adverse health impacts. Long-term exposure to air pollution (over years or a lifetime) reduces life expectancy, contributing to higher risk of cardiovascular and respiratory diseases and lung cancer. Short-term exposure (over hours or days) to elevated levels of air pollution can also cause a range of health impacts, including effects on lung function, exacerbation of asthma, and increases in respiratory and cardiovascular hospital admissions and mortality. Additionally, air pollution particularly affects the most vulnerable in society; children, the elderly, and those with existing heart and lung conditions. There is a disproportionate impact from poor air quality to those who live close to heavily congested roads and other major sources of air pollution; factors which are more likely to affect people living in poorer communities.

1.2 The Council's ambition

The Council has a statutory responsibility to monitor air quality and identify Local Air Quality Management (LAQM) Plan priority areas. As part of this work B&NES Public Protection Team regularly monitors levels of NO₂ (nitrogen dioxide), and higher than acceptable levels have been consistently found in both Farrington Gurney and Temple Cloud which are among our Local LAQMAs in B&NES.

A 'Vulnerable Groups; Air Quality project' proposal was submitted to SMT in January 2020 but didn't go ahead due to the Covid-19 pandemic and was put on hold. The project aims and objectives are still relevant and linked to the Council Air Quality Management Action Plan and therefore remain a local priority, which will be detailed in this evaluation report. A proposal for use of COMF funding to support the project as part of BAU activity was put forward and agreed in June 2021. However, this wasn't taken forward due to a lack of capacity and pressures of responding to Covid-19. Therefore, this community engagement project did not commence until April 2022. Utilising the B&NES annual status report 2021³, there was an action to engage with the community to work towards the following recommendations:

- Provide advice and information for residents
- Deliver a targeted information campaign for the most vulnerable groups.

1.3 Community Engagement Project

The clean air community engagement project took place between April and November 2022 and was undertaken by two members of B&NES Public Health Team - a Health Improvement Officer with supervision and support of a Health Protection Manager and working with Health Protection colleagues. The project sought to protect the most vulnerable residents including those living in the most

³ <https://www.bathnes.gov.uk/services/environment/pollution/air-quality/reports>

impacted areas of the AQMA by providing protective messages and extending these to other residents within Temple Cloud and Farrington Gurney, as well as commuters, local business, and school communities, to help populations reduce their exposure and improve health. Whilst the focus of the project was on reducing people's exposure to poor air quality, rather than reducing the pollutants causing poor air quality, some components of the project such as encouraging people to turn off their vehicle engines while waiting/stopping rather than "idling" do encourage a reduction in air pollution.

Referring to the literature review that was undertaken (appendix 1), the following recommendation was made: "Through a range of communications methods, it is hoped that we can raise awareness of the issue to the population and provide them with way to change their behaviour and protect themselves from additional pollutant exposure". The intention of this project was to utilise community engagement to influence behavioural change. This project also serves as a pilot study to inform other projects across the public health team on effective methods of when engaging with local communities.

Recommendations from the communications literature review (see appendix 2) informed the selection of methods for sharing protective messages with local communities. The literature highlights how information resources and social media can be utilised to raise awareness of air quality and target specific populations with quality, reliable information. This learning was used to inform approaches to reaching target audiences.

It is noted that since the implementation of this project, the publication of the Annual Air Quality Status 2022 Report has been published and shows that Farrington Gurney's NO₂ levels had decreased to a figure below the annual average objective level. This was not a direct result from the engagement work undertaken in the area as the interventions such were not introduced long enough beforehand to contribute to the reduction, and most were focussed on people protecting themselves from poor air quality. Instead, it reflects a downward trend over the previous year of data collection. It is encouraging that levels have decreased and stabilised in Farrington Gurney. It is hoped that the project has raised levels of awareness of the harmful impact of poor air quality and will influence community members to continue to protect their health and maintain low levels of NO₂ measurements within the local community.

2.0 Project Aim

The purpose of this evaluation is to assess how effective the community engagement project was in achieving its aim to inform residents in Temple Cloud and Farrington Gurney, particularly the most vulnerable (the elderly, pregnant women, and those with chronic health conditions), about the impact of air pollution on their health and how they can reduce their exposure. In addition, the evaluation

can capture key lessons learned to inform future community engagement work, particularly in relation to air quality

2.1 Project Objectives

1. To build on previous community consultation and engagement activity to raise awareness of health implications of air pollution with residents, particularly the most vulnerable
2. To identify and work with key professionals to provide residents most at risk with information on ways to change behaviours to reduce their exposure to and mitigate the cause and effect of poor air quality
3. To refresh and relaunch the clean air e-toolkit for schools, develop a Clean Air Day Campaign to complement Walk to School Week, and run a poster activity in local schools to create resources that can be shared in the local community to raise awareness of the issues
4. To work with local stakeholders, community leaders and professionals to engage them in supporting the development and implementation of behaviour change strategies.

Governance for this project is through the B&NES Health Protection Board. A presentation was made to the Board at the December 2022 meeting to share activities and impact throughout the duration of this project.

2.2 Outcomes

The project set out to achieve the following outcomes:

1. Health and social care professionals working in the area will have greater awareness of the impact of poor air quality and will feel confident supporting and advising those they work with who are at greatest risk.
2. Local vulnerable residents will be more aware of the harmful effects of poor air quality and take steps to protect themselves and reduce their risk.
3. Raising the profile of air quality issues will increase awareness of causes and consequences of poor air quality leading to some behaviour change among the local community, which in the long term will contribute to improvement in air quality and reduce the risk for those most susceptible to poor health attributable to it.
4. The learning from this project can be documented and utilised in other areas across B&NES.

2.3 Project Scope

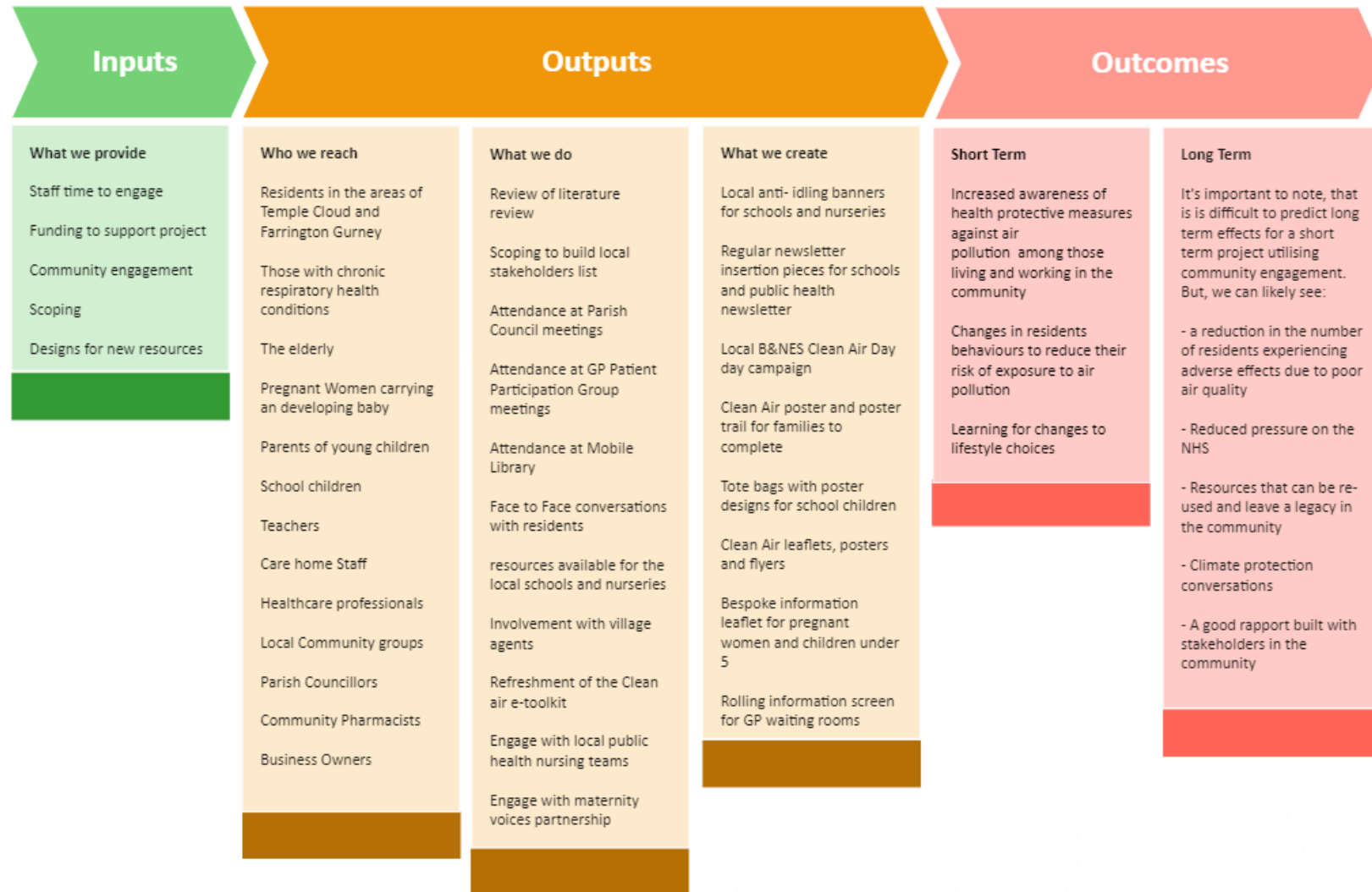
The following activities were identified as being in scope for the community engagement project:

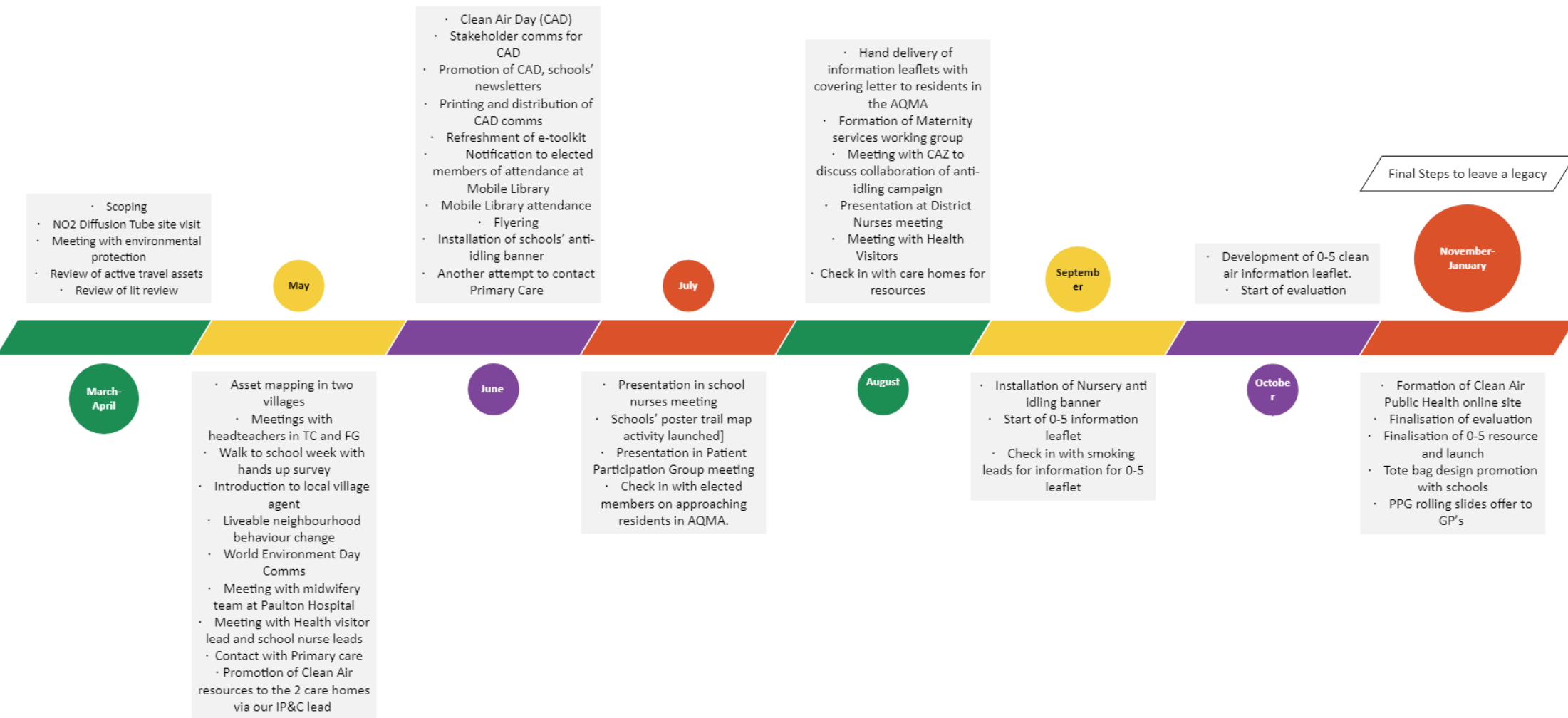
- To identify and collate baseline information – what we know already and what has happened before and develop a project plan
- To identify key stakeholders, map existing community assets and settings
- Engage with key local organisations including primary schools to support Clean Air Day and run activities to raise awareness of air quality locally. This includes a poster activity and production of assets to display in the local community
- Use and add to the literature review to determine what advice health and social care professionals and partner organisations should be giving to vulnerable residents (people with chronic health conditions, the elderly and pregnant women, parents of young children etc).
- Consider the most effective methods to give this advice e.g., face to face, text alerts, written literature, social media etc.
- Exploration of options available to identify target groups e.g., living independently, living in care homes, and how best to deliver those messages.
- Liaise with local health stakeholders, including GP practices, voluntary sector, and community pharmacies to:
 - ensure that healthcare professionals are aware of their responsibilities to provide advice and information on air pollution
 - Determine training/support needs and how best this could be delivered e.g., circulated infographic, e-learning package, webinar

The evaluation focuses on *indicators* of impact as it is too soon to measure and capture longer term outcomes.

We recognise, along the process, that there are other improvements required in the area to help improve air quality, such as modifying the infrastructure including road layouts and engineering involving the town planning. However, this is out of scope for this project and these issues are being addressed by other colleagues as part of the AQMA priority actions.

3.0 Summary description of the intervention





4.0 Timeline of project

5.0 Project costs

A budget of £6,000 had previously been allocated to the project. The actual spend was much lower (less than £2,500) and was predominantly on development, production, and printing of resources, such as posters, information leaflets, anti-idling banners, tote bags and the creation and printing and dissemination of the bespoke local B&NES pregnancy and 0-5yrs information leaflet.

See appendix 3 for cost breakdown and spend.

6.0 Engagement with residents to raise awareness of health implications of poor air quality

6.1 Mobile Library

Engaging with the residents directly was an opportunity to raise awareness and influence behaviour change. In order to talk with residents face to face, on the 14th June 2022 the project team attended and accompanied the B&NES Mobile Library on its regular visits to the area (see *image 3*). The route included the most heavily impacted poor air quality areas (AQMA's of Temple Cloud and Farrington Gurney) and consisted of 3 destinations (Farrington Gurney, Temple Cloud and Clutton). Staff approached and had in depth opportunistic conversations with local residents visiting the mobile library, supplying clean air and respiratory health leaflets, discussing the impacts poor air can have on their health and changes they can make to protect themselves and their families.

Some locations such as Farrington Gurney were quieter than others and provided an opportunity to engage with mobile library staff on the issue. The Temple Cloud location was popular with residents awaiting to swap books on the mobile library as it arrived. Conversations took place with each person that came on and off the van. A table and display of posters and leaflets was set up at each location to encourage interaction. Residents were happy to engage and consider the information in the leaflets provided. Conversations centred around the impact of air quality in the local neighbourhood. Residents were aware of the high density of traffic and potential harms in relation to the main A37 road in Temple Cloud although they mostly resided away from the main road. They shared knowledge of alternative pathways and routes they take to avoid the busy roads when walking in the local area. A few people had mentioned that they prefer to take the back routes rather than walking down the main road. There was also high level of awareness of the efforts of the local elected member to highlight and address the issue. Many residents were part of the Temple Cloud Facebook group where the issue had been frequently highlighted. We spoke to the residents about what we had been doing in the area, including the activities with local primary schools and the poster trail that was about to launch.

Directly speaking with local residents provided an opportunity to share other aspects of the project including the poster and trail activity and generate an appetite to 'spread the word'. People agreed to share the leaflet with their family members and have discussions with friends and family, particularly those more vulnerable. All residents engaged with to re-emphasised that walking down the main a road could be hazardous especially the section where the road narrows and so were keen to seek alternative walking routes

The mobile library visits to Clutton coincided with the school run which gave an opportunity to speak with some parents collecting their children. Conversations included choices of future vehicles with one mother sharing that she has put a reservation down for an electric car just recently as she is concerned about emissions. Others highlighted their concerns about potential impact of the Bath Clean Air Zone on traffic flow in the area. Other topics of conversation covered potential risks of solid fuels and open log burners. Active travel also emerged as a theme and something that residents could consider helping improve local air quality. Conversations gave residents a chance to share their thoughts about whether they could walk the shorter distances for visits local shops or school runs. It was encouraging to see an active walking bus coming away from Clutton Primary School while the mobile library was in situ.



Image 3: Attendance at the Mobile library for informative air quality campaign with local residents

6.2 Leaflets for those in the AQMA

Another method to engage with residents was by hand-delivering information leaflets with supporting cover letter to residents in the most affected areas within the AQMAs along the A37, particularly those with windows facing the road. There were 63 residential properties with façade or garden within the AQMA in Temple Cloud and 18 residential properties whose façade or garden is within the AQMA in Farrington Gurney, so these were the properties targeted.

Hand delivery of these letters and leaflets allowed us to personally approach those most vulnerable to poor air quality due to living in the areas most exposed. We were able to have opportunistic conversations positively framed around what actions they could realistically take such as keeping road facing windows closed (opening windows at the rear instead) and maintaining protective vegetation near the road to act as a protective barrier. Residents were receptive to our attendance and were happy to discuss after already knowing about the increase air pollution levels in their neighbourhood. They were therefore happy to have more in depth informative conversations on protective behaviours. If a resident was not in, we had produced a cover letter and leaflet attached to post through their letter box.

6.3 Community Displays

In the lead up to Clead Air Day 2022, B&NES public health team provided many resources including clean air health information posters which were displayed in parish council noticeboards (*image 4*), in GP practices, and in local businesses, churches, care homes and community pharmacies. We also provided information leaflets which were available for staff and service users of the above settings.



Image 4: Clean Air posters installed in Council Parish noticeboards

6.4 Anti-idling banners

Anti-idling banners were installed outside the two local primary schools (Cameley Primary and Farrington Gurney Primary) plus the Little Star Nursery on the A37 road in Farrington Gurney (*Image 5*). Feedback from the Clean Air Zone (CAZ) team praised the positively framed design for the nursery banner, which could be useful in informing future work on the issue. The schools and nursery agreed to keep the banners in situ, and they did so over the school holidays. This will remain as a legacy at the venues to continue to promote parents to turn off their engines while they are stationary.



Image 5: anti idling banners in situ outside Cameley Primary, Farrington Gurney Primary and Little Star Nursery

6.5 Radio Campaign

Advertising on local community radio stations was considered as another potential engagement route. However, after weighing up the benefits of a radio advert campaign, it was concluded that the local station did not have coverage for both village locations unless weather conditions were optimal. Therefore, the ideal targeted listeners wouldn't be included, and we did not want to create fear amongst communities in the nearby areas unnecessarily, thus we made the executive decision to not go forward with the radio campaign.

7.0 Engagement with health professionals

7.1 Primary Care

Primary care colleagues are well placed and trusted voices to share key messages about harm from air pollution and protective behaviours, particularly with patients with health conditions making them more susceptible to its impact or those living within an area that is highly affected. Staff at the three GP practices covering the two AQMAs were therefore identified as key stakeholders to engage with during the scoping phase of the engagement project. Unfortunately, however, the timing of the project coincided with a prolonged period of sustained pressure on the health care system at national and local levels. Primary care colleagues face significant challenges including staffing, sickness and backlogs in routine appointments delayed due to the Covid-19 pandemic and other factors.

Harpree Surgery, Elm Hayes Surgery and Somerton House Surgery were contacted by email, telephone and in person on several occasions. The PCN lead for Three Valleys was also approached, but it was clear that pressures meant it was not possible to meet directly with staff at the practices. The intention had been to provide a resource that would act as a training tool for staff to inform and allow them to have greater knowledge around the impact of air pollution on their patients, then also to have the option to share ways in which the patients (who potentially already have respiratory conditions) could protect themselves. This, however, is still something that can be created in the future once services are in a better position to be able to engage with the topic as pressures become less intense and capacity increases. However, with permission obtained, instead we have utilised and adapted a Global Action Plan slide deck which acts as an information resource for primary care staff in supporting them to be able to advise patients about air pollution. This will be shared with them alongside patient rolling screens (see section 7.2) and the distribution of the 0-5 bespoke made leaflet (see section 7.4).

7.2 Somerton House Patient Participation Group meeting

On the 15th of July 2022, the B&NES Health Improvement Officer virtually attended the Somerton House GP Surgery patient participation group meeting which takes place quarterly. This group was made up of 2 staff and 7 residents. It provided the opportunity to present information slides and an update on current project activity in the neighbouring areas. Participants raised some questions, including in relation to the validity of the AQMA data and NO₂ levels. This provided an opportunity to discuss how the data is reported retrospectively for the previous year. Attendees were made aware of other resources available such as the Clean Air webpage for more information and the council's website where they can find the latest annual air quality

status report. The presentation slides were saved in the shared folder at the GP practice in order for staff to refer to should they need to.

It was also discussed and agreed by the lead of the patient participation group that rolling information screens for the GP practice could be developed and supplied for display in the patient waiting room. B&NES have created the patient rolling slides (see *image 6*). These can therefore be replicated across other GP practices in or around areas of high air pollution to provide information to local residents on how to keep themselves and their families safe from air pollution. This will be cascaded through the GP Bulletin to promote that these slides are available to have on all waiting room screens in all localities across B&NES.



Image 6: Patient waiting room digital screen opening slide of a pack of 4 slides which is offered to all GP practices across B&NES.

Community pharmacies were also identified as an important local trusted asset to help disseminate information as part of the project. Eight community pharmacies were identified within the vicinity of the 2 areas. They were informed that they would receive a visit and hand delivery of the clean air information leaflets and posters the following week and they were able to display these on the counter and in stands in association with clean air day.

7.3 Community Nurses

Public health nurses working in the local community can also play a key role in identifying those most vulnerable to the impact of air pollution including pregnant women and families with young children, the elderly and those with health conditions

including CVD and poor respiratory health such as COPD. Professional leads for health visiting and school nursing were identified and approached during the scoping phase of the project and initial meetings were held to raise awareness agree the best route to inform and engage staff. The Clean Air Day Campaign in June was agreed as a good opportunity to share resources and key messages with locality teams and meetings were held with team leaders to share the evidence base in relation to the impact of exposure to air pollution on the health and wellbeing of children. The information was cascaded in team meetings and the Health Protection Manager attended a locality health visitor team meeting in person to present the evidence base and gain insights from health visitors into opportunities to promote key messages with families. It was during these discussions that the importance of positive framing in messaging for pregnant women and the need for a more bespoke resource was first identified. Clean Air Day resources including leaflets and posters were widely shared with all 0-19s public health nurses.

The clinical lead for District Nursing was also identified and approached. A meeting with the health protection manager was held online to present the evidence base, discuss the project aims and the opportunities for district nurses who work directly with some of the more vulnerable members of the community to raise awareness and promote protective behaviours. A PowerPoint slide set summarising the evidence base was shared with the clinical lead for her to cascade to team members along with lean air day resources to opportunistically share with patients.

7.4 Maternity Services

During a meeting with a midwife sister at Paulton Hospital, the clean air day information leaflet was discussed, and it was decided that the information leaflet for clean air was not suitable for pregnant women and young families, a view which was shared by the locality health visiting team (see above). This feedback was taken on board, and it was agreed that a bespoke leaflet with less potentially anxiety-inducing wording for parents-to-be and parents of young children would be created. The content for this new resource would be on providing information for pregnant women and parents of under 5s on how to protect themselves, their unborn child, and children under 5 years in the context of maintaining a healthy lifestyle.

A range of stakeholders have been involved in developing this resource including a working group comprising members of the Maternity Voices Partnership, maternity staff at Paulton Hospital, health visitors, environmental protection colleagues, active travel colleagues, clean air zone colleagues, children's, and early years colleagues, smoking cessation colleagues, communications team, and B&NES Maternity lead. A focus group discussion followed up with online communication with these partners has helped to determine the detailed content for the new resource which would include a brief description on what air pollution is, its causes (both internal and external), the effect on the unborn, on infants and young children. Under the guidance of midwifery and other colleagues the message was framed more positively emphasising the importance of maintaining a healthy lifestyle and issues

which are more within the control of families and emphasising that they can have a healthy pregnancy even if they are exposed to low levels of air pollution every day.

The Health Improvement Officer responsible for tobacco control and smoking cessation provided further advice and following this a section on the importance of maintaining a smoke free environment and carbon monoxide monitoring was included, bringing together a range of factors impacting on the air we breathe in one place under the slogan 'Care for your air' (See *image 7*). This resource is to be made available to midwives and health visitors in both physical hard copy and digitally. The intention is for the leaflet to be available going forwards as a legacy from the project which can be utilised across other settings across B&NES that work with pregnant women and young families across B&NES to raise awareness of the importance of air pollution.

Maternity groups were also included in our communications pathway for clean air day (see section 8.6). The Maternity Voices Partnership were sent communications to include and share on their Facebook page in the lead up to clean air day which was an effective way of reaching a wider group of pregnant women across B&NES. The Maternity Voices Partnership Voices group were enthusiastic supporters of the project and were happy to share social media assets and retweet key messages on this and future relevant public health matters for pregnant women



Image 7: the printable version of the B&NES Bespoke 0-5 information leaflet; 'Care for your air' designed for pregnant women and parents of children up to the age of 5.

This is now available and shared online digitally on the [RUH Maternity Services site](#) as well as made accessible for those with maternity notes and a QR code directing people to the leaflet.

This leaflet has also been shared on the [Bright Start Children's Centre Facebook page](#).

8.0 Work with local stakeholders, community leaders and professionals

8.1 Village Agents

Village agents link people in rural areas with advice and support services for independent living. In B&NES village agents are part of the West of England Rural Network (WERN) and their role is to work with rural communities, organisations, groups, and individuals within B&NES to help improve their quality of life. Village agents were identified as a key local player who would be able to deliver clean air assets to residents who would normally be isolated. By informing the village agent covering Farrington Gurney and Temple Cloud, they were able to share information resources with residents (mostly made up of the elderly population). They hosted regular local coffee mornings allowing those that were isolated to come, and discussions could be generated as to how they can protect themselves against the harms of poor air pollution in their home towns.

8.2 Cameley Parish Council meeting

The Health Protection Manager from B&NES Public Health team attended a Cameley Parish Council meeting, to present an overview of the community engagement project and to raise awareness of clean air day resources for further information. The benefits of attendance meant that members of the parish council (and others) were encouraged to support clean air day including social media support, such as retweeting and liking posts scheduled for Clean Air Day. Attendance at the meeting provided an opportunity to share some of the ongoing engagement activity such as the work with schools and scope opportunities for further public engagement including promoting the poster trail once complete and other events. For example, the Clutton Flower Show in August was highlighted as a major community event with good attendance and an offer was made to display awareness raising material which was taken up.

8.3 Care home staff

The elderly and those with chronic health issues can be particularly vulnerable to the impact of air pollution. The two care homes, (Cholwell House in Temple Cloud and Clare Hall in Farrington Gurney) within the target localities were therefore identified as key settings to engage with as part of this project. Clare Hall, while located within

B&NES is under the remit of Somerset County Council. Colleagues in Somerset County Council were contacted, the purpose of the project explained, and permission was granted to work with the home to raise awareness and share key messages. Then, the B&NES Infection, prevention, and control (IP&C), lead who was already known to and closely linking with the care home, was approached to facilitate initial discussions about air quality with staff. The targeted groups were residents, care home staff and the families of the care home residents as these would be the groups most likely to be able to influence awareness raising and behavioural change.

The B&NES IP&C officer was briefed about the project and contacted both care homes to advise on the potential adverse effects of the levels of NO₂ in the village particularly along the A37 road. After speaking to the care home manager at Cholwell House, the IP&C officer was assured that the risk of exposure for residents and staff was minimised as the home sits back from the main road and is surrounded by open countryside. The manager was aware of the risks associated with poor air quality on respiratory health but had considered it as being more of a problem in built up areas so found the information helpful. It was noted that many of the staff are local and walk to work and there would be some useful messaging to cascade. The care home manager agreed to display clean air day posters and leaflets, provided by B&NES Public Health. They found the information useful and were assured with the measures they have at the home in reducing air pollution i.e., ventilation and staff awareness of safe active travel to work routes.

Similarly, the manager of Clare Hall was aware of the poor air quality in the area because the home is close to the busy main road and as they had recently participated in a research project related to air quality with Bristol University. The study was exploring the effectiveness of using air filters in the care home setting and as part of this they had been provided with 10 big air filters and 5 small air filters which were placed around the home in residents' bedrooms, communal rooms, and other rooms. The home had been permitted to keep the air filters in the home following the 5-week study period. The manager reported that participation in the research project had increased staff awareness of issues relating to air quality and they are very aware of the importance of issues like ventilation. Staff felt assured that as the residents communal room faces fields rather than the busy main road and it is safe to open windows to ventilate these spaces. Clare Hall also received posters and information leaflets to share with their staff and visitors.

8.4 Engaging with elected members

Local community leaders have been engaged and informed of progress throughout this project. Three local councillors Councillor David Wood (Cameley Parish Council and B&NES Cabinet Member for Neighbourhood Services), Councillor Sarah Warren (Cabinet Member for Climate and Sustainable Travel), and Councillor Ryan Wills (Member Advocate for Rural Communities) were all informed about the project brief,

proposed interventions, and invited to comment, raise awareness, and support project activities as appropriate.

The elected members were also all asked for their guidance on aspects of the project such as the decision to approach those in the most affected AQMAs and hand deliver an informative cover letter along with the air quality information leaflet write to residents (see section 6.2). As community leaders their input and support throughout the project has been valued and appreciated.

8.5 Refresh and relaunch the clean air e-toolkit for schools

The B&NES Clean Air Schools Toolkit is a free electronic resource for primary schools to use to support when teaching and raising awareness amongst children and their parents/carers about outdoor air pollution, improving air quality and reducing their exposure to outdoor air pollution. It was created several years ago and can be accessed on the B&NES [Public Health in Schools pages on the HUB](#). In line with one of the core objectives of this project, the existing toolkit was updated and modified, and new resources were edited, including the personable/ editable schools anti-idling banner.

Following the refreshment of the toolkit, there was a soft launch with both local schools (Cameley and Farrington Gurney Primary) using the updated version in the lead up to Clean Air Day 2022. Both schools' feedback that the children across the school community from Reception to year 6, enjoyed the activities and creativity of the resources. Staff found the lesson plans and activities useful, and the head teachers also utilised the adapted assembly packs as a starter for the activities. The e-toolkit has also since now been promoted to all schools across B&NES through the schools' newsletter, which was sent out at the beginning of the first term of 2023.

8.6 Developing a Clean Air Day Campaign

Clean Air Day takes place in June every year and aims to highlight the impact that poor air quality can have on our health, and steps that can be taken to mitigate against its cause and effect. In 2022, Clean Air Day fell on 16th June 2022. In the lead up to the campaign, B&NES Public Health utilised the clean air day resources. Children's long respiratory leaflets were shared in the 2 primary schools with copies printed for every child to take home. The leaflet was also linked in the school's newsletter for parents to have an opportunity to engage with the key messages. B&NES Public health team provided regular newsletter insertions for the two schools, and these were used and present on their school websites

While the local primary schools were active participants in Clean Air Day 2022 campaign, the community involvement was much broader. Campaign resources and assets were shared with GP practices, pharmacists, care homes, Paulton Hospital, nurseries, schools, local businesses such as restaurants, shops, and garages, all of

which were provided with posters to display and a selection of leaflets. The project team also reached community groups such as the Book Barn, Village agents coffee groups, Farrington Gurney Farm shop café and play barn Flower show groups, B&NES Parkinsons Group and Clutton Playgroup. These connections were made through word of mouth and recommendations of other groups that only the community leaders would be aware of, highlighting the importance to have a good rapport with the community leaders to reach larger audiences.

A social media campaign was developed and broadcasted in the lead up to clean air day and on clean air day itself, providing tips and advice on how residents could protect themselves. This allowed residents to increase their awareness of the issues be informed on the actions that B&NES is taking to address air quality as well as how they can support the campaign in their own ways too.

8.7 Walk to school week

B&NES encouraged and promoted [the Walk to School Week](#) campaign (16th-20th May 2022) as the campaign's aim to encourage safe active travel helps to reinforce behaviours which address the cause as well as the consequence of poor air quality due to vehicular emissions. School hands up travel surveys were completed before the campaign with the two primary schools. Farrington Gurney Primary had an average number of 68 children travel to school by car, 15 walked, 2 cycled and 10 scooted before the Walk to School Week. A hands up survey measurement was then taken again at the end of the week which highlighted a modal shift to more active travel as they there was an average recording of 59 children came by car, 29 walked, 3 cycled and 10 scooted (see *Figure 1*). This relatively modest shift is notable given parental concerns about safety issues on the local roads, particularly at rush hour.

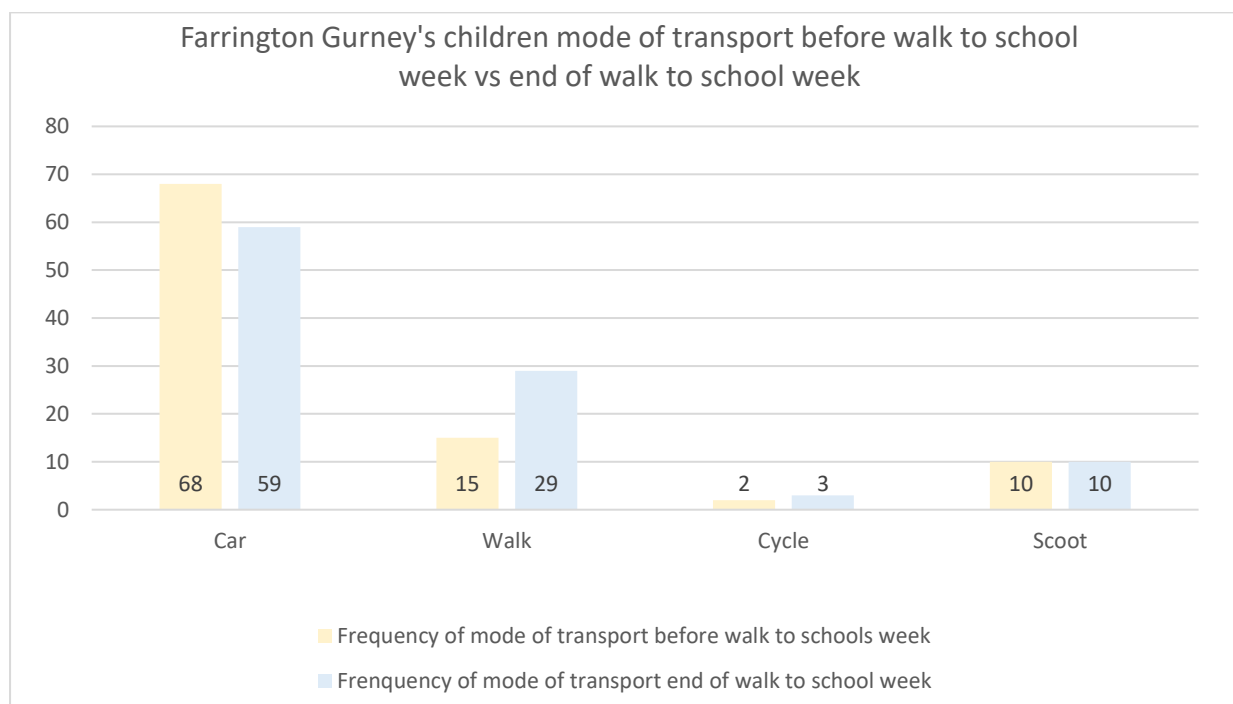


Figure 1: Changes of mode of transport over Walk to School Week at Farrington Gurney Primary

8.8 Poster activity in local schools

As part of Clean Air Day activities, both schools participated in an activity with KS2 children to create poster designs of what air pollution meant to them and what can be done to help protect themselves and others and what can be done to prevent air pollution (See *image 8*). Six of these posters were selected displayed and installed in Farrington Gurney and 14 posters were displayed and installed in Temple Cloud (see *image 9*). The final posters were used to create a poster trail map devised as a school holiday activity for children and their families to complete, encouraging them to ditch the car and walk around their neighbourhood, locate the posters, and read the inspiring messages. The posters were in situ for 6 weeks over the summer.

Comments and feedback from community members was positive across social media. The local Facebook community groups had residents sharing a post of their children's trail map with a notice and encouragement out to residents to join in too. Another resident had also pictured the posters that were in situ and shared on the Facebook group hash tagged #lovherewelive and a resident had commented "it's really shocking thought that, these days, air pollution kills more people than smoking does" and another in response to the post commented "yes, yes yes!". Receiving positive feedback from the local community was encouraging and highlights that the messages were well received and getting traction.

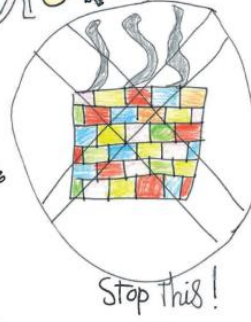
Clean Up Our Air



First Name: *ELLIOT* Year: *4*

Clean Up Our Air

LESS DRIVING
MORE WALKING!



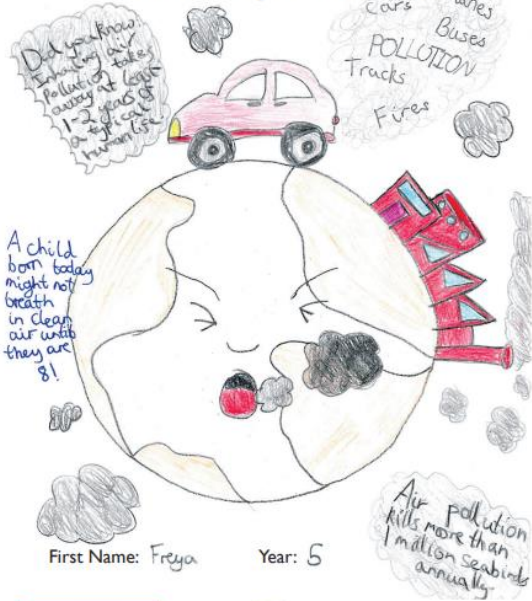
First Name: *Summer* Year: *5*

Clean Up Our Air



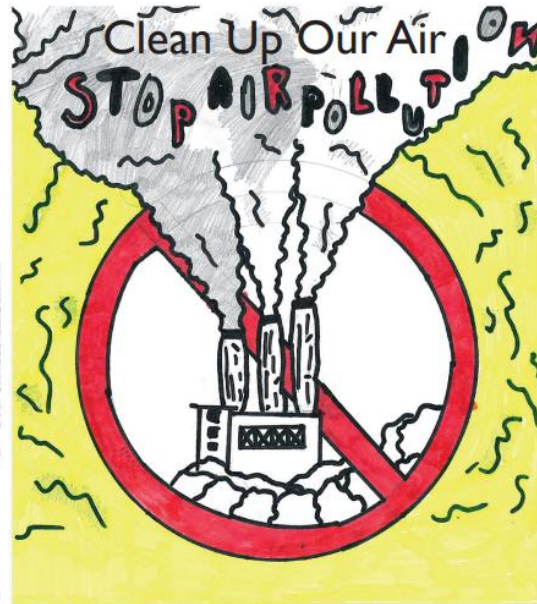
First Name: *Lauren* Year: *5*

Clean Up Our Air



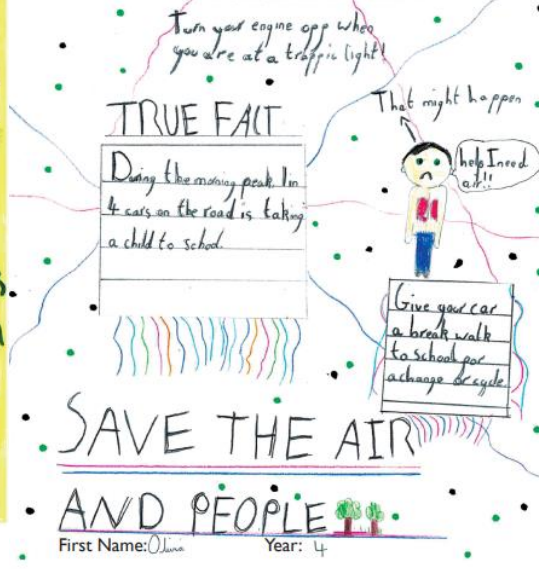
First Name: *Freya* Year: *5*

Clean Up Our Air



First Name: *Isabella* Year: *6*

Clean Up Our Air



First Name: *Olivia* Year: *4*

Image 8: Submissions of the school children's poster designs for the 'Clean Up Our Air' poster activity



Image 9: Installations in the community of the school children's poster designs for the 'Clean Up Our Air' poster activity

9.0 Feedback

9.1 Schools feedback

Both Farrington Gurney Primary and Cameley primary schools were sent a feedback form to collect and measure the impact of the engagement project on the school children, their families and wider community. As the feedback was returned headteachers were provided with a final 'thank you' for the school's active and enthusiastic participation in the project. This was in the form of cotton tote bags displaying the poster designs and strong messaging which were given to all children that participated in the poster activity (see *image 10*). As well as a nice 'thank you' acknowledgement for the school children, the tote bags are also opportunity to sustain the key messages and momentum of the project into the future.



Image 10: tote bags design that were a thank you provided to both schools for their participation and feedback

When asked if the interaction had increased the school community's knowledge and awareness around the effect of poor air quality, *figure 2* illustrates that the headteachers felt as though it had either made a lot of positive difference or at least to some extent it had.

4. In your opinion has the school's involvement in the Air Quality project increased the school community's knowledge and awareness of the harmful health effects of air pollution and some of the steps they can take to reduce exposure?

[More Details](#)

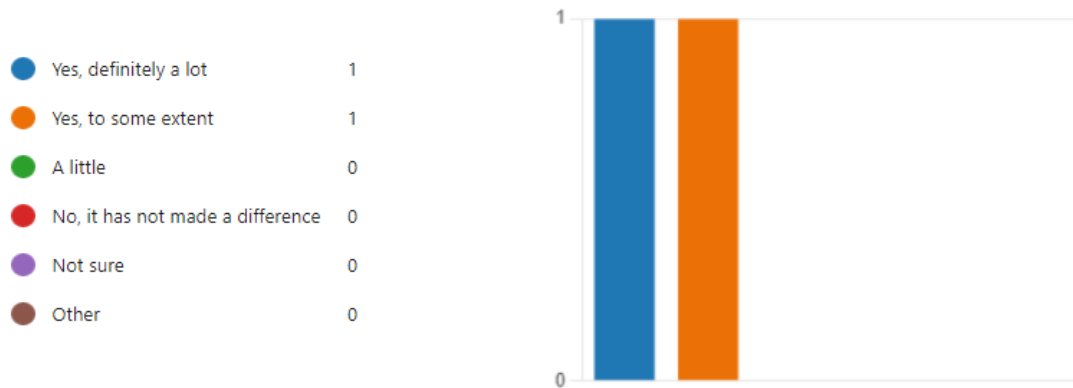


Figure 2: Feedback response from headteachers of the likelihood of improving knowledge and awareness of the school community.

Figure 3 demonstrates that both schools utilised the e-toolkit including the resources that were embedded in this with their children to increase knowledge and awareness to children who would be vulnerable to poor air quality due to their developing body. Figure 4 shows that headteachers are willing to use the e-toolkit in the future too. Therefore, demonstrating that there is a legacy. Headteachers are frequently reminded of the Hub and all its resources to be able to utilise this in lessons with the children.

6. Did you utilise the e-toolkit on The Hub/ the activities that were set around Clean Air Day

[More Details](#)

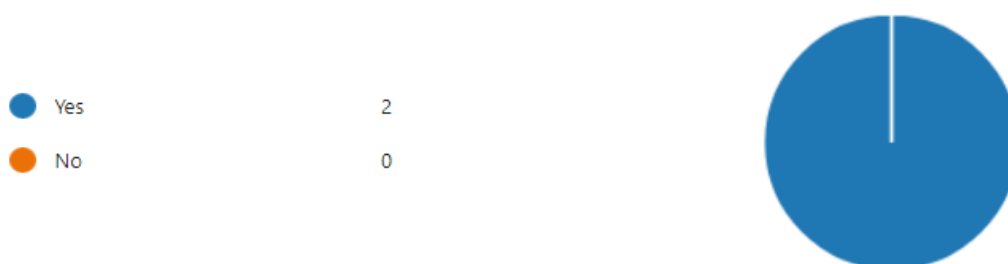


Figure 3: Feedback response from headteachers of the use of The Hub's online e-toolkit.

7. How likely are you to use the Air Quality e-toolkit in the future?

[More Details](#)

● Very likely	1
● Likely	1
● Very unlikely	0
● Not sure	0



Figure 4: Feedback response of the likelihood to use the e-toolkit in future use.

A key way to ensure that the messages reached families and the local community was to distribute the air quality information leaflets specifically designed to provide health advice to children and parents against the harms of air pollution. Feedback in Figure 5 shows that each child received and took home the information leaflet

8. Did you send the clean air information leaflets home with each child to their families?

[More Details](#)

● Yes	2
● No	0



Figure 5: Feedback response of the provision of information leaflet dissemination

9.2 Feedback from care homes

After sending out feedback requests to both care homes, we received feedback from Cholwell House. Clare Hall advised that they had undergone new management change and were unable to answer the questions efficiently.

Focussing on the feedback from Cholwell House, we saw positive feedback in that they agreed that the involvement in the air quality project increased the community's knowledge and awareness of the harmful health effects of air pollution and they step they can take to reduce exposure. They highlighted that they now practice clean air protocols, after considerations into the impact it could have on their residents, which would be considered vulnerable individuals. Cholwell House confirmed that they displayed the clean air information leaflets that we had provided. The manager also

fed back that they are promoting active travel to their staff and families including for partial journeys, adding that staff live locally and so therefore often walk in.

This response is positive and intentional of what we were planning to achieve in this project. It demonstrates that learned behaviours will be taken forwards and there is a legacy in the home by having information leaflets available too.

10.0 The future of Temple Cloud and Farrington Gurney

The results of the monitoring from the B&NES 2022 Air Quality Annual Status Report⁴ (AQASR), which covers a year retrospectively from the production of the report, shows a shift in the volume of measured NO₂. In Temple Cloud, monitoring remains above the objective of 40 µg/m³ at two locations with concentrations similar to 2020 at other locations. Further monitoring was carried out to compare with concentrations on the eastern side of A37 and in the gardens and indoors of properties directly affected by the higher pollution on the western side of the A37 (those closest to the road), these concentrations are all well below the recommended 40 µg/m³.

In Farrington Gurney, the AQASR 2022 shows that all sites were below the objective of 40 µg/m³ in 2021, showing a shift and improvement since the year before. However, while it is very encouraging that these areas are below the annual objective level, it is important to ensure that these figures remain within acceptable levels and don't increase. Raised awareness among the local community through the air quality community engagement project will help to keep the issue as a local priority and help to facilitate sustained efforts of the local community to protect themselves and those especially vulnerable to the detrimental effects of air pollution safe.

There will be continuation of cutting back all the overhanging vegetation to the line of the road, to reduce the tunnel effect of that stretch of road and help with the dispersion of the pollutants. Speed rumble strips were also introduced to help warn drivers and reduce speed before the narrow stretch of road. The continuation of these factors means the risk of impact of poor health due to air pollution is lessened.

4

https://www.bathnes.gov.uk/sites/default/files/sitedocuments/Environment/Pollution/final_asr_bnes_2022.pdf

Ongoing monitoring of Temple Cloud and Farrington Gurney will remain by the environmental monitoring department. The Annual Status Report will also continue to be generated each year with changes and patterns in volumes of NO₂.

11.0 Recommendations for future Public Health Interventions

We hope that the interventions will lead to sustainable changes e.g., health and social care staff having greater awareness and informing their clients about how to stay safe in relation to poor air quality. We anticipate that local institutions such as the schools will maintain a focus on promoting positive behaviour change and that public awareness will be raised. We will brief public protection colleagues responsible for Air Quality monitoring and keep them informed on project updates and outcomes.

Working with village agents and community leaders really helped with recognising which groups should be approached and targeted with our communication activities and key messages. They act as fundamental people on the group with the best connections and we can highly recommend the use of these.

In the future, should this project be scaled up and cover a larger area, the option of radio campaigns would be more feasible. Local radio can be an effective method to reach audiences that may not use or have access to social media or be as mobile in the community read out key messages and may well include some of the more vulnerable members of the population.

Along the process, the mobile library encouraged us that we approach them for promotional days. Their schedule gets booked up, but if approached with enough notice, they were very welcoming of us joining them. Dependent on the area and demographic of people wanting to be reached, the mobile library acts as a great service to double up with and combine uses of services.

An understanding of system challenges is important in informing approaches to engaging with primary care colleagues and primary care network leads, especially at times where they are under considerable pressure. It is helpful to consider alternative channels to reach the setting with key messages at a time when the issue may not feel like a priority for staff. Learning from this project is that Alternative patient participation involvement groups at practice level can be a valuable forum for generating effective solutions to the ensuring key messages are shared. Another method utilised was to hand deliver physical copies of the leaflets and posters to the reception areas of the GP practice areas, ensuring they can be put on display-on-display boards or in waiting room tables. Utilising the rolling patient screens in practice waiting rooms is another method to get key awareness and protective messages out to patients and more vulnerable members of the community.

As primary care staff are key in identifying and sharing protective messages with their more vulnerable patients it would be ideal to deliver some staff training on air quality and health (as was the original intention) to staff when current pressures decrease. Tools to aid this have been identified.

Approaching pharmacies through Pharm-outcomes is an effective way to reach pharmacies and this should be taken into consideration for future public health interventions.

Another factor that was essential in this process is building good rapport with local stakeholders and developing a stakeholders contact list of different groups. Developing relationships with stakeholders such as parish councils, attending meetings and sharing information was a valuable opportunity for messages to be shared. As an example, by us having conversations with the village agents this 'opened the door' to introductions to community groups and activities that could be linked into. A contact list of our stakeholders approached during the duration of this project can be found in *appendix 4*.

The B&NES Clean air zone team have launched an anti-idling campaign called 'kick the habit'⁵ that is available for residents, schools, nurseries, organisations or businesses to order anti-idling resources to have on display. On our webpage we have a link to the clean air zone page to link up our work and promote this resource. In future interventions, we should investigate similar links with departments that are achieving the same objectives and ensure we have a strong link on websites and in the running of future programmes.

12.0 Conclusion

Overall, the community engagement project delivered in Temple Cloud and Farrington Gurney has been delivered effectively. Through successfully engaging with health and social care staff, schools, nurseries, local community groups, parish councillors and business owners, we have been able to utilise recommendations from the literature reviews to reach vulnerable individuals who may be residing or visiting the AQMA's to raise awareness of air pollution and provide measures they can use to change their behaviour and protect themselves from additional pollutant exposure.

Learning from this project can be used to inform similar approaches in other AQMA's in B&NES. This project has helped highlight techniques best used for community engagement and co-operation.

Continuation of support remains for residents of B&NES such as the air quality e-toolkit which is available to all schools across B&NES. The refresh of this important resource is another added legacy from the project. It will be promoted, and its use actively encouraged through the [Public Health in Schools newsletter](#) and in the lead up to future Clean Air Day campaigns.

⁵ <https://beta.bathnes.gov.uk/engineoff>

Evidenced in this evaluation, there are also other key resources that can continually be used as they are available to use such as, and not exclusive to; Patient waiting room rolling information slides for their screens, anti-idling banners, bespoke 0-5 information leaflet and primary care training slides. All of which will be available on our ['learn about air quality' webpage](#).

We hope that learning and recommendations can be taken from our experience to improve future or ongoing public health interventions, particularly those that require an aspect of community engagement.

13.0 Appendix

1:

[..\..\Lit Reviews\Air quality literature review.docx](#)

2:

[..\..\Lit Reviews\Air quality comms literature review.docx](#)

3:

Item	Quantity	Cost
(Zenith) Child Health Leaflets- Matt trimmed to size A4 folded	350	£97.00
(Zenith)Respiratory Long Leaflets- Matt trimmed to size A4 folded	650	£145.00
(Zenith)Multi Poster Set A4 (x9 posters create x1 set)	25 (225 total)	£57.00
(Zenith)2mx1m anti-idling banner, Eyeletted, hemmed (Cameley school)	2	£119.00
(Zenith)2mx1m anti-idling banner, Eyeletted, hemmed (Farrington Gurney School)	1	£85.00
(Zenith)Multi Poster Set A4 (x9 posters create x1 set) (Durable-Synaps version)	2 (18 total)	£80.00
(Zenith)Printing of Correx posters	20	£95.00
(Zenith) 75 Respiratory long leaflets	75	£59.00
(Ben Whithall) Graphic designer for crop, bleeds, and eyelets for 6+ 7 schools' posters	13	£45.00
(Nick Moyle) School poster designs modifications	13	£286.00
(Zenith)100 long leaflets 50 children's leaflets	150	£67.00
(Zenith) No idling Banner Little Star Nursery	1	£85.00
(The Branded Company) Tote Bags	182	£514.25
(Whitehall) bespoke 0-5 information leaflets	2,005	£684.60
(Whitehall) bespoke 0-5 information leaflet additional 250 for RUH	250	£104.40
	TOTAL	£2,523.25

4:

Contact list for stakeholders approached during the duration of this project can be found here: [..\..\Stakeholders\Key Stakeholders Contacts.xlsx](#)