Luton

Item No:
9

Scrutiny Committee:	Overview & Scrutiny Board (OSB)
Date of Meeting:	03 August 2020
Subject:	Report on Recommendations From London Luton Airport Air Quality Impact Task and Finish Group – June 2020
Report Author:	Chair of the Task and Finish Group (TFG)Councillor Keens

Purpose

1. To present the final report and recommendations of the London Airport Air Quality Impact Task and Group, June 2020.

2. To enable the Overview and Scrutiny Board to plan and determine its work programme in order to monitor the recommendations from the task group.

Recommendations

3. The Overview and Scrutiny Board is asked to support the Recommendations from the Task and Finish Group (T&FG).

4. Commend the Task and Finish Group report to the Executive for approval.

5. Comment on the Recommendations.

Report

6. Attached.

Proposal/Option

7. To commend the Recommendations to Executive for approval.

Appendix (if any)

Appendix 1 - Summary of Recommendations

Appendix 2 - Glossary of Terms

Appendix 3a - Completed Questions Someries Junior School

Appendix 3b - Completed Questions Wigmore Primary School

List of Background Papers - Local Government Act 1972, Section 100D

None

Scrutiny Task & Finish Group London Luton Airport Air Quality Impact Report June 2020

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Chair's Foreword

Councillor Terry Keens

Chair

The Task and Finish Group recognises the extensive work that is already being undertaken to improve air quality in Luton. It is recognised that the Council is already undertaking a number of activities that have a positive impact on air quality across the town. The TFG is also aware that there are several projects linked to London Luton Airport which may impact on air quality and therefore it is noted any improvement in air quality is likely to have positive impacts on health. There is clear evidence that further investment should be made to improve air quality.

It may not be possible to deliver some of the recommendations detailed in this report within existing resources. Some may require additional funding and investment. However, the need to improve air quality within the scoping area of the review is seen as essential and the Council is therefore requested to source funds in terms of delivering the recommendations.

There are no exceedances in the area under review, however there are exceedances of the annual mean objective level for NO_2 elsewhere within the borough.

It is clear that this is not sufficient in terms of delivering and improving air quality within the scope of the review and Luton at large. The TFG recommends that an annual report outlining air quality around the airport and proposed actions for improvement are reported annually to the Overview and Scrutiny Board. I hope that the recommendations proposed in this report will further strengthen the Council's position in relation to air quality and lead to further improvement.

The detailed information and analysis within this report could not have been compiled without the hard work of council officers, local groups and external partners including London Luton Airport Operations Ltd. I would like to place on record my appreciation and thanks to all those council officers and elected Members who contributed to the project, as well as the young people and schools that participated in the evidence gathering process. There is no doubt their contributions have been very useful to the success of this review.

As Chair of the review, it is my privilege and pleasure to commend this report and recommendations to the Council's Overview and Scrutiny Board and further to the Executive. It should be noted however that this report was prepared prior to the current Covid-19 pandemic.

Executive Summary Overview & Scrutiny Committee (OSC)

The main source of air pollution in Luton is road traffic, particularly on the M1 motorway and congested Town Centre streets. Despite the economic benefits brought by London Luton Airport to the town as an infrastructure of national significance, there are concerns that the Airport is also a major source of air pollution in Luton. It is felt that due to its proposed expansion, there could potentially be a substantial increase in traffic, with an adverse impact on air quality on local residents resulting.

Prompted by the perceived concerns of poor air quality around the Airport and its likely impact on local residents, the Overview and Scrutiny Committee established a time limited Task and Finish Group (TFG) on 19th November 2018 to consider this issue in depth. The TFG agreed to three key objectives for the review and these are set out in the body of the report at paragraph 8/Objectives.

Air pollution is said to be the world's largest single environmental health risk with a significant risk factor for a number of pollution related diseases including respiratory infections, heart diseases, COPD, stroke and lung cancer. In the context of pollutants Air Quality (AQ) has a direct negative impact on human health such as NO_2 and PM (**PM_{10}**, **$PM_{2.5}$**) and more recently, **PM_1**. According to the Department for Environment, Food & Rural Affairs Clean (Defra) Air Strategy issued in 2019, the national air quality objectives set limits for the permitted concentrations of pollutants depending on the duration of exposure. For NO_2, the exposure must not exceed 40µg/m3 averaged over one year, or 200µg/m3 averaged over one hour on more than 18 occasions in a year. For **PM_{10}**, the annual average exposure must not exceed 40µg/m3, and the average daily exposure must not exceed 50µg/m3 on more than 35 days in a year.

During the course of the investigation, the TFG received evidence from the Council's Public Health and Environmental Protection Officers. The TFG heard evidence from other professionals and sources including; Professor of Diversity in Public Health & Director, Institute for Health Research University of Bedfordshire regarding the ongoing CHILL study; Some Schools within the scope of the study and Luton Airport Operators. The TFG also received and relied on publications by Defra (Air Quality) A briefing for Directors of Public Health March 2017), and (Public Health England (Publication on Interventions Outdoor Air Quality and Public Health published in 2019). Other documents and papers referenced included; (Air Quality Monitoring Airspace and Flight, submitted by London Luton Airport Operations Ltd), (Greater Manchester Air Quality Action Plan 2016-2021), (UK Plan For Tackling Roadside Nitrogen Dioxide Concentrations – An Overview Published in July, 2017), (Defra Clean Air Strategy 2017 and 2018), (Luton Air Quality Annual Status Reports published in fulfilment of Part IV of the Environment Act 1995), and (Overview of the 2019 Air Quality Annual Status Report) amongst other documents and witness statements from stakeholders.

As can be seen from the detailed report air pollution has adverse health impacts generally. For Luton, evidence received from the Council's Public Health service revealed that in 2017, Luton was in the worst quintile in England for estimated air pollution (fine particulate matter). It was stated that Luton's fraction of mortality attributed to particulate matter had worsened notably since 2015 and its rate was worse than the national average, being the second worst rate amongst its CIPFA statistical neighbours (after Medway). In relation to the prevalence of respiratory diseases such as asthma, hospital admission rates for both those aged under 19 and those aged 19 and over are worse than the national average. Also, the Luton CCG area performs worse than the England average for emergency hospital admissions for respiratory diseases in all ages, and for COPD. Luton also performs worse than the average rate for most similar CCGs for the first two of these (with no data for COPD).

Furthermore, the modelled average rate of fraction mortality attributable to particulate air pollution in 2017, was higher in Luton at (6.2%) than the national England average at (5.1%) and compared to statistical neighbours listed at paragraph 31 of this report. These measures all have links between air quality and respiratory disease, however it is not clear from evidence received by the TFG whether the residents living around the Airport have the worse impact or not, in terms of air pollution. It was noted that statistical data to evidence this is not available.

The report covers the following areas:

- The Background, Objectives, and what is Air Quality and Air Pollution?
- The National and Local Context
- Luton's Current & Benchmark Positions compared to other areas*, including Greater Manchester which has an Air Quality Action Plan 2016-2021.
- Luton's Current Air Quality Action Plan 2018 – 2019.
- DEFRA Work and Definition of Air Quality
- The CHILL Study by the University of Bedfordshire
- Main Findings of the Task and Finish Group
- Monitoring Stations visit and field trips to areas of air quality monitoring equipment

Finally, the report concludes with **the Recommendations** with some associated actions proposed by the Task and Finish Group also set out in the body of the report at paragraph(s) 6 to 93 of the report.

Background and Purpose

1. The Overview and Scrutiny Committee established a Task and Finish Group to investigate air quality and pollution in the wards surrounding London Luton Airport. As an infrastructure of national significance, the Airport is a major driver of economic activity, including international trade and tourism.

Report

2. The Overview and Scrutiny Committee established a Task and Finish Group to investigate air quality and pollution in the wards surrounding London Luton Airport. As an infrastructure of national significance, the Airport is a major driver of economic activity, including international trade and tourism.

   The review focused on the assessment of air quality in the wards immediately around London Luton Airport (namely Stopsley, Wigmore, Crawley, Round Green and South wards) and included:

   - A Review of similar previous studies to identify pollutants of concern;
   - Consideration of all currently available sources of local air quality data;
   - Appraisal and benchmarking data sets from ~~of~~ the current LBC and LTN air monitoring programmes;
   - Assessment of compliance with relevant legislation (both UK and European) and current Council policy; and
   - Consideration of the public health impact of air pollution

What is Air Quality and Air Pollution?

3. “Good air quality pertains to the degree which the air is clean, clear and free from pollutants such as smoke, dust and smog among other gaseous impurities in the air. Air quality is determined by assessing a variety of pollution indicators. Good air quality is a requirement for preserving the exquisite balance of life for humans, plants, animals and natural resources. As such, human health, plants, animals and natural resources are threatened when pollution in the air reach high concentrations” *https://www.conserve-energy-future.com/what-is-air-quality.php*.

   Therefore poor air quality can affect and or harm:

   - the environment
   - Human health
   - Plants
   - Animals
   - Natural resources, including water (for example)

National Context – Legislative and Policy Framework

4. The UK has statutory monitoring networks in place to meet the requirements of DEFRA standards etc. [these Directives] with air quality modelling used to supplement the monitored data. The results must be submitted to the European Commission each year. The UK air quality framework is derived from a mixture of domestic, EU and international legislation and consists of three main strands:

    - Legislation regulating total emissions of air pollutants – the UK is bound by both EU law (the National Emission Ceilings Directive) and international law (the Gothenburg Protocol to the UNECE Convention on Long-range Transboundary Air Pollution);
    - Legislation regulating concentrations of pollutants in the air; and
    - Legislation regulating emissions from specific sources such as permitted installations.

Local Context

5. London Luton Airport is an asset owned by London Luton Airport Ltd. The Council is 100% shareholder of the company. However, the day-to-day operation of the airport is undertaken by London Luton Airport Operations Ltd.

6. London Luton Airport Operations Ltd, does in part provide an opportunity to discuss matters of concern across the wider footprint of the Airport, but it does offer the opportunity for the detailed consideration of matters through the Airport Forum. Overview & Scrutiny Board have in the past considered some airport related matters including financial decisions of the Shareholder but has not had an opportunity to consider some of the wider impacts on the town and especially air pollution within the vicinity of the Airport.

7. The health and wellbeing of people living and working in Luton and indeed people working around the Airport is paramount. Although London Luton Airport brings a lot of benefits to the town, local people living in the vicinity of the Airport felt that air quality around the Airport was polluted. Air pollution causes several conditions (including heart disease and lung disease), including many other health conditions. There is also evidence that younger children and elderly people are more impacted by poor air quality or air pollution.

Objectives

8. Three key objectives were identified to keep the debate of the T&F focussed and to ensure that the objectives were met as highlighted below.

    - To provide a clear overview of air quality and related health impacts and the relationship between poor air quality and health and wellbeing of the people in the wards surrounding the airport based on the current available data;

- To listen to and adequately investigate local community concerns within that area and to understand whether the Airport was having impact on local air quality;
- To review and benchmark the current LBC and LTN air quality monitoring programmes; where necessary identifying potential improvements in scope; coverage and quality to ensure all pollutants of concern are adequately monitored.

Methodology/Approach

9. The Task and Finish Group agreed that it would receive evidence from relevant stakeholders. It should be noted that not all of the bodies shown were able to send representatives to give evidence to the T&F during the evidence gathering process.

    - Relevant Portfolio Holder(s) i.e. Leader of the Council – London Luton Airport
    - Director Place & Infrastructure/LLAL
    - Director of Public Health and Wellbeing
    - Web based research
    - Voluntary sector organisations (LADACAN)
    - University of Bedfordshire – CHILL STUDY
    - Review of relevant documents/data – benefits of the LLA Air Quality Annual Monitoring Report

Public Involvement & Consultation

10. In respect of public involvement and engagement, the TFG engaged with the local community to understand the issues of concern. Local people were informed about the work of the Task and Finish Group through the following:

    Local media, including press releases

    - Letters and questionnaire were sent to local schools in Luton thought to be in the flight paths of London Luton Airport
    - council's website/local and voluntary organisations
    - Published witness statements, documents relied on including witnesses from London Luton Airport Operations Ltd, Bus companies, etc.

11. Furthermore, a number of organisations detailed below were invited to support the evidence gathering process and to share their expert knowledge in specific matters. These included:

- Public Health – Luton Council
- Environmental Protection– Luton Council
- Representatives from London Luton Airport Operations Ltd (LLAOL)
- Representative from University of Bedfordshire (CHILL Study)
- Highways Improvement – Luton Council
- Local Bus Operators, including Arriva Bus Company, National Express, etc
- LADACAN
- Local schools that are within the area of focus namely:

    a) Wigmore Primary
    b) Someries Infants
    c) Someries Junior
    d) Ashcroft High School
    e) Crawley Infant School
    f) Wenlock Jnr School
    g) Putteridge High School
    h) Chiltern Academy
    i) Surrey Street Primary
    j) Oakwood Primary School
    k) Stockwood Park Academy
    l) Tennison Road Primary School

12. Unfortunately some organisations and individuals invited to support the TFG were unable to attend. The TFG expressed their appreciation to the schools who returned completed questionnaires and thanked the schools and or their representatives for taking time out to engage with the process which was useful for the review. Only FOUR schools participated out of the 12 schools contacted. Two Local Groups “Friends of the Earth” and “Friends of Wigmore” and a number of local people also supported the evidence gathering process throughout. They all made useful contributions to the success of this review.

13. The meetings of the TFG were held in public and papers of the TFG were made accessible to members of the public on the Council’s website to ensure robust public engagement. Minutes from meetings of the TFG were also made available and published on the Council’s website.

14. Feedback and progress on the recommendations of the Task and Finish Group will be provided to the public, through a press release and published on the Council website. The Outcome will also be reported to the Overview and Scrutiny Committee. Progress of the recommendations will also be monitored through the Overview and Scrutiny Board’s work programme.

Area of Evidence/Key Findings And Recommendations

General Overview of Air Quality in Luton – Meeting on 15th August 2019

1. The Committee considered an initial presentation at its meeting on 15th August 2019 from Officers in Public Health and Environment and Regeneration giving an overview of the scope of the Review. The Airport brings many benefits to the town, but there are also wider potential impacts, and currently it is working beyond its previously planned passenger throughput numbers at today's date. With this has come increased private car volumes for passengers coming to the airport and more airport ground services and flights. These increases would have come eventually but because the airport has reached its permitted maximum capacity significantly ahead of plan these effects have also arrived much sooner than envisaged. Nationally the UK has seen growing passenger numbers and this means more flights, more passengers traveling to the airport and for most part of those passengers arriving predominantly by private cars. However, for the purpose of this Task and Finish Group, the focus will be on Air Quality and Air Pollution and the impact around the wards within close proximity of the Airport. Also despite the airport bringing many benefits to the town as a whole it is perceived by neighbouring Luton Wards to be an antisocial neighbour, responsible for hugely increased air pollution and noise, etc.

2. Officers in Public Health presented evidence to the Committee regarding the impact of air pollution on human body. The report highlighted the different types of pollutants and those most harmful to the human body. ***According to the Public Health England Review of Intervention to improve outdoor air quality and public health publication,*** "The size of particles and the duration of exposure are key determinants of potential adverse effects on health. Particles with a diameter of 10µm or less (PM10) pose a risk to health as they can penetrate and lodge inside the lungs. The strongest evidence for effects on health are associated with fine particles (PM2.5). There is some evidence that ultrafine PM (PM0.1) with a diameter less than 0.1µm can penetrate deeper into lung tissue, enter the bloodstream and, therefore, pose a greater risk". Members were informed that short term exposure to PM may result in irritation of the eyes and respiratory symptoms, such as irritation of the nose and throat, coughing, shortness of breath and chest tightness. People with existing cardiovascular and respiratory conditions, children and older adults are particularly at risk of effects when air pollution levels are elevated. This causes hospital admissions and deaths to increase.

3. The Committee heard evidence in relation to the sources and impact of air pollution; understanding particulate and gaseous airborne pollution. Poor air quality in Luton as a whole has been shown to be as a result of busy and congested roads and that Nitrogen dioxide pollution was mostly as a consequence of emissions from diesel cars and vans. It is important to bear in mind that one boundary of the town is essentially the M1 motorway with its 24/7 traffic. As with most urban environments, the main sources of pollution are linked with road vehicles, meaning that towns like Luton are disproportionally exposed to the pollutants with the greatest impact on human health - NO_2 and **$PM_{2.5}$**.

4. The TFG received further evidence that exposure to air pollution inside vehicles could be as high, or higher, particularly in slow moving traffic. The Council's Public Health and Place & Infrastructure department of the Council are currently putting strategies in place to encourage active travel and low or zero pollution modes of travel like sustainable public transport and schemes. By choosing sustainable methods of travel, it was felt that there will be less pollution in the local atmosphere. Recommended travel methods are, walking, cycling, public transport and use of electric cars, etc. Where these are not feasible, the use of a newer vehicle that meets a higher emissions specification will produce less pollution than an older engine.

5. Regarding the impact of trees on air quality, there are benefits of green infrastructure but there is need to be cautious as the use of green infrastructure could also exacerbate poor air quality. For example tree canopies that trap air pollution instead of allowing air to disperse and research shows that there could be mitigating effect of trees particularly in building hedge rows between source of pollutant and where people live/cycle/ and or walk.

6. The TFG also heard from Public Health with reference to (The Impact of the 2003 Heat Wave on mortality and hospital admissions in England document) in relation to the heatwaves of 2003 in England and Wales which "saw mortality increase by 17% across England & Wales and by 40% in London from the exacerbating effects of high temperatures on poor quality air". Reference was made to the "D**elhi incidence in June 2018 where 'off the chart' levels of PM_{10} were recorded and mentioned that in July 2017 the NHS was on the verge of a announcing a summer crisis with record number of accident and emergency admissions mostly for respiratory exacerbations due to the high temperatures experienced in that year"**.

7. Financially the annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion. ***(2018 Air Quality Annual Status Report (ASR) Executive Summary).*** Luton is dominated by the population centre of Luton town, with the M1 motorway running north/south on its western side, and London Luton Airport at the south east of the borough. As already stated, evidence shows that traffic is the main source of air pollution in the borough with both the town and the motorway providing significant traffic volumes. Furthermore, in relation to Airport related emissions, the main pollutant of concern around airports is nitrogen dioxide **NO_2**. Although **$PM_{2.5}$** is formed by nitrogen oxide NOx emissions from surface traffic, aircraft and airport operations. **$PM_{2.5}$** is also of concern since particulate emissions from jet exhausts are almost all in this fine fraction". Other sources include local industry, which is distributed in pockets around the borough. The Task and Finish Group heard that there are three categories of air pollutants of concern, namely:

    - Emissions of NO_2 (Nitrogen dioxide),

    - Emission of particulate matter (**PM_{10}** and **$PM_{2.5}$**). Although **$PM_{2.5}$** is known to be particular harmful, PM10 levels still have an impact on health. Additionally, whilst the LAQM regime does not include **$PM_{2.5}$**, it does set air quality objectives for **PM_{10}**.

    - Emissions of **CO_2** is most definitely a pollutant of concern, however as a greenhouse gas it exerts an indirect effect on human health. Typically, CO_2

emissions are considered as part of the climate change and carbon reduction agendas

8. The Council monitors the main pollutant of concern nitrogen dioxide (NO_2) as well as particulate matter; however, no exceedance of the objective for particulate matter (**PM_{10}**) has been either measured or modelled to date. Recent focus on particulate matter has changed to the smaller **$PM_{2.5}$** fraction. The TFG heard that the Defra Pollution Climate Mapping Model calculates annual mean NO_2, PM10 and **$PM_{2.5}$** concentration for each square kilometre of the UK. **$PM_{2.5}$** is airborne particulate matter that at significant levels can reduce visibility and make the air appear hazy. It is also a direct cause of heart disease, lung disease, cancer and restricted lung development in children, amongst other things. They are also known to trigger heart attacks. In response to the growing concerns about the health effects of this pollutant, Luton Borough Council has started measuring **$PM_{2.5}$** levels at its town centre automatic monitoring station (situated on Dunstable Road East) at the end of 2014. Further evidence received revealed that **PM_{10}**, **$PM_{2.5}$** and the even smaller **PM_1** are all being monitored at the new airport air quality monitoring station in Wigmore Park. The TFG felt that such monitoring should be extended to other areas in Luton specifically the Airport vicinity. It is worthy to mention that **CO_2** as a greenhouse gas is considered a pollutant of concern, but has no direct effect on human health however, given that **CO_2** emissions are part of the climate change and carbon reduction agendas, it must be stated that it has the potential to have devastating effect on human health although not as a result of inhalation.

Recommendation 1 (Paragraphs 6 - 8)

(i) The TFG acknowledge that during evidence gathering, it was revealed that PM_{10}, $PM_{2.5}$ and even the smaller PM1 are all now being monitored at the new air quality monitoring station in Wigmore Park, the TFG therefore recommend that:

(ii) The Executive request the Director of Place and Infrastructure to extend the measurement and modelling of particulate matter (PM_{10} & $PM_{2.5}$ and PM_1) where possible more widely to the Wards immediately adjacent to the Airport and commit an intention that the modelling of particulate matter be further extended and made a town wide project in order to promote public confidence; and suggest that work take place with the Airport Operators, and all stakeholders and relevant departments including consulting with local people and other local authorities to see what relevant model is appropriate for all the wards around the Airport and more widely across the town.

9. In 2018, LBC monitored **NO_2** levels within the borough using both an automatic analyser located at its Dunstable Road East monitoring site (CRAQM 2) and a total of 44 diffusion tubes positioned at 42 different locations across the town. Changed and analysed on a monthly basis, the data from these tubes provides a measure of how NO_2 levels vary over time and it's used to calculate an annual mean concentration at each monitoring locations. Once corrected for measurement bias and adjusted to take into account the location of the tubes relative to any likely human exposure, these annual values should not exceed the national air quality objective level of 40µg/m3. In the event that this level is, or is likely, to be exceeded on a consistent basis Local Authorities are under a duty to declare an Air Quality Management Area (AQMA) encompassing the relevant locations. Once an AQMA has been declared, Local Authorities are required to produce an *Air Quality Action Plan* to address this exceedance and reduce NO_2 concentrations within

the objective level. Currently, Luton has three Air Quality Management Areas: two along the route of the M1 and one along Stuart Street in the town Centre.

10. Listed below are some of the steps and interventions that the Council as a local authority can take in order to reduce emissions, air pollution and to improve air quality. These actions no doubt could have impact on reducing air pollution, however, it does not make them the most effective methods/cheapest methods so the list is not exhaustive.

    - traffic and parking management, including ability to influence 'no-idling' of vehicles
    - street design and road layouts
    - planning
    - public and school transport policies
    - restricting access to the highest risk areas of the dirtiest vehicles
    - favouring clean vehicle technologies (e.g. EV) over diesel and bio-diesel
    - reducing polluting emissions through freight consolidation, delivery management and low or zero emission last mile services
    - fleet management and car clubs
    - installation and maintenance of electric vehicle charging points
    - vehicle and building air conditioning
    - building energy efficiency
    - Clean Air Zone
    - permitting and regulation of certain types of industrial processes, factories and other activities that can cause pollution (Environmental Permitting)
    - Location and enforcement of Smoke Control Areas (SCA).

11. Luton Airport has grown much faster than was intended as the passenger numbers have already reached 18 million passengers per year (mppa). This is the current maximum permitted throughput in the airport's planning consent, this was not expected to have been reached until 2026/7 at the earliest. However, the Airport is making formal proposals to expand.

12. The TFG heard that one key aspiration of the Council's Public Health is to ensure move towards greener infrastructure in the whole of Luton Town and not just the Airport area which is the area of focus for this TFG. However, whilst greener infrastructure may support better air quality in some instances, it is recommended that it forms part of a multi initiative approach in order to reduce the vehicles and congestion on Luton roads for more sustainable travel models such as cycling and walking and good green public transport. Also, with the growth of the Airport it is expected that there will be an increase in the number of cars transiting to the Airport and as already heard, fumes from vehicles are a great contributor to air pollution. A possible practical way forward is for the Council

to enter into discussions with the Airport Operators regarding the establishment of an Airport Park and Ride facilities, specific to the Airport. This will hopefully ameliorate some of the concerns expressed about pollution by vehicles and cars. Whilst the provision of a Park and Ride facilities may address some of the issues expressed, on its own, it will not definitely improve the 'air we breathe. As a result it is recommended that it should sit alongside other alternatives such as, reducing car parking spaces at the Airport. It was also noted that Luton is an area of smoke free zone with a smoke control order in operation, which allow only authorised fuels to be burnt in an open fireplace. Enforcement action may prevent log burning which is also considered an air pollution contributor. In the context of this review and in relation to the enforcement of the free smoke zone, consideration should specifically be given to the Airport area and the wards surrounding the Airport.

Recommendations 2 (Paragraph 11 & 12)

(i) That the Executive request the Director of Public Health and Wellbeing together with the Director of Place & Infrastructure to enter into discussions with the Airport Operator, about the possibility of introducing Airport Park and Ride facilities by establishing a multi-agency approach, with the aim of introducing more sustainable travel models, the introduction of clean air zones and restricted parking, to make it less appealing to drive to and from the Airport.

(ii) That the Executive request the Director of Public Health and Wellbeing together with the Director of Place & Infrastructure, to develop an action plan with London Luton Airport Operations Ltd which establishes a multi-agency approach to deliver the following objectives:

- Offer better public transport, at reasonable fares.
- The establishment of an Airport Park and Ride facilities
- Request the Council to enforce the smoke free zones in strategic locations in the vicinity of the Airport area including Schools and residential houses in the area. Clean Air Zones
- Restricted Parking and fines for more polluting vehicles

13. The TFG requested more information regarding localised trends and monitoring of the impact of air pollution, i.e., deaths and diseases attributed to air pollution and Hospital data in the areas within the scope should be reported to its future meeting.

14. In order to understand the wider impact of air pollution in the localised area as well as a town impact, at its 2nd meeting on 12th September 2019, evidence was received in respect of the following:

- The CHILL study (Children's Health in London and Luton) delivered by Professor Gurch Randhawa PhD FFPH DL, Professor of Diversity in Public Health & Director, Institute for Health Research University of Bedfordshire.
- Comparative Data And Trends On The Long Term Impact Of Pollutants
- Overview Of The 2019 Air Quality Annual Status Report.

15. The CHILL Study was commissioned as a result of air pollution which has been shown to affect children's lung growth and increase amount of asthma attacks. The Study brought together a collaboration of experts from five globally leading research centres, including Asthma UK Centre for Applied Research, MRC and Asthma UK Centre in Allergic Mechanisms of Asthma, University of Bedfordshire and the University of Southern California. It is a research study which aims to find out whether reducing air pollution from traffic is good for children's health and wellbeing. The CHILL study aims to independently evaluate whether London's Ultra-Low Emission Zone (ULEZ) designed to reduce air pollution caused by traffic in central London is effective for the improvement of children's Health. The study is particularly interested in whether interventions to reduce air pollution can improve children's lung growth and respiratory symptoms, activity levels and brain function. It is also interested in whether exposure to air pollution in childhood leaves markers on genes that reflect pollution levels over time.

16. Over 84 primary schools are involved in the study which is aimed to reach out to over 9,000 children at the conclusion of the study after its 4 years planned period. Primary school children in Luton are being encouraged to take part in this study with the hope of improved health and wellbeing in children. For more robust involvement of Luton schools had been deliberately spread across the patch to cover the main roads along Luton and Dunstable. This will show the potential impact AQ may have on children in Luton potentially how much more disease they develop compared to those in lower pollution areas. It will also ensure that at a very young age, young people will start thinking about and understand the importance of clean air, air pollution and its impact on society. Luton's involvement will hopefully show the potential impact AQ will have on children in Luton by showing how much more disease they develop compared to those in lower pollution areas.

Low Emission Zones (LEZ)

17. Evidence received by the TFG revealed that a lot of debate and engagement had taken place in respect of the effectiveness of low emission zones and that there were different schools of thoughts. The direct link to changes in health had not yet been demonstrated; a longer term study like CHILL should emerge and answer this once LEZ/CAZ had been in place long enough for any results to emerge.

Recommendation 3 (Paragraph 17)

That the Executive request the Director of Place & Infrastructure to take steps, including contact and liaison with other local authorities, to identify best practice in investigating the effectiveness of low emission zones and depending upon the outcome, consider the commissioning of LEZ in key strategic areas in Luton and in particular London Luton Airport.

Comparative Data – Luton and London

18. Generally Luton can be compared to London Hillingdon as Luton's pollutants levels are similar to London Hillingdon and it would be interesting to see what the outcome of the CHILL study will be at its conclusion. Further evidence showed that the least polluted

area was South Kensington in London. However, other areas of London and specifically the Marylebone Road in London is worse in terms of air quality.

19. In relation to clean air comparative data these are not available but a lot of data about children's extra curriculum activities were being collected with a little incentive of a £5.00 voucher from Sainsbury's in recognition of the young people's involvement and participation. It was noted that it will be useful to further commission a specific study, nationally or locally in terms of available data and evidence to demonstrate that the **Low Emission Zones (LEZ)** are either effective or not effective in changing health outcomes. Members of the TFG also noted challenges in terms of several government policies which are not joined up. There is also significant financial challenges in relation to commissioning initiatives similar to that of the CHILL study. The TFG Members felt that an annual progress update to the relevant scrutiny committee will be useful to monitor progress and success of the CHILL study.

Recommendation 4 (Paragraph 19)

(i) That the Executive be requested to commission a study locally to investigate the benefits that Low Emission Zones (LEZ) have had in other authorities that have adopted similar schemes with a view to piloting such a scheme in the vicinity of London Luton Airport with the aim of extending the scheme town wide.

(ii) That the Scrutiny Children Services Review Group be recommended to receive an annual progress update of the CHILL study to monitor progress and achievements throughout the 4 year commissioned period of completion.

20. Proposals for the CHILL study includes consideration of other areas to promote good health such as "walk to school week" which will be introduced in some schools as part of the CHILL study initiatives.

21. The issue of cyclist usually stuck behind congested traffic with the perception that fumes inhaled long term may cause complex respiratory health condition was expressed. However, on the contrary it was stated that cyclists breathes less pollution so the situation is not necessarily as bad as it is perceived to be. Also, cycle routes in Luton exist and are constructed off the highway, without much exposure to fumes.

22. Some of the primary schools in Luton which were part of the study were in the flight path such as Wigmore Primary School. Professor Randhawa from the University of Bedfordshire, leading on the study, stated that airports themselves are not especially polluting but the traffic around it was the real issue in terms of air pollution. There was recognition that Luton was doing well in terms of its recent activities to tackle air pollution including the DART project in Luton, which may alleviate some of the worries around air pollution caused by vehicles. Furthermore, it is also recognised that Luton was doing well especially with regards to the recent town wide activities of air quality management action plan.

23. With reference to the Putteridge Bury area within the scope of the review Members of the Review expressed concern that some airplanes during landing, would fly extremely low and felt that this could impact on the air quality with increased rate of air pollution. As a result a detailed evidence based report was requested to ascertain the local picture. The TFG also requested evidence in relation to "landing and flightpath" and the likely increase in air pollution.

Comparative Data And Trends On The Long Term Impact Of Pollutants

24. Officers struggled to provide data and trends on the long term impact of pollutants and whether the people who lived on the wards around London Luton Airport suffered the most in terms of their health and wellbeing compared to other areas of the town. At a previous meeting Members requested information on comparative data and trends on the long term impact of pollutants of concern, however, this data was only available in small numbers, and mainly from recorded GP data. It did not show a clear picture of the situation in the area within the scope. It was suggested that commissioning this piece of work could be the way forward.

25. It has been acknowledged that air pollution is a known major risk factor for health outcomes however, it is not the only risk factor held accountable in view of available data there are other variables linked to the wider determinants of health. The TFG were informed that in 2015 a study was carried out by the National Health Service in order to assess the link between pollution, air traffic and health outcomes. This study revealed that living near an airport may be bad for health "People who live within six miles [of an airport] have higher levels of asthma and heart problems," the Daily Mail report after a US study has suggested exposure to carbon monoxide from planes may impact on health. This potential pollutant is thought to occur when planes are taxiing on busy runways". The study further revealed that "An association was found between higher levels of carbon monoxide and increased hospitalisation rates for respiratory conditions such as asthma, as well as heart related issues" Unfortunately the available evidence was not robust enough to give a reasonable conclusion. In any case, the study concluded that there was increase in asthma and chronic obstructive pulmonary disease (COPD) by 17% and heart problems increased by 9%. A literature review would have to take place if inferences were to be deduced from this study. (https://www.nhs.uk/news/lifestyle-and-exercise/living-near-an-airport-may-be-bad-for-your-health). These findings however, were found to be in line with other research, which suggests increased pollution levels are associated with poorer health outcomes.

26. Air pollution could be linked and attributed to a lot of variables and impacts throughout the life course. Members of the TFG were informed that a publication by Public Health England in March 2019, on the "Review of Interventions to Improve Outdoor Air Quality and Public Health" assessed evidence available and identified interventions which can be taken to prevent, mitigate or avoid air pollution impacts and or pollutants of concern. The Task and Finish Group received this document at their meeting on 3rd December 2019, and discussions will be referenced later in this report as part of the evidence received.

Recommendation 5 (Paragraph 24 - 26)

(i) That, in the absence of available data, the Executive be requested to instruct the Director of Place & Infrastructure and the Director of Public Health & Wellbeing, to take all necessary steps to improve the collection of data and data analysis, to ascertain whether the people living in the 5 wards immediately adjacent to LLA are most likely to suffer as a result of contamination or air pollution around London Luton Airport.

(ii) That, in taking the necessary steps, the Director Public Health and Wellbeing be requested to determine the impact of air pollution in the area within the scope and whether those closest to the airport are exposed to more air pollution than others; whether they are more vulnerable to air pollution than others; whether there is more disease that is linked to air pollution in those wards; and generally to determine whether local residents within the ward area suffer the most consequences of poor air and pollution.

27. During the evidence gathering process it was revealed on a number of occasions, that congested traffic going to and from the airport are the biggest problem by comparative data, around the Airport. **No doubt it is essential to have localised data within the wards around London Luton Airport area however, Officers advised that this sort of data was not available**. Currently the Council do not have an emissions inventory/source apportionment study for LTN and therefore there is reliant on national aviation related emissions data from the National Atmospheric Emissions Inventory. It was stated that this is however, not the case when considering air pollution in the town centre which currently require an update but a source apportionment exercise for AQMA No 3 was undertaken prior to the drafting of the town centre Air Quality Action Plan. In relation to what other areas are doing nationally, Gatwick and Heathrow are not considered as comparative to Luton.

The Sheffield Proposals and Plan

28. Members received evidence from Officers regarding the Sheffield proposals and plan to improve air quality locally commissioned to carry out a consultation to identify the sources of air pollution in the city and consequently came out with proposals and action to improve the air quality in Sheffield. Although Luton's situation is quite different from that of Sheffield it was felt that Luton can still benefit from this model in order to continue to take action to improve air quality within the area of the study and possible town wide initiative in the near future.

29. Sheffield took various actions to bring NO_2 emissions within legal limits as quickly as possible and a range of options to reduce pollution were explored. Its preferred solution was the introduction of a '**category C' Clean Air Zone**. This means that buses, taxis, vans and Lorries that do not meet the set emissions standards will have to pay to drive in and around that zone. The main aim was to discourage the use of high polluting vehicles from the city. Switching to cleaner vehicles is financially viable.

Recommendation 6 (Paragrapgh 27, 28 and 29)

(i) That, in order to identify the wards where air pollution is most prevalent and why, the Executive request the Director of Public Health and Wellbeing and Luton CCG, to investigate the sources of air pollution locally and, using the Sheffield model as a case study, commission a model relevant to Luton to draw up an action plan to address and reduce the impact of pollutants of concern.

(ii) That the action plan to be developed to investigate the sources of air pollution locally referred to at (i) above, be submitted to Overview and Scrutiny Board for the purpose of monitoring progress**.**

30. Nationally it was recognised that air pollution most harmful to health came mostly from road traffic and congestion and there is evidence that there are various sources of air pollution. Some of the ways in which air pollution could be managed are outlined in the Public Health England Evidence Review Document. Evidence relating to initiatives to reduce congestion and traffic across the town had also being previously received. By using alternative methods of reducing road congestion, such as Park and Ride, effective traffic management plans, affordable and reliable green public transport, and accessible and attractive cycling and walking routes. Green infrastructure designed to keep pollution away from where people live, work and travel were also mitigating factors for air pollution.

Recommendation 7 (paragraph 30)

That the Executive request the Director of Public Health and Wellbeing together with the Director of Place & Infrastructure, in partnership with local bus operators', LLA Ltd. and local people, to consider initiatives and adopt cross cutting policy and strategy to (a) reduce congestion and traffic (b) reduce traffic to and from London Luton Airport area and (c) reduce other road harms, as a health and social equality priority to tackle and improve air quality in the area immediately surrounding London Luton Airport, with a view to adopting a town wide strategy and travel initiative

Deaths attributed to PM2.5 in Luton compared to Luton's statistical neighbours

31. The TFG heard evidence that some deaths can be attributed to **$PM_{2.5}$** and that **$PM_{2.5}$** has a significant impact on human health including premature mortality, allergic reactions, and cardiovascular diseases. Data information specific to the scope of the Review and the wards around the Airport was discussed in relation to the percentage of mortality attributable to **$PM_{2.5}$**. This was not available at ward levels. The annual fine particulate matter adjusted to population exposure per cubic meter in 2016 compared to statistical neighbours is listed below:

East of England – 9.6

England – 9.3

Thurrock – 10.4

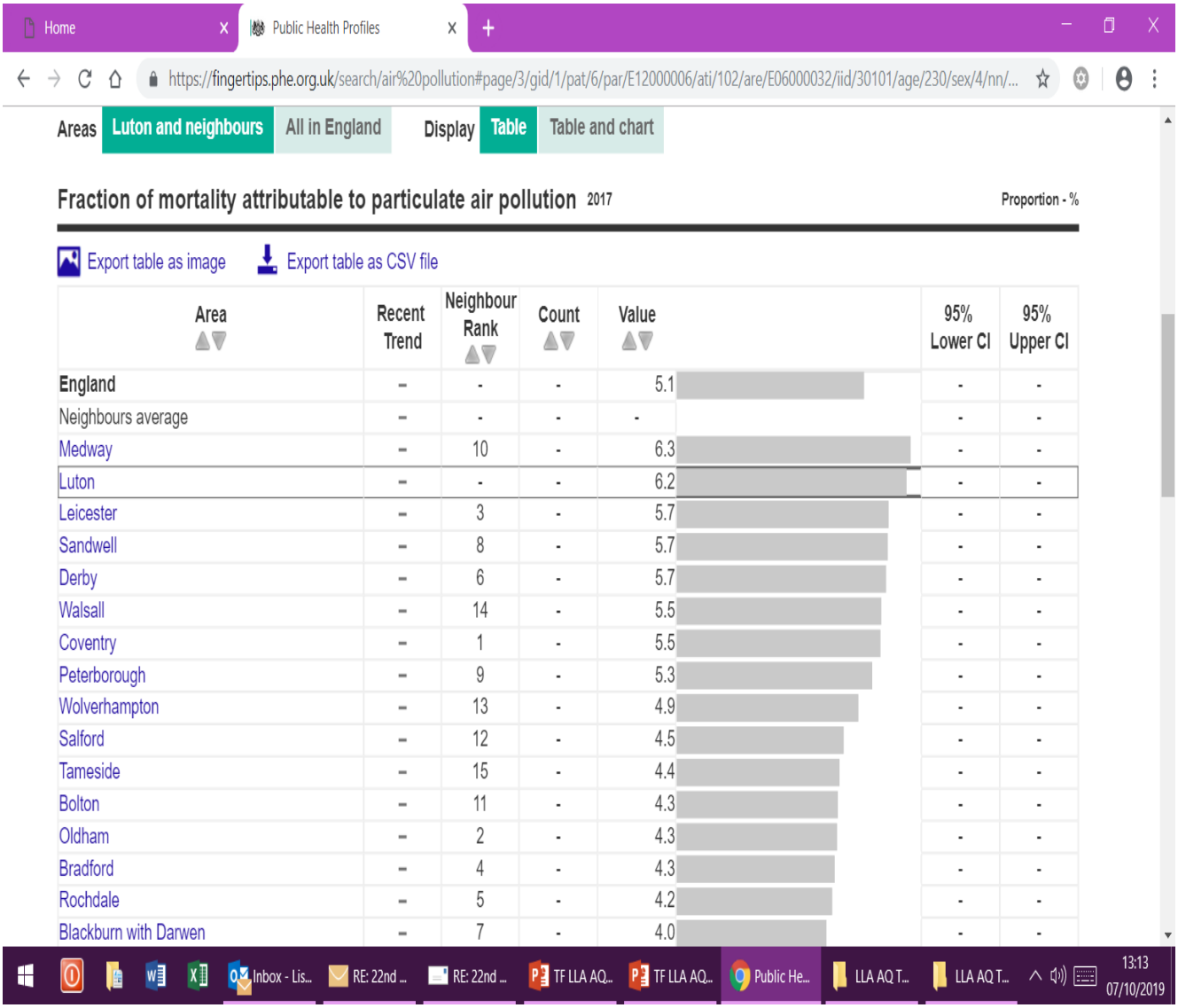
Birmingham – 10.4

Luton – 10.5

Gatwick – 10.1

Heathrow – 10.3

The modelled average rate of fraction of mortality attributable to particulate air pollution is higher in Luton (6.2%) apart from Medway at 6.3% compared to the England national rate at (5.1%) and compared to statistical neighbours as listed in the below diagram. **The TFG note that statistical significance is not available.**



Area	Recent Trend	Neighbour Rank	Count	Value	95% Lower CI	95% Upper CI
England	-	-	-	5.1	-	-
Neighbours average	-	-	-	-	-	-
Medway	-	10	-	6.3	-	-
Luton	-	-	-	6.2	-	-
Leicester	-	3	-	5.7	-	-
Sandwell	-	8	-	5.7	-	-
Derby	-	6	-	5.7	-	-
Walsall	-	14	-	5.5	-	-
Coventry	-	1	-	5.5	-	-
Peterborough	-	9	-	5.3	-	-
Wolverhampton	-	13	-	4.9	-	-
Salford	-	12	-	4.5	-	-
Tameside	-	15	-	4.4	-	-
Bolton	-	11	-	4.3	-	-
Oldham	-	2	-	4.3	-	-
Bradford	-	4	-	4.3	-	-
Rochdale	-	5	-	4.2	-	-
Blackburn with Darwen	-	7	-	4.0	-	-

32. It was pointed out that there are only three AQMA in Luton, but the percentage of mortality attributed to air pollution is 6.2% and considered quite high compared to an area with 18 AQMA. The TFG noted that the number of declared AQMAs within a local authority area is not a proxy for poor air quality. Whilst some authorities will opt to declare multiple AQMAs tightly focused on individual hotspots, others with very high pollution levels may simply declare their whole administrative areas to be an AQMA (this approach has previously been taken by several London authorities). In light of these differing approaches, the total number of individuals residing in AQMAs is a much more reliable comparator of air quality

33. Unfortunately, Luton has always had a very high prevalence of asthma but poor air quality affect people who already suffer from these conditions. In relation to asthma split by GP surgery a member identified that patients are scattered across large areas so GP data which was the only data relied upon may not be a true indication of air pollution in those areas. Unfortunately, there is no ward data available and the issue of lack of data had previously been picked up as a challenge in terms of the lack of valuable data to be relied upon. It was stated that asthma incidence was higher in children than adults and more so, up to 36% higher in deprived communities than in the least deprived.

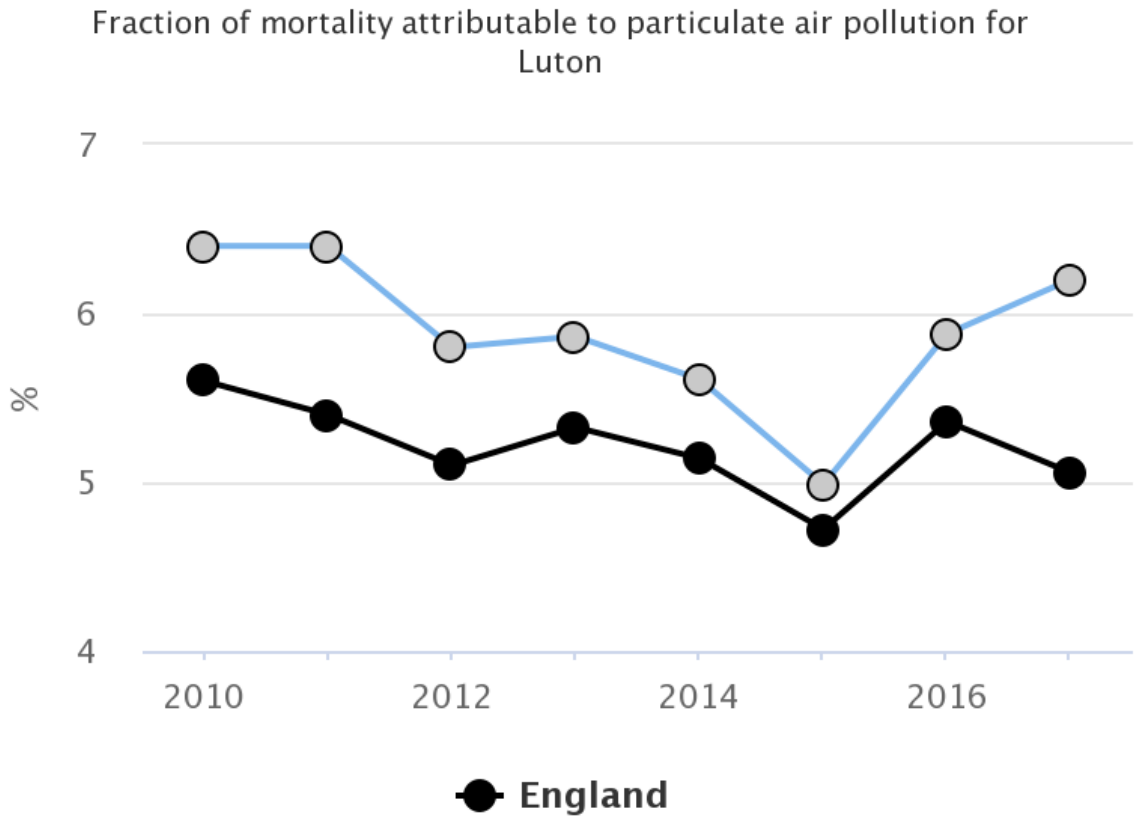
34. The TFG received some data in respect of Chronic Obstructive Pulmonary disease (COPD), and again making the same caveats that this was only recorded GP data and that ward data was not available. COPD usually develops because of long-term damage to lung from breathing in harmful substances, usually cigarette smoke as well as smoke from other sources and air pollution. Jobs where people were exposed to dust, fumes and chemicals could also be a contributing factor to COPD and not just air pollution. The TFG agreed that the data would have helped to build a trend in order to compare with other parts of the town. The TFG received information about vaping which could not be compared in the same magnitudes of causing harm to health as smoking does. The TFG requested that further information about vaping should be submitted to the Scrutiny Health and Social Care Review Group as matters concerning health and wellbeing of local people was within the remits of the Review Group.

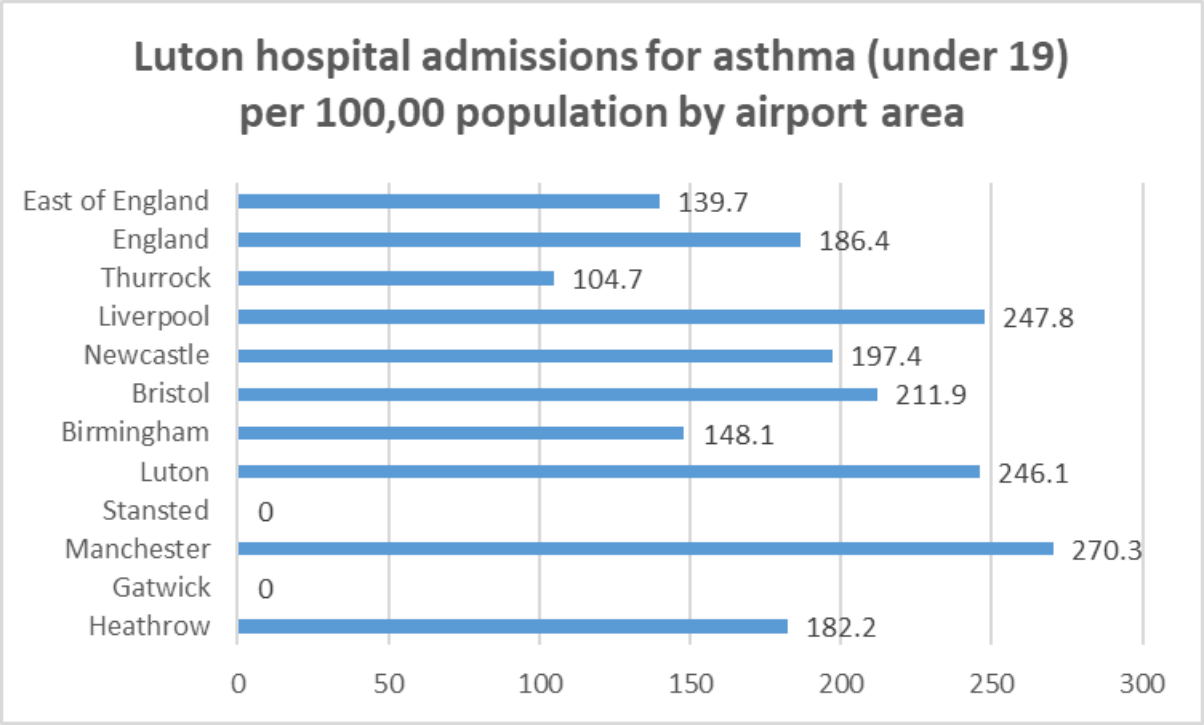
35. On 6th February 2020, the Director of Public Health & Wellbeing presented a paper to the TFG in relation to poor air quality and link to respiratory diseases in Luton. The PHIF indicator 3.01% mortality attributable to fine particulate matter. LBC and LTN monitoring has shown that particulate matter concentrations, **PM_{10}** and **$PM_{2.5}$** have remained essentially constant since 2015. In 2018, 16% of adults in Luton smoked, similar to the England average and better than most statistical neighbours. Luton has recently been identified by the media as the worst polluted town in the UK by the media. For the purpose of this review, although Luton has recently been identified as the worst polluted town in the UK, it must be noted that this situation is NOT simply airport-related, as Luton has the M1 forming a close boundary to the West and is also a very tightly constrained and highly populated town in a hollow. In essence, the availability of localised ward data would have been helpful in order to determine whether air pollution was worse in the wards near the Airport or worse elsewhere in the town. As the data was not available, it was difficult for the TFG to make this judgement. The challenges in terms of the lack of data are once again highlighted. The Luton CCG area performs worse than the England average for emergency hospital admissions for respiratory diseases in all ages, and for

COPD. Luton also performs worse than the average rate for most similar CCGs for the first two of these (with no data for COPD). These measures all have links between air quality and respiratory disease.

36. Following the evidence received from Public Health, it was not clear whether the impact of particulate matter air pollution was more prevalent in the wards around the Airport or not. The data and statistics available was for Luton in general and this revealed a spike in the fraction mortality attributable to particulate air pollution for Luton as compared to the England average as indicated in the graphs below. The reason for this spike is not stated. Consequently, it is necessary to investigate the reason for this and specifically how the spike affected the ward areas within the scope of study.

See graphs below:





Recommendation 8 (Paragraph 31-34)

The TFG acknowledged and noted that there is no data which is broken down into ward levels to be relied upon in order to determine whether air pollution is more prevalent in the Airport area or worse elsewhere; it is further noted that the current absence of ward specific respiratory health statics, the data in question could not be used to determine whether air pollution is more prevalent in the Airport areas as state. If the data is available it could be used to compare the burden of respiratory ill health in the area around the airport with other locations. It was noted that the data which was presented as evidence to the TFG was GP data which is not representative of the ward area nor broken down into word area. It is important to rely on relevant data to show evidence of the real issues in terms of the heath impact of poor air quality. Air pollution affects cardiovascular health, cancer and diabetes as well as respiratory health.

The TFG therefore request:

That the Executive be requested to instruct the Director Public Health and Wellbeing, in consultation with the Luton CCG and the Luton & Dunstable Hospital, to develop an Action Plan compiling health data of respiratory conditions broken down to ward level to include Hospital Episode Statistics, in order to identify trends, the level of impact poor air quality is having on local residents and to determine whether there is a prevalence of respiratory diseases in the 5 wards immediately adjacent to the Airport.

and suggest that the Director of Public Health and Wellbeing to liaise with Luton CCG and the Luton and Dunstable Hospital to retrieve Hospital Episode Statistics to a knowledge and intelligence team In Luton Council. This should be broken down to LSOA level and to pulling data broken into wards

37. Under 75 mortality from respiratory disease is significantly worse in Luton compared to England, but Luton is similar to England where these are considered preventable.

38. The TFG noted that very little data was available from the Luton CCG and some from the Luton Local Authority area, covering the same area in Luton. Statistical comparisons made to England's average where possible, with better, similar or worse used to indicate Luton's performance in comparison. The GP and public health outcome data was presented before the TFG showing only national figures and not broken down. The data only focuses on respiratory factor which suggested that many of the conditions are worse than the national average and require a closer look due to links with respiratory conditions. Smoking worsens all respiratory conditions, and is linked to many, however, smoking does not account for all the presence of respiratory disease in Luton – after all as stated above the smoking prevalence is similar to England average. Furthermore, the evidence presented showed that poor air quality was significant in relation to the number of areas where an illness was worse and deteriorated leading to hospital admission, however, looking at the levels of prevalence, it found fewer people on GP registers. It is noted that fewer people on registers does not necessarily mean fewer people with the condition, it can mean that they either do not go to the doctor or the doctor does not record them accurately.

39. The TFG received evidence that Luton had not exceeded the air quality objective level and this being the case, where Luton's air pollution level was not above the maximum of 40, it would not be classed as being at risk. However, there is need to be cautious and not to be complacent as although Luton's air pollution level is not above the maximum, this does not necessarily mean that Luton's air pollution levels are safe. Also in relation to **$PM_{2.5}$** there was no safe threshold for health and that **NO_2** health harms were known at the current safe limits and below. It should be noted that this pollutant is currently omitted from the LAQM regime. In reference to LAQM air quality objective for **$PM_{2.5}$**, the referenced figure of 40µg/m3 is the annual mean air quality objective for both NO_2 and **PM_{10}**. There are both EU and WHO guidelines for annual mean **$PM_{2.5}$** levels of 25µg/m3 and 10µg/m3 respectively. Furthermore, the TFG heard that in terms of the disparity between LAQM compliance and risk to health, that is, there is an increased body of evidence of significant health impact at exposure levels below air quality objective concentrations.

40. Historically monitored **PM_{10}** levels within Luton have been well below the air quality objective. With regard to NO_2 in 2018 the Council monitoring showed elevated concentrations within 10% of the objective level at several locations, with one exceedance after both bias and distance correction at the junction of Castle, Hibbert and Windsor Streets. However, in the same year the annual mean concentrations at the six LBC diffusion tubes sites in the vicinity of the airport did not exceed 30µg/m^3 (the objective level is 40µg/m^3). During 2018, the airport's own monitoring programme identified 6 locations where annual mean NO_2 concentrations exceeded 40µg/m^3.

However, due to not being representative of a *"relevant receptor"*, none of these would be considered a *"breach"* of air quality objective within the LAQM regime. In Defra's 2019 *Air Quality Strategy* 2019, local authorities are encouraged to consider action plan to reduce air pollution levels to safe levels. It further require local authorities to continue to consider different options to improve air quality as quickly as possible and to reduce emissions of the 5 damaging air pollutants namely nitrogen oxides, particulate matter, sulphur dioxide, non-methane volatile organic compounds and ammonia. However, for the purpose of the scope of this TFG, the key area of concentration should be on the pollutants of concern for Luton which are nitrogen oxides and particulate matter. The three other pollutants listed are not considered to be of particular relevance to local air quality in Luton.

41. The Government Air Pollution Strategy published in 2019 outlines the government's ambition relating to reducing air pollution, making air healthier to breathe, protecting nature and boosting the economy. The Government's strategy sets out a clear direction for future air qualities policies and goals with a broader scope than the air quality plans for tackling roadside nitrogen dioxide and covers emissions from domestic, industrial, farming and building activities. The TFG felt that the Government's plans if incorporated in Luton's Air Quality Action Plan, it would be able to support taxi and van drivers to upgrade their vehicles in various ways. The Plan should be commissioned with available data in an Outline Business Case and should be submitted to Council for approval.

Recommendation 9 (Paragraphs 36 And 37)

(i) That given there is no such thing as a healthy level of air pollution in that reaching the EU standards would not safeguard local residents from harm, the Executive be requested to develop an Emissions Strategy and Air Quality Action Plan covering the Airport area which will improve air quality for health and wellbeing without arbitrary limits.

(ii) That the Executive request the Director of Public Health and Wellbeing to work with the Executive's Climate Change Advisory Board to tackle air pollution in line with the government's strategy which sets out a clear direction for future air quality policies and goals.

(iii) That the Executive request the Director of Public Health and Wellbeing in partnership with the Director of Place & Infrastructure to establish initiatives that will reduce traffic congestion in the town with greater consideration to cycling and walking, green public transport and green infrastructure, that is known to support physical health and wellbeing and in some instances if used wisely, is understood to act as a barrier to air pollution.

Overview Of The 2019 Air Quality Annual Status Report

42. The Overview of the 2019 Air Quality Annual Status Report was submitted to the TFG. Despite, little change being observed in particulate matter levels, 2018 had seen an improvement in NO_2 levels at Council monitoring sites compared to the previous year.

Reviewing each site where the annual mean NO_2 concentration exceeded 40µg/m3, the officer explained that only one of these (LN67 – Castle Street) represented a substantive exceedance of the relevant air quality objective, there were no issues reported in relation to the area within the agreed scope of study.

43. Looking in detail at the airport operator's diffusion tube monitoring results for 2018, Members of the Task and Finish Group were informed that although 6 sites had recorded annual mean NO_2 concentrations in excess of the 40µg/m3 objective level, none of them would be considered as exceedances under the terms of the Local Air Quality Management (LAQM) regime due to the absence of a relevant receptor at these locations.

44. Members were concerned that 5 of the 6 sites at which elevated levels of NO_2 had been measured were in close proximity to a number of commercial premises. Responding to the concern expressed, it was stated that the relevant Defra guidance document (TG16) states that the Air Quality Objectives: "Should generally not apply at building facades of offices or other places of work where members of the public do not have regular access".

45. The potential exposure of airport passengers to elevated levels of NO_2 whilst passing through the drop-off zone was raised, however due to the relatively short amount of time passengers spend in the airport area, the 1-hour mean air quality objective would apply, not the annual mean objective level. Currently the 1-hour mean air quality objective does not appear to have been exceeded at any of the airport's monitoring sites (i.e. none of them have annual mean NO_2 concentrations in excess of 60µg/m3, which is necessary for the 1-hour objective to be breached).

46. Over the past two years, a number of new air quality monitoring sites have been established by LLAL as listed below:

Site	Location
L1	Stuart Street
L2	Crawley Green Road
L3	Wigmore Lane
L4	Eaton Green Road / Darley Road
L5	Chapel Road, Breachwood Green
L6	Winch Hill Lane
L7	Vauxhall Way
L8	Kimpton Road
L9	Luton Airport Parkway Station
L10	Luton Road, Caddington

V1	Crawley Green Road
V2	Wigmore Valley Park (supersite)
V3	Chapel Road, Breachwood Green
V4	Copt Hall Road
V5	Luton Airport Parkway Station

Comprehensive pollution monitoring at and amongst housing near the airport.

47. In spite of the monitoring sites old and new, the local population near the airport do not believe that the airport is considering their health, especially considering witness statements received from schools thought to be on the flight path and oral evidence received from local groups. Until there are monitoring stations within the housing areas and the measurements are both published and explained no amount of earnest specialist monitoring work will change public perception.

Recommendation 10 (Paragraph 38-42)

(i) That the Executive request the Director Place & Infrastructure to carry out a comprehensive pollution monitoring programme at and amongst housing in the immediate vicinity of London Luton Airport (for example Ashcroft, Hedley Rise) for the improvement of air quality and protection from harm of local residents.

(ii) That the Executive request the Director of Place & Infrastructure to work with local people and adopt best practice of other local authorities that have evidenced better outcomes in terms of their air quality plan and strategy.

48. Members heard that none of the 6 Council monitoring locations within 1km of the airport boundary has ever exceeded either of the air quality objectives for NO_2. Evidence provided showed that overlaying the annual mean NO2 measurements made along the Eaton Green Road had a corresponding traffic flow data, and the TFG requested additional clarification to be supplied on exactly what the traffic data represents.

49. During the evidence gathering process, information relating to the annual mean NO_2 levels recorded at airport diffusion tube sites since 2007 which was presented showed data held by LBC (presented) differ slightly from that published in the Airport's Annual Monitoring Report 2019. Responding to the cause of the apparent discrepancy, the TFG heard that it appeared to have been caused by the use of different bias correction factors. The bias correction factors are obtained from a Defra spreadsheet which is periodically refined. Consequently the exact value used to bias correct diffusion tube data will vary slightly depending on when the data was processed. To account for this variation the airport data had to be reprocessed using the correction factors stated in version 06/19 of the Defra spreadsheet. Information which showed that changes will be minor without impacting on the entire information and figures was later sent to Members of the TFG.

50. It is acknowledged that those using airport car parks are passengers and therefore walking or cycling are not viable alternatives, both for reasons of distance travelled, number of travellers in the group and the carrying of luggage etc. The TFG further acknowledged that car parks at airports are a means of generating substantial income for airports in general and therefore for various reasons, persuading people to walk or cycle may not be achieved. It was stated that the DART project may alleviate some of the problems expressed by the TFG in terms of road traffic and congestion, however, this is not an answer to the concerns already expressed during this process. The Council should encourage people to use sustainable transport rather than cars including the railway and DART, in order to promote health and wellbeing.

Aircraft Engine Efficiency /Emission Data

51. The TFG asked for aircraft engine efficiency and emission data in order to alleviate fears that the fumes from aircraft engines are a great contributor to poor air quality in terms of the efficiency of aircraft engines and emission data. Members heard that "The International Civil Aviation Organisation (ICAO) provides information about emissions from specific engine models, within a reference landing and take-off cycle (LTO cycle), which are necessary to compare different engine technologies for certification. However, these emissions figures do not reflect day-to-day conditions".

52. A known pollution risk is still the aircraft themselves since globally, aviation accounts for about 2.5% of CO2 output and it must be said that London Luton Airport is at least as high as the norm, given the very slow movement towards lower emission aircraft. London Luton Airport has been slow to move to lower emission aircraft, with freight services being particularly poor. It is suggested that some of the key issues contained in the report will be picked up by the Climate Change Advisory body. Currently the Airport Operators monitor NO_2 measured from 18 locations around LTN using NO_2 tubes changed monthly and measure particulate matter (**PM_{10}**) at the Airport. Members heard that in 2012 cleaner and new aircraft were introduced. . Regarding the level of aircraft efficiency and how much of this was the responsibility of the international civil aviation, Members felt that further evidence was required in respect of the emissions produced by aircraft. Furthermore, the TFG noted that London Luton Airport had not met its published target in this regard. Also there were discussions about electric planes being introduced, but the TFG felt that the main issues in terms of emissions being produced were the ground services at the Airport.

53. A list of the location of all diffusion tubes is listed as Appendix below:

The following pollutants are included in LLAL's new air quality monitoring regime

Pollutant	Monitoring location
Nitrogen oxide (NOx)	Supersite (located at V2 on map)
Nitrogen dioxide (NO_2)	All 'L' locations, supersite
Nitrogen monoxide (NO)	Supersite
Fine Particulate Matter: **PM_{10}**	Supersite
$PM_{2.5}$	Supersite
PM_1	Supersite
Black Carbon	Supersite
Sulphur Dioxide (SO_2)	Supersite
Carbon monoxide (CO)	Supersite
Ozone (O_3)	Supersite
Benzene	All 'V' locations, supersite
Toluene	All 'V' locations, supersite
Ethylbenzene	All 'V' locations, supersite
m/p-Xylene	All 'V' locations, supersite
o-Xylene	All 'V' locations, supersite
Napthalene	All 'V' locations, supersite

What is London Luton Airport doing to manage Air Pollution?

54. LLAL maintains a number of pollution monitoring points. These are mostly monitoring NO_2, using diffusion tubes. There is a relatively new full monitoring centre close to but outside the airport perimeter. Though there has been some criticism of the siting of the new monitoring centre, because of prevailing wind direction, the unit is excellent and measures a large number of pollutants, including **$PM_{2.5}$**.

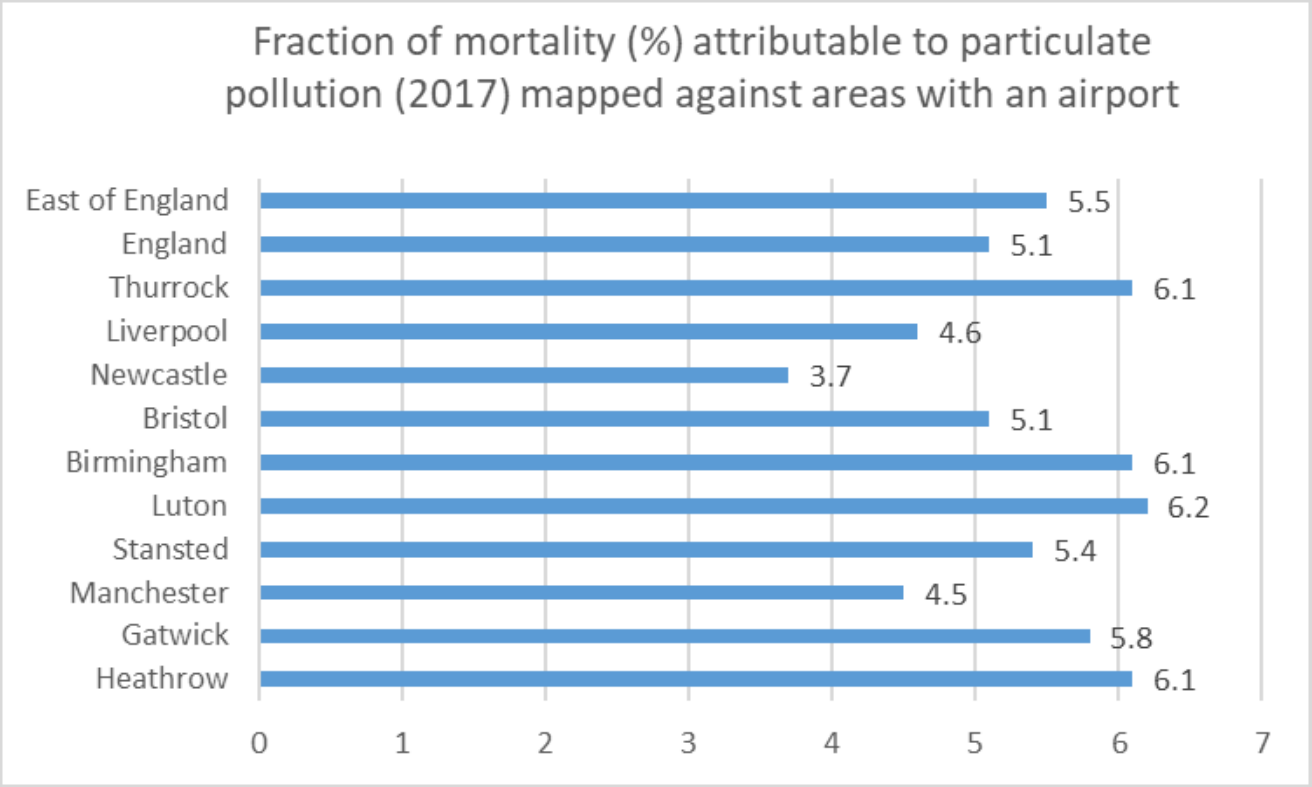
55. Although the TFG were informed that air pollution data is available live on a national website which is used by other airports and many local authorities including Luton Council to publish its own data, there was little or no evidence that the general public have access to it or even understand it. There is an on line air quality alert system which is available in Luton that is available for residents to sign up to, it gives the air pollution forecast for Luton and where people have pre-existing heart or lung condition, they may notice some mild effects. It is noted that the alerts system is funded by LBC via the Herts & Beds Air Quality Forum. The airport operator has made many promises about more efficient planes and therefore pollution and noise reductions. In common with the aviation industry generally, Luton airport operators' claims to climate and pollution credibility are thin.

56. There is evidence that **$PM_{2.5}$** has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases and therefore the need for action is clear. Furthermore, the TFG acknowledged that **$PM_{2.5}$** is not formally included within the LAQM regime but local authorities have the responsibility to work towards reducing emissions with a new flexible role in working towards reducing emissions and concentrations of **$PM_{2.5}$**. Members were informed that the Council is taking steps to address **$PM_{2.5}$** including, working in partnership with the Council's Public Health Department, which has resulted from the incorporation of the Public Health role within Unitary Authorities such as Luton Borough Council;

- Increased evidence and awareness of harm from exposure to **$PM_{2.5}$**; and
- Public Health Outcomes Framework indicator 3.01: "Fraction of all-cause mortality attributable to anthropogenic particulate air pollution (measured as fine particulate matter, **$PM_{2.5}$**)"

Comparable Local Authorities to Luton in terms of local airport and air pollution

57. The TFG received a report analysis regarding fine particulate matter and information on population exposure per cubic meter. This was mapped by the LA areas of airports in relation to fraction of mortality percentage attributed to particulate pollution bench marked against areas with an airport as shown in the graph below. The data shows Thurrock at 6.1; Birmingham and Heathrow also at 6.1, but Luton as shown was the highest at 6.2, etc.



58. Members heard evidence in relation to some of the steps that Local Authorities could adopt in order to prevent and or to mitigate the likely impact of air pollution. These are listed below;

- Consider policy intervention and technological abatement and dust abatement
- Reduce demand for more polluting forms of transport and use cleaner vehicles
- Encourage the use of cleaner forms of transportation and vehicles
- Redesign spaces to introduce barriers and separate people from pollutions
- Encourage local people to take steps to reduce our personal contributions to pollution at home and on the move
- Keeps sources of pollution away from people
- Displace pollutant emissions outside hot spots and populated areas to reduce population exposure, etc.

Recommendation 11 (Paragraphs 50 - 54)

(i) That the Executive request the Director Public Health and Wellbeing to raise awareness in the following ways, encouraging local people to be clean air ambassadors to their neighbours, families and friends, including projects with

community groups and using diffusion tubes to give an approximation of the quality of air at a particular point in a locality around the 5 wards immediately adjacent to the airport, and to identify patterns and trends:

- work with Schools, local people, and local community groups
- hold local community workshops and produce information sheets or leaflets, to reach out in particular to hard to reach groups.
- educate people to become more aware of signing up to monitoring alerts and promoting behavioural change,
- work with the Council's Communications Team/PH to do more to publicise good practice and encourage the local community to use available facilities.
- set performance targets to measure success, reporting quarterly outcomes in the Corporate Performance Report submitted to the Overview and Scrutiny Board every quarter.

(ii) That the Executive request the Director of Place & Infrastructure and the Director of Public Health and Wellbeing to develop an Emission Strategy, Action Plan and a public health outcome framework, in order to raise awareness of harm from exposure to $PM_{2.5}$

Air Quality Monitoring on Air Space

59. The TFG received evidence regarding air quality monitoring links with airspace delivered by representatives from London Luton Airport Operations Limited (LLAOL) Neil Thompson and colleagues in relation to air quality monitoring links with airspace and flight paths. Members heard that two runways were in operation at London Luton Airport, depending on the direction of the wind, the aircraft were required to take off and land into the wind for safety reasons. These were known as Westerly Operations and Easterly Operations. This could change the direction of the aircraft near specific areas. During Westerly Operations, aircraft would depart towards the west, most of the time Luton's wind came from the west on the average, 70% of the time. During Easterly operations aircraft would depart to the east, and this would occur on the average 30% of the time so on the average, about seven out of ten take-offs head towards the west and only three out of ten take-offs go east.

60. The TFG also received information on track density to the North which was being shared with Stansted Airport. Arriving aircraft on the Instrument Landing System had to be fully established by 8 miles from touch down. In relation to airspace changes, London Luton Airport Operations Ltd undertook an airspace change process which was implemented in 2015 and they are currently awaiting the regulatory Post Implementation Review (PIR) of this from the Civil Aviation Authority (CAA). This route had to be used during westerlies

and passes between Flamstead and Markyate, Hemel and Redbourn, St Albans and Harpenden. Currently LLAOL is looking at options for further improvements of the route following the outcome of the PIR. It was submitted that any airspace change would require respite options to be reviewed in relation to cleaner quieter aircraft, the low cost carriers at Luton (easyJet, Wizz) typically replace their aircraft every 6-7 years to ensure efficiency.

61. The TFG further heard evidence in relation to the proposed widening and junction upgrades along Vauxhall Way, Luton. It was stated that in an attempt to minimise emissions, the use of the modern traffic signal technology to improve and optimise the flow of traffic will be introduced to reduce stop-start movements and to cut out congested traffic. It was stated that similar alterations to the junction of Cardiff Road to Dunstable Road had reduced queuing at the junction. Additionally, a slight improvement in NO_2 readings has been noted at the nearby air quality monitoring station. The TFG noted however, that it is too early to draw meaningful conclusions about the final impact of these works. It was further stated that LLAL had an NO_2 diffusion tube located towards the southern end of Vauxhall Way. Defra's PCM modelled data predicts roadside NO_2 levels along Vauxhall Way to be between 30 and 40µg/m3. The same model predicts concentrations to be lower than this (sub 30µg/m3) along Stopsley Way.

62. It was noted that the area of the proposed works was very wide and the carriageway works would make the road much wider. Also the stop and start technology is not known to be effective with all cars. Members expressed concern that where there was a serious air quality issue, due to the lack of data there would be no way of knowing whether the works had been effective. In response, Members were informed that NO_2 diffusion tube monitoring would be starting shortly to establish a baseline. Additionally, it was explained that the reason for monitoring not previously being undertaken in the vicinity of Vauxhall Way was likely to have been that NO_2 levels at relevant receptors were determined to be acceptable during earlier screening assessments. It was noted that, to some extent, this conclusion is borne out by Defra's PCM model predicting roadside concentrations to be in the region of 30 to 40µg/m3.

63. Also sulphur dioxide emissions tend to be associated more with shipping and industrial processes, the real issue was nitrogen dioxide, NO_2. In relation to the Greater Manchester Action Plan 2016 – 2021 document, which formed part of the Agenda and papers received, Members of the TFG felt that the Council ought to re-examine the roundabouts proposals. The Greater Manchester Action Plan showed that the Urban Traffic Management and Control (UTMC) system used in Manchester controls the traffic system more effectively than the MOVA system. The UTMC system in Manchester produces an online system using the best available route with link to the main systems. Luton could model the Manchester system as best practice. Officers advised that the (UTMC) systems were designed to allow the different applications used within modern traffic management systems to communicate and share information with each other by linking all the available traffic systems together. The Portfolio holder for Customer & Commercial (Housing and Environment) explained that a lot of the proposed work would be based on evidence to ensure the work was beneficial to people in the area.

64. Members of the TFG disagreed with the proposals for the widening and junction upgrades along Vauxhall Way, Luton. It was felt that the Traffic Lights will generate more

congested traffic and cause more air pollution of harm as a result of the “stop and start” by vehicles.

65. In relation to works at the junction at Hitchin Road and likely impact on air quality, Members were informed some trees and hedge rows near this corridor will be cut down making room for higher pollution. Members heard that the Council will be planting more trees but they are yet to identify the types of trees or how many trees would be planted or removed.

66. The proposed works to dual Vauxhall Way are based upon assumptions that Vauxhall Way traffic density is heavily linked to airport passenger private car arrivals: The Committee was of the opinion that traffic density along Vauxhall Way was much more attributable to cars heading to the M1 at Junction 10.

67. Members heard that the planned works will be re-assessed in future. It was noted that the effectiveness of trees as an air quality control measure is moot and, although their ability to influence the distribution of pollutants is well established, their capacity to reduce pollutant concentrations is less clear. Consequently, at the present time, Defra does not grant funds for tree planting projects for air quality control purposes.

    The predominant passenger access modes to London Luton Airport are by road from the M1 and by rail via Luton Airport Parkway station. There are claims of significant airport related traffic along Vauxhall Way from Hitchin Road but this is not quite accurate and no real evidence that this is the case. LLAL are in the course of building the new DART link from Luton Airport Parkway station. Though this will undoubtedly be more efficient than the current shuttle bus service, the TFG is of the opinion that this will not be sufficient to address the air quality pollution issues.

68. Consideration needs to be given to the situation should the DCO be allowed thereby permitting airport expansion to 32 mppa. LLAL’s own assumptions for modal shift to public transport is given as a minimum of 45% in its statutory consultation material in which event the number of passengers arriving by car will actually grow from the current figure of 12.8m car trips to 17.3m. There are many further complications in making this comparison, not least of which are the climate change initiatives locally and nationally together with the projected shift to electrical vehicles. Any of this airport-related traffic using the then dualled Vauxhall Way will do nothing other than add to pollution.

69. The Portfolio holder Customer & Commercial (Housing and Environment) stated that Members are aware that the Council had set up Climate Change Advisory review group. He explained the role of Climate Change Advisory Group in relation to climate change and air pollution stating that the group is now looking at wider action of climate change that is inclusive of air quality. He said that the Group plan to carry out focus group meetings and workshops in order to engage with local people and progress some of the outcome of the TFG review. He said it was vital for the public to be involved in the process to help understand better the Council’s plan and role in terms of managing climate change and air pollution.

70. As already stated, Members felt that the Airport growth inevitably mean more pollution and therefore are of the opinion that the expansion of the Airport should be monitored more closely. The TFG hopes that the Emergency Climate Change Executive Advisory

body, currently working on climate change emergency will consider this documents and take into account its recommendations during their deliberations. There is no realistic prospect of moving to electric planes in the timescales we are considering here. The TFG acknowledges that the Council welcome growth of the airport provided that it is done in a sustainable manner, however, the stand of the TFG is that London Luton Airport needs to grow only by what small amount may be necessary to sustain its ability to survive profitably as an airport. There is simply no need for second terminals, dual carriageway access roads etc.

Recommendation 12 (Paragraph 58 - 59)

That the Executive request the Director of Place and Infrastructure not to proceed with the proposed widening and junction upgrades along Vauxhall Way as it is felt that this would only add to an already existing situation of congested traffic and build-up of traffic leading to London Luton Airport and air pollution.

Greater Manchester Air Quality Action Plan - 2016 to 2021

71. As part of the evidence giving process, the Committee considered a report regarding Greater Manchester Air Quality Action Plan from 2016 to 2021. The Portfolio holder for Customer & Commercial (Housing and Environment) commenting on the report stated that the Liberal Democrats recently moved a motion about idling cars at Full Council meeting. He said this was an important issue which had been taken on board and discussed at the Climate Change Executive Advisory Group. He further stated that there was a lot of useful information in the Greater Manchester Air Quality Action Plan relevant to Luton which could be adopted as best practice.

72. As part of the process, the Task and Finish Group had now contacted about 12 schools in Luton thought to be in the flight path of London Luton Airport. It was anticipated that some of those contacted may be able to attend the next meeting on 6th February 2020. It was stated that in September 2019 the Green Political Party made a proposal to tackle the illegal levels of air pollution and suggested that schools introduced car free days in schools. A Member of the Committee suggested that the Council should investigate and introduce car free days in future for schools in future. A proposal for a funding bid to look at the possibility of addressing the school drop off and pick up issues was in progress.

Recommendation 13 (Paragraph 67-68)

(i) That the Executive request the Portfolio Holder for Customer & Commercial (Housing and Environment) and the Director of Place & Infrastructure to ensure that the Climate Change Executive Advisory Group build on the work of the TFG on improving air quality as a council priority and to ensure that consultation and robust public engagement takes place (a) to raise awareness and support the schools in the immediate vicinity of the airport and any in the flight path (b) to introduce car free days and (c) ensure that funds are made available to look at the possibility of addressing the school drop offs and pickups.

(ii) That the Major Projects Team be requested to report back to the Overview and Scrutiny Board on progress within six months from the date of the Executive decision.

73. The TFG expressed concern about idling buses and cars or vehicles at the airport or around schools. Idling cars, vehicles or buses produce a lot of emissions that can cause harm. The Portfolio holder for Customer & Commercial (Housing and Environment) supported the need to address the issue of idling buses, vehicles and cars, around London Luton Airport and around schools.

Public Health England Review of Interventions to Improve Outdoor Air Quality and Public Health Publication - March 2019

74. The Director of Public Health Commissioning and Procurement advised the TFG that the Public Health England Review of Interventions document report showed evidence which had been looked at to improve air quality management. The document covers a whole range of areas which can be useful for members of the TFG in view of the outcome and final recommendations to be made. Members' heard that in terms of key areas regarding improvements of outdoor air quality, the greatest impacts were around the interventions at source.

75. Actions which can be taken in the aviation sector and types of intervention that could be adopted are as listed below in line with the published Public Health England report on Interventions:

Vehicle/fuel interventions - key messages

76. There are 7 categories of interventions aimed at reducing harm from transport-related air pollution, based on the rapid evidence assessment some of which are summarised below:

- "Air quality within urban areas is likely to be improved by any intervention that promotes the uptake of low and zero-exhaust emission vehicles, particularly electric vehicles. There is a lack of evidence of the generation and health impact of non-exhaust particulate matter (PM) emissions, which remain a potential issue.

- The effectiveness of Low Emission Zones (LEZs) can be improved if combined with the newer emission standards of road vehicles (Euro 6).

- Traffic management interventions, such as road pricing and access restrictions, have the potential to improve air quality and encourage the public to consider travel behaviour change and active travel options

- Active travel interventions at a limited scale do not generally improve air quality significantly, but the added physical exercise benefit makes them very effective Transport interventions for improving public health outcomes

- In general, road transport interventions need to be combined to achieve a greater impact, as most existing measures on their own may only generate a small reduction in road vehicle emissions, etc.

77. The Public Health England report details a lot of evidence that could be used to develop recommendations as it highlighted where both officers and councillors should review to have the most impact. A further conversation took place in relation to log burning and its impact on air quality. It was acknowledged that there were complexities in terms of data and statistics in terms of plans to protect people who work at the airport from day to day as there were over 200 employers located at the Airport.

Recommendation 14 (Paragraph 72)

That the Executive request the Director of Public Health & Wellbeing to devise and undertake public health campaigns to support behavioural change, including reaching out to hard to reach groups and encouraging local residents to take small steps which, when combined with much wider interventions, will give a real change in air quality, such measures to include adopting good practice schemes that encourage the introduction and safe use of cycles, walking etc.

Meeting held on 6th February 2020

78. The last evidence gathering process took place on 6th February 2020. It was well attended by local community groups and individual representatives. Three (3) Local Schools were also represented at the meeting. A young person also gave evidence regarding concerns on the impact of air pollution generated by the Airport.

79. Members of the TFG heard that monitoring undertaken by LLAOL at the Airport consisting of a **PM_{10}** automatic analyser were located on the airport site and diffusion tubes at 18 unique sites both in the vicinity of the airport and along the flight path. There are 11 airport diffusion tubes sites in operation for more than one year, of the 11, nitrogen dioxide levels remain unchanged at seven of them. For the remaining 4 sites, the level decreased at one (LLA 4 – runway threshold eastern) and the other three all experienced increases:

- LLA 3 – Runway threshold western

- LLA 10 – Grove Farm Slip End

- LLA 13 – Eaton Green Road

80. Out of the 18 sites, six had annual mean nitrogen dioxide concentrations in excess of 40 the highest being LLA1 outside zone 2 recorded 45.8 µg/m^3. The TFG was asked to

note that none of these exceedances were considered breach of air quality objective as they are not in close proximity to residential accommodation.

81. The TFG heard that the Airport does monitor nitrogen dioxide levels on Wigmore Lane and confirmed that some sites are currently approaching the legal limit. The sites which had been discontinued were the responsibility of the airport operator and it was understood that 9 monitors had been moved elsewhere and renamed, such as LLA02. It was noted that the relocation of the tubes caused issues with data continuity and interpretation. Members were informed that as these monitoring locations are part of the Airport's monitoring programme, Luton Council has no involvement with the operation of these diffusion tube sites. Additionally as several of the tubes are sited in secure air side locations the Council has no way of independently verifying tube positioning and is entirely reliant on the Airport Operator for ensuring the validity of all data generated by and related to these sites. In regard to avoiding future issues of this type, Officers advised that scrutiny could look steps to improve liaison and data sharing between LBC and the Airport Operator – as the relocation and renaming of the tube sites was implemented by the Airport unilaterally without prior consultation. Members received clarification on what constitutes a breach. A breach is only considered a breach when monitoring tubes are placed near schools and or residential areas and the reading is higher than the quality objective level.

82. Evidence received from Ashcroft and Someries Wigmore - Local Schools: The TFG wrote to 12 schools around the area of focus within the scope of study. The Review Group received 2 completed questionnaires and representatives from 3 Local Schools considered to be in the flight path attended the meeting of 6th February 2020 to support the Review Group with its evidence gathering process. Three of the Schools present reported that they could smell the air pollution and transparently see the fumes produced by the aircraft. Members of the Review Group expressed concern about this.

83. The School Heads who gave witness statements agreed that an action plan should be put in place and each school supplied with a monitoring system that will be checked and monitored regularly in order to monitor the levels of air pollution. It was also suggested that a good educational project is put in place for each school to help mitigate the issue.

Recommendation 15 (Paragraphs 74 - 79)

That the Executive request the Director of Place & Infrastructure and the Director of Public Health & Wellbeing to work with schools and local community groups to improve air quality monitoring by:

- The introduction of public and school traffic policies outside schools at peak times when children are coming and going.
- Investigating better ways to monitor air quality around schools.
- Investigating the possibility of effective air filter systems in schools and work places around the airport.
- Investigating new air filter systems that can be installed outside schools and work places.

- Increasing the number of monitors around the areas closest to the airport especially schools.

84. The TFG has been informed that if funding is made available, the siting of NO_2 diffusion tubes at each school will be relatively straightforward and would cost in the region of £3 to £5 per site per month. The schools will be required to be amenable to someone coming onsite each month to change the tubes. The Technical Officer provided information that it is unlikely that NO_2 is responsible for the odour as its odour threshold is ~188µg/m3. The annual average air quality objective level for NO_2 is 40µg/m3.

85. The evidence received showed that monitoring PM levels would be considerably more expensive and would require expenditure of several thousand pounds for anything other than very short term monitoring using rented non-MCERTs monitors (i.e. indicative sensors not currently approved by Defra for compliance monitoring purposes).

86. Members were informed that the perceived odour and haze is likely to be something other than NO_2 or PM (the two pollutants of greatest concern). The only way to definitively identify the cause of these observations would be to commission a specialist environmental investigation.

Individual Representations from three local Schools thought to be in the flight path.

87. Ashcroft High School: - The pupils from Ashcroft High School said they were passionate about the topic of air quality and thanked the committee for giving them the opportunity to voice their views and opinions.

    After completing the questionnaire Ashcroft High School believed factors affecting air quality in Luton were the airport, transport and construction**.** The town was fortunate to have an abundance of transport to which London Luton Airport was a contributory factor. In their presentation, they stated that air pollution was a major problem associated with airports in terms of toxic emissions released by airplanes and contain a lot of GHGs and oxides creating an increase in acid rain. Transport was also a main contributory factor to air pollution in terms of traffic taking people to and from the airport contributing carbon emissions into the area and making the air quality poor. Carbon emissions contain impure carbon particles called soot and these carcinogenic substances are present in the form of powder, which mixes with the air. Construction was another cause of poor air quality, due to resources brought in from other areas, which cause pollutants to be put into the atmosphere.

88. Pupils within the school were asked if the air quality around the school was poor and 350 students agreed whilst 270 students disagreed. The school is located near a main road and air pollution is from cars travelling along Crawley Green Road; it is also located near London Luton Airport which causes a lot of air pollution from airplanes. Poor air quality causes serious health risks and 300 students agreed whilst 190 disagreed.

89. Increase in Carbon Emissions - An increase in carbon emissions released from transport links at the airport leading to risk of asthma attacks causing an increase in death rates and breathing difficulties. Noise pollution in the area causing sleep disturbances**.**

Although the scope of the review did not cover noise, a lot of issues surrounding noise pollution came up and the Task and Finish Group felt that this was something that the Council and the Airport Operators should take seriously and consider working together to draw up an action plan to address the noise issue.

90. Tree Planting - In terms of what can be done to improve air quality the students believe that planting trees would help improve the air quality in and around Luton; and decrease the amount of carbon emission released into the atmosphere. The pupils also felt the public could do more to lower their carbon footprint and had promoted this idea through activities such as 'switch off fortnight', which allowed students to become more aware of the electricity they use and switch off when not in use**.** Free public transport for pupils under 18 to discourage parents from using their cars to drop off children at school and outings which would reduce Luton's carbon footprint and air pollution. The school is also planting trees around the school, provided by 'Trees for Luton' these would absorb more of the carbon dioxide generated in the atmosphere. The Council is asked to ensure that on the completion of the DART to encourage more people to use it in order to reduce the amount of traffic near the airport and carbon emissions from cars. The TFG noted that the DART Project is one of the initiatives the Council had taken to help reduce air pollution, but also noted that the project on its own is not enough to drive air pollution initiative.

Recommendation 16 (Paragraphs 83-86)

That the Executive request the Director of Place & Infrastructure and the Director of Public Health & Wellbeing to consider supporting schools in the following initiatives which the schools on their own have already begun, to reduce air pollution and carbon emissions:

- tree planting of varieties that absorb more of the carbon dioxide in the atmosphere
- "Switch off Engine" fortnight initiative
- free Public transport for pupils under 18 to discourage parents from using their cars to drop off children at school and outings
- walking to School Days
- commissioning of special environmental investigation into the odour reported in the vicinity of the airport
- working with Transport Operators in Luton
- organise local workshops and work with schools and local community groups, etc

91. In terms of the school being affected by aircraft movements or by traffic travelling to and from the airport, 420 students agreed and 174 disagreed; and when asked if air pollution presented a danger to young people 387 agreed and 162 disagreed. No doubt the Ashcroft pupils believe that there are actions that the Council and the Airport companies can take to reduce pollution and to address poor air quality and to ensure the health and wellbeing of young people.

92. In relation to the results of monitoring tubes in the area the TFG were advised that the value of 40µg/m^3 is not a *"recommended limit",* it is the annual mean air quality objective level for NO_2. Members head that caution should be exercised on interpreting and extrapolating information obtained from short term diffusion tube studies due to their susceptibility to bias. In particular, diffusion tubes located in close proximity to the roadside are known to over-represent NO_2 concentrations. To counter this, all diffusion tube data should be bias corrected against a reference technique (i.e. a chemiluminescent analyser). In addition to this, if a study is less than 9 months in duration, the data would need to be annualised to facilitate meaningful comparison with the annual mean objective level. The TFG heard evidence from some schools within close proximity of the Airport, that Schools are already taking steps to reduce their carbon footprint and air pollution such as walking to school and or travelling by public transport and that not many people are dropped off by car. The pupils also felt that electric vehicles and aircraft using electric vehicles and other form of public transportation, walking to school or by other means, would make a significant difference to air pollution.

93. Evidence from Someries Junior School - The Head Teacher of Someries Junior school, informed the Task and Finish Group the school was located along Wigmore Lane which meant children were exposed to poor air quality due to industry, motor vehicles as a result of traffic travelling along the busy congested road and airport traffic. Although it was hard to assess whether there was poor air quality around the schools, there is visible exhaust from planes particularly on take-off and congested traffic was an indicator and a strong source of pollution locally. There was often a strong chemical smell from the IVBC/Vauxhall plant. The expansion of the airport meant more air pollution and respiratory illness for pupils and staff in that area leading to increase levels of asthma and respiratory illnesses and long-term exposure of contamination by toxic airborne particles. To ensure that air quality is improved the Council should make the traffic lights part time to avoid holding cars up with running engines; lights in Hertford central roundabout have been part-time for years and avoid holding traffic up at non-peak times. Also the Council should reconsider the proposed expansion of the airport which will add further traffic to the area and there is no doubt that there is need to reduce and confine or direct traffic to other routes, other than residential roads in order to stop "rat runs".

94. Evidence from Wigmore Primary School – A written evidence was submitted from Wigmore Primary School. The written submitted indicated that factors affecting air quality were pollution from cars, buses, Lorries and airplanes. The school is located in an area where they have normal transport with added complications of the airplanes and larger vehicles delivering goods to and from the airport. The school is in support of the funding in relation to the findings and the study carried out by the University of Birmingham which suggested that as a result of the town's dense urban form, emitted pollution disperses less effectively than in other less closely packed locations. Consequently, it was suggested that Luton suffers from the highest level of pollution relative to its size. This is not the same as having the worst pollution levels in the UK

95. The school has taken action to prevent parents from sitting outside the school in their vehicles with engines running by placing senior members of staff outside the school to ensure the road was used correctly. There had been no reports of parents waiting with engines running and the majority of Parents park in Asda which the school has no control over. In terms of how air quality can be improved, the submission states reduce

emissions caused from the airport in terms of airplanes, the volume of traffic from travellers and from large delivery vehicles. The reduction in night flights, the use of more efficient aircrafts and investment in a transport system that's fit for purpose. For example plans for road networks to service the airport expansion and development of associated sites e.g. Century Park were amended to rely on roads that pass through residential areas such as Eaton Green Road. To reduce the impact of airport traffic, the transport system traffic needs to be diverted from the M1 to the airport without passing through residential areas

Recommendation 17 (Paragraphs 89 - 91)

The TFG agreed that going forward, one of the Council's priorities is to look at how to, and therefore recommend:

(i) That, in order to reduce the pollution outside schools and other places where children congregate, the Executive request the Director of Place & Infrastructure to work together with the airport operations to consider developing an Airport Emissions Strategy and action plan aimed at reducing build-up of traffic to the Airport ground services and also focussing on reducing air pollution for schools in the immediate vicinity of the airport and any under the flight path.

(i) That a progress report be submitted to the Scrutiny Overview and Scrutiny Board every 6 months.

96. Members expressed concern about the evidence from the Schools that they could see and smell the air pollution. It was suggested that each school should be supplied with a monitoring system which will be regularly checked. This will help the Council to monitor just how much the air is polluted around the schools to help develop a good educational project for each school. It is worthy of note that the local population near the airport do not believe that the airport is considering their health. Until there are monitoring stations within the housing areas and the measurements are both published and explained no amount of earnest specialist monitoring work will change public perception, until a comprehensive pollution monitoring is carried out at and amongst housing near the airport.

Recommendation 18 (Paragraph 92)

(i) That the Executive be requested to commission a Specialist Environmental Investigation to ascertain whether the perceived odour and haze is NO_2 or PM, which are the two pollutants of greatest concern due to harm; and in order to satisfy the concerns of the local population near the airport who do not believe that the airport is considering their health and that until there are monitoring stations within the housing areas and the measurements are both published and explained this will not be addressed.

(ii) That the Executive be requested to ask the Director Place & Infrastructure to seek funds for additional NOx tubes and to carry out comprehensive pollution monitoring at and amongst housing and/or residential areas within the airport.

London Luton Airport – Engine Idling

97. At a previous meeting of the TFG, Members expressed concern about idling buses and vehicles at the Airport as they felt that this contributed to the air pollution at the Airport

which they felt was already a concern. Consequently, the TFG contacted several bus operators at the Luton Airport. Arriva Bus Company was the only bus operator that sent a statement in response to the concern raised. In the Statement, Arriva explained that they operated 3 services from London Luton Airport occupying 2 bays. The 757 coach was one of 3 services and it operates Euro 6 coaches that conform to London Ultra Low Emission Zone Standards, (ULEZ). Arriva stated that the engines are turned off once the vehicle arrives and when customers have started boarding the bus, the engines are then turned on. However, at night time, the engines are left running for the lights in the coaches for the purpose of safety when boarding. Some of the other routes all turn off their engines at arrival and whilst on the stand. It was stated all engines have automatic cut off after 5 minutes.

Recommendation 19 (Paragraph 93)

(i) That the Executive request the Director of Place & Infrastructure and the Director of Public Health and Wellbeing, to join up with the Bus Operators operating at the Airport including Arriva and Stagecoach, and LLAOL to investigate the concerns expressed about engine idling at London Luton Airport and to consider exploring policies for the improvement of air quality around the Airport and to extend more widely to the whole town in the near future.

(ii) That the Executive request the Director of Place & Infrastructure to work with local schools to address the issue of engine idling Outside the Local Schools.

(iii) That the Director Place and Infrastructure and Director Public Health and Wellbeing together with the Council's Legal Department investigate the possibilities to:

- investigate the issue of engine idling at the Airport
- take action to instigate bye-laws to control adverse effects of engine idling explore opportunities for enforcement and to proactively campaign, educate and raise awareness of the impact of engine idling.

Conclusion

98. The TFG have spent a number of months investigating and gathering evidence and have pulled together some robust recommendations that will enable the Council to take a more proactive action to improve and or monitor closely the air pollution around London Luton Airport and also continue to improve the level of air pollution in the town.

99. As already highlighted throughout the report, air pollution on the population affects every part of human life from childhood to adulthood with underlined specific risks and health challenges. As heard from the experts and local people, air pollution has already had significant adverse effects on mortality and morbidity. Air pollution in Luton as a whole is a rising concern and more so the air pollution within the scope of this study especially with the proposals to expand London Luton Airport.

100. The TFG urge the Council's Executive to adopt its recommendations to meet the growing need to improve air quality which is one of the biggest public health challenges nationally and tops national agenda. Increasingly research shows that air pollution is actually considerably more harmful than originally thought. The TFG recommends the Council to add air pollution to the list of emerging risks to be monitored by risk management and to develop action plan to assess the potential impact of any future air pollution risks.

Finally, the TFG congratulate all organisations and partners that have one way or another contributed to the success of this investigation and this piece of work.

101. Appendices Attached:

Appendix 1 – Summary of Recommendations
Appendix 2 – Glossary of Terms and Definitions
Appendix 3 – Consultation questions and responses from schools