

Equality Impact Assessment

1. Under s.149 of the Equality Act 2010, when making decisions, Epping District Council must have regard to the Public Sector Equality Duty, ie have due regard to:
 - eliminating unlawful discrimination, harassment and victimisation, and other conduct prohibited by the Act,
 - advancing equality of opportunity between people who share a protected characteristic and those who do not,
 - fostering good relations between people who share a protected characteristic and those who do not, including tackling prejudice and promoting understanding.
2. The characteristics protected by the Equality Act are:
 - age
 - disability
 - gender
 - gender reassignment
 - marriage/civil partnership
 - pregnancy/maternity
 - race
 - religion/belief
 - sexual orientation.
3. In addition to the above protected characteristics you should consider the cross-cutting elements of the proposed policy, namely the social, economic and environmental impact (including rurality) as part of this assessment. These cross-cutting elements are not a characteristic protected by law but are regarded as good practice to include.
4. The Equality Impact Assessment (EqIA) document should be used as a tool to test and analyse the nature and impact of either what we do or are planning to do in the future. It can be used flexibly for reviewing existing arrangements but in particular should enable identification where further consultation, engagement and data is required.
5. Use the questions in this document to record your findings. This should include the nature and extent of the impact on those likely to be affected by the proposed policy or change.
6. Where this EqIA relates to a continuing project, it must be reviewed and updated at each stage of the decision.
7. All **Cabinet, Council, and Portfolio Holder reports must be accompanied by an EqIA**. An EqIA should also be completed/reviewed at key stages of projects.
8. To assist you in completing this report, please ensure you read the guidance notes in the Equality Analysis Toolkit and refer to the following Factsheets:
 - Factsheet 1: Equality Profile of the Epping Forest District
 - Factsheet 2: Sources of information about equality protected characteristics
 - Factsheet 3: Glossary of equality related terms
 - Factsheet 4: Common misunderstandings about the Equality Duty
 - Factsheet 5: Frequently asked questions
 - Factsheet 6: Reporting equality analysis to a committee or other decision making body

Section 1: Identifying details

Your function, service area and team: Essex +Herts Digital innovation Zone, Economic Development

If you are submitting this EqIA on behalf of another function, service area or team, specify the originating function, service area or team: N/A

Title of policy or decision: Digital Infrastructure Investment for Economic Resilience

Officer completing the EqIA: Mike Warr, Essex + Herts Digital innovation Zone Tel: 4472
Email: mwarr@eppingforestdc.gov.uk

Date of completing the assessment: 26/2/21

Section 2: Policy to be analysed

2.1	Is this a new policy (or decision) or a change to an existing policy, practice or project? Yes
2.2	<p>Describe the main aims, objectives and purpose of the policy (or decision): The first part of this report is a progress report on activity already undertaken. The second and key part as regards this EQIA is an Internet of Things (IoT) project looking at air quality at school gates and on routes to schools.</p> <p>What outcome(s) are you hoping to achieve (ie decommissioning or commissioning a service)? Commissioning, in collaboration with Connected Places Catapult, an IoT project led by an SME to identify air quality patterns at school gates and on route to the school in order to influence behaviour and choices over means and route of transfer to school.</p>
2.3	<p>Does or will the policy or decision affect:</p> <ul style="list-style-type: none">• service users• employees• the wider community or groups of people, particularly where there are areas of known inequalities? <p>Yes</p> <p>Will the policy or decision influence how organisations operate? Potentially the project may influence school operations</p>
2.4	<p>Will the policy or decision involve substantial changes in resources?</p> <p>Funding of up to £35,000 is currently anticipated from existing budgeted allocations of resources. Tech resources will need to be employed at school gates and possibly on pupil bags / scooters / cars to assess the air quality however it is anticipated that these sensors will be portable and reusable and so will not be permanent features.</p>

2.5	<p>Is this policy or decision associated with any of the Council's other policies and how, if applicable, does the proposed policy support corporate outcomes?</p> <p>The project has the potential to support EFDC policies and approaches to air quality monitoring and mitigation in locations other than at school gates, particularly if the portability element is scoped in such a way as to it not being limited to one type of location ie. schools.</p>
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Section 3: Evidence/data about the user population and consultation¹

As a minimum you must consider what is known about the population likely to be affected which will support your understanding of the impact of the policy, eg service uptake/usage, customer satisfaction surveys, staffing data, performance data, research information (national, regional and local data sources).

3.1

What does the information tell you about those groups identified?

Age – Younger people

[How does air pollution affect children's lungs?](#) (British Lung Foundation)

“Why is air pollution especially harmful to infants, toddlers and children? Children are more vulnerable to breathing in polluted air than adults. Their airways are smaller and still developing. They breathe more rapidly than adults. Buggies and prams put them at the level of car exhausts and hand-held cigarettes.

If your child breathes high levels of air pollution over a long period, they might be at risk of:

- their lungs not working as well as they grow older
- developing asthma during childhood or as an adult - and if they have asthma already, air pollution can make it worse
- wheezing
- coughs
- lung cancer when they're older
- infections like pneumonia”

[More than 90% of the world's children breathe toxic air every day](#) (World Health Organisation)

“Key findings:

- Air pollution affects neurodevelopment, leading to lower cognitive test outcomes, negatively affecting mental and motor development.
- Air pollution is damaging children's lung function, even at lower levels of exposures Globally, 93% of the world's children under 15 years of age are exposed to ambient fine particulate matter (PM2.5) levels above WHO air quality guidelines, which include the 630 million of children under 5 years of age, and 1.8 billion of children under 15 years
- In low- and middle-income countries around the world, 98% of all children under 5 are exposed to PM2.5 levels above WHO air quality guidelines. In comparison, in high-income countries, 52% of children under 5 are exposed to levels above WHO air quality guidelines.
- More than 40% of the world's population – which includes 1 billion children under 15 - is exposed to high levels of household air pollution from mainly cooking with polluting technologies and fuels.

- About 600'000 deaths in children under 15 years of age were attributed to the joint effects of ambient and household air pollution in 2016.
- Together, household air pollution from cooking and ambient (outside) air pollution cause more than 50% of acute lower respiratory infections in children under 5 years of age in low- and middle-income countries.
- Air pollution is one of the leading threats to child health, accounting for almost 1 in 10 deaths in children under five years of age."

[The effects of air pollution on the health of children](#) (Paediatrics Child Health)

"The effects of improved air quality on children's health

A decline in ambient air levels of SO₂ and total suspended particulates in former East Germany following the reunification of Germany led to improvements in the results of lung function studies in children and a reduction in the prevalence of respiratory illnesses such as bronchitis, sinusitis and frequent colds (46). Children in the United States who relocated to states with lower levels of ambient air PM₁₀ showed increased growth in lung function studies, while those who relocated to states with higher PM₁₀ experienced decreased growth in lung function (47). A 27.9% decline in daily peak O₃ concentrations from 81.3 parts per billion to 58.6 parts per billion during the 1996 Summer Olympics in Atlanta, Georgia, resulted in a significant reduction in the rates of childhood asthma events (48)."

[School Streets: Can making school roads traffic-free help keep children safe from air pollution? \(Evening Standard\)](#)

"New data released this month from the Breathe London air quality monitoring project, shows that almost 40 per cent of the NO_x pollution measured outside schools comes from road transport. Diesel cars are the single biggest local contributor to NO_x pollution outside London primary schools.

The impact on young lungs of breathing polluted air can be dramatic. Dr Ian Mudway, a senior lecturer in the School of Public Health at Imperial College London, led a groundbreaking six-year study focused on eight and nine-year-old children in Tower Hamlets and Hackney .

The study, published in 2018, found that dirty air was stunting the growth of children's lungs by about 80 to 100 millimetres. "People find it difficult to visualise the volume, but we worked out it was about the size of two large eggs that these children were losing in lung capacity," says Mudway.

The impact of that reduced lung development is significant — it places children at risk of lung disease, severe asthma attacks and early death."

Age – Older People

[Adverse effects of outdoor pollution in the elderly](#) (Journal of Thoracic Disease)

"With fewer newborns and people living longer, older people are making up an increasing fraction of the total population. Epidemiological evidence shows that older-age-related health problems affect a wide and expanding proportion of the world population. One of the major epidemiological trends of this century is the rise of chronic diseases that affect more elderly than younger people. A total of 3.7

million premature deaths worldwide in 2012 are attributable to outdoor air pollution; the susceptibility to adverse effects of air pollution is expected to differ widely between people and within the same person, and also over time. Frailty history, a measure of multi-system decline, modifies cumulative associations between air pollution and lung function. Moreover, pre-existing diseases may determine susceptibility. In the elderly, due to comorbidity, exposure to air pollutants may even be fatal. Rapid and not-well-planned urbanization is associated with high level of ambient air pollution, mainly caused by vehicular exhausts.

While some individuals may experience no symptom or only clinically irrelevant changes, a similar exposure may trigger serious exacerbations of health problems among the frail subjects. Reduced lung function occurs as a natural part of aging and there is scientific evidence that elderly people are largely affected by the increased impairment resulting from exposure to air pollutants (5). Frailty history, a measure of multi-system decline, modifies the cumulative associations between air pollution and lung function (6).

Moreover, pre-existing diseases may determine susceptibility. Elderly people will most likely suffer from chronic diseases, and there is evidence that co-existing chronic lung, heart or circulatory conditions may worsen following exposure to environmental pollutants (7,8).”

[Air pollution ‘significantly’ affects lung function in the elderly](#) (AirQualityNews.Com)

“The researchers observed significant negative effects of long-term exposure to PM2.5 on lung function in the elderly and believe that the relationship between long-term air pollution on lung function in the elderly may be used to predict mortality.

Their results were significantly higher than previous research which was conducted in an area with lower levels of pollution.

The research also showed that exposure to PM caused several health impacts, such as increased blood pressure, heart rate variability, and asthma.”

Disability

[Study uncovers link between air pollution and intellectual disabilities in children](#)
(Science Daily)

“British children with intellectual disabilities are more likely than their peers to live in areas with high outdoor air pollution, according to a new Journal of Intellectual Disability Research study funded by Public Health England.

The findings come from an analysis of data extracted from the UK's Millennium Cohort Study, a nationally representative sample of more than 18,000 UK children born in 2000 to 2002.

Averaging across ages, children with intellectual disabilities were 33 percent more likely to live in areas with high levels of diesel particulate matter, 30 percent more likely to live in areas with high levels of nitrogen dioxide, 30 percent more likely to live in areas with high levels of carbon monoxide, and 17 percent more likely to live in areas with high levels of sulphur dioxide.

The authors note that intellectual disability is more common among children living in more socio-economically deprived areas, which tend to have higher levels of air pollution; however, exposure to outdoor air pollution may impede cognitive development, thereby increasing the risk of intellectual disability.

"We know that people with intellectual disabilities in the UK have poorer health and die earlier than they should. This research adds another piece to the jigsaw of understanding why that is the case and what needs to be done about it," said lead author Dr. Eric Emerson, of The University of Sydney, in Australia."

[Air Pollution Linked to Developmental Disabilities](#) (eWeb Schedule)
[Scientists Find Link between Air Pollution and Intellectual Disabilities in Children](#) (Sci News)
(Association of Prenatal Exposure to Air Pollution With Autism Spectrum Disorder)

"Increasingly, researchers are finding a link between the incidence of intellectual and developmental disabilities in the population correlates to exposure to pollution. For example, Recent studies have discovered a link between ambient air pollution and increased risk of autism spectrum disorder.

Researchers analyzed the records of 129,436 children born in Vancouver, Canada from 2004 through 2009. The study also investigated air pollution data in the area over the same time period. The objective was to assess the level of air pollution exposure for pregnant woman living in the area.

What was discovered was that pregnant women living in Vancouver, who were exposed to the highest level of airborne, traffic-related pollutants; were more likely to give birth to children later diagnosed with autism.

Other research has utilized Epidemiological and animal studies in order to discover a connection between development and intellectual disabilities and air pollution. These studies suggest that air pollution may negatively affect the central nervous system (CNS) and contribute to CNS diseases. Traffic-related air pollution is a major contributor to global air pollution, and diesel exhaust (DE) is its most important component.

Averaging across ages, children with intellectual disabilities were 33% more likely to live in areas with high levels of diesel particulate matter, 30% more likely to live in areas with high levels of nitrogen dioxide, 30% more likely to live in areas with high levels of carbon monoxide, and 17% more likely to live in areas with high levels of sulfur dioxide."

Gender

[Gender Difference in the Effects of Outdoor Air Pollution on Cognitive Function Among Elderly in Korea](#) (Frontiers in Public Health)

"Results: We found that women than men had a higher risk for decreased cognitive function associated with increased exposure to PM10 and PM2.5–10, respectively, even after adjustments for confounding factors (OR 1.01 [95%CI 1.00-1.03] in PM10; OR 1.03 [95%CI 1.01–1.07] in PM2.5–10). After stratification by metropolitan status, we also found that the adverse effect of NO2 exposure on cognitive function was

higher in women than men [OR 1.02 [95%CI 1.00–1.05] in metropolitan; OR 1.12 [95%CI 1.04–1.20] in non-metropolitan]. Notably, the magnitude of the effect sizes was greater among those in non-metropolitan regions than metropolitan ones.

Conclusions: Although our findings suggest that the adverse effects of outdoor air pollution on cognitive function appeared to be higher in women than men, this should be tentatively reflected due to some limitations in our results. While additional research is warranted to confirm or dispute our results, our findings suggest an indication of the need for developing and implementing prevention or interventions with a focus on elderly women with increased risk for air pollution exposure.”

Pregnancy

[Can air pollution affect pregnancy outcomes?](#) (Medical News Today)

“Air pollution can negatively affect pregnancy, possibly leading to preterm birth, a low birth weight, stillbirth, or congenital abnormalities.

People who live in polluted areas or have exposure to indoor air pollution from toxins such as cigarette smoke have higher rates of negative pregnancy outcomes.

Air pollution can affect the health of the pregnant person and the developing baby. Contaminants in the air can cross the placenta, affecting the health of the placenta itself and disrupting the baby’s development.

Pregnant people who live in polluted areas may be more likely to experience early, or preterm, labor.

One 2018 study established a correlation between exposure to air pollution and stillbirth. The risk was highest during the third trimester of pregnancy.

Exposure to air pollution may disrupt a baby’s development, causing them to be born unusually small. It can also cause preterm delivery, resulting in very small babies with underdeveloped bodies and lungs.

Low birth weight is a risk factor for developmental delays, numerous health issues, and death after birth.

Exposure to air pollution correlates with a higher risk of pregnancy-related complications in the parent.

A study of birth outcomes in Allegheny County, PA, found that exposure to air pollution in the first trimester increased the risk of preeclampsia and high blood pressure. These complications can harm the parent and the baby, and this may necessitate an early birth.

Exposure to air pollution may affect lung development. In some babies, this occurs indirectly, when preterm labor causes a baby whose lungs are not fully functional to be born. This is a risk factor for death after birth.

Exposure to air pollution is also linked to longer-term respiratory issues, such as asthma and allergies.”

	<p>Race / Ethnic Background</p> <p>Ethnic minorities and deprived communities hardest hit by air pollution (Imperial College London)</p> <p>“A new study has found big differences in air pollution across communities in England, with deprived and ethnic minority areas the worst affected.</p> <p>In England, the most deprived 20 per cent of neighbourhoods had higher air pollution levels than the least deprived neighbourhoods - 1.5 µg/m³ higher PM₁₀ and 4.4 µg/m³ NO₂ after adjusting for other factors – but this was not the case in the Netherlands. The biggest differences in air pollution levels according to socioeconomic status were in London.</p> <p>The worst air pollution levels were seen in ethnically diverse neighbourhoods, defined as those where more than 20 per cent of the population are non-white. Even after allowing for the fact that some of these neighbourhoods are more deprived, in England, this difference was 3.0 µg/m³ for PM₁₀ and 10.1 µg/m³ for NO₂. In the Netherlands, differences were lower, with 1.1 µg/m³ higher PM₁₀ and 4.5 µg/m³ NO₂.</p> <p>The reasons for the associations between ethnic minorities and air pollution are unclear. “England and the Netherlands have a long history of immigration. It’s possible that immigrants settled in particular areas may tolerate poorer air quality for the benefits of living close to friends and family, even when their communities become less deprived,” said Dr Fecht.”</p> <p>Associations between air pollution and socioeconomic characteristics, ethnicity and age profile of neighbourhoods in England and the Netherlands (Environmental Pollution 198)</p> <p>“Our analysis suggests that associations of air pollution concentrations with socioeconomic characteristics, ethnicity and age are complex and can vary by country, by urban or rural setting and by subpopulation. Whether a neighbourhood is urban or not is one of the strongest determinants of environmental inequality in exposure to air pollution. Substantial inequalities in air pollution exposure also exist for areas with high proportions of ethnic minorities, even when area level deprivation is taken into account. Both PM₁₀ and NO₂ are markers for traffic-related pollution, thus our results suggest that measures to reduce environmental inequality should include a focus on traffic-related measures in urban areas.”</p>
3.2	<p>Have you consulted or involved those groups that are likely to be affected by the policy or decision you want to implement? If so, what were their views and how have their views influenced your decision?</p> <p>No consultation has yet taken place. The project is currently a potential project as the scheme of collaboration and funding with Connected Places catapult is currently in a developmental stage.</p>

3.3	<p>If you have not consulted or engaged with communities that are likely to be affected by the policy or decision, give details about when you intend to carry out consultation or provide reasons for why you feel this is not necessary:</p> <p>In the event a project along the lines anticipated is delivered consultation with local education authorities and identified participant schools including their teachers, pupils and parents / carers is suggested. There is also likely to be outreach to a community of SMEs before identifying and procuring a delivery partner for any project.</p>
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Section 4: Impact of policy or decision

Use this section to assess any potential impact on equality groups based on what you now know.

Description of impact	Nature of impact Positive, neutral, adverse (explain why)	Extent of impact Low, medium, high (use L, M or H)
Age	<p>Positive</p> <p>The project is intended to identify and highlight patterns of poor air quality associated with school gate locations and the routes chosen to visit the schools. In this way it would hope to influence the choices made by individuals and families about the routes they choose and the means of travel to reduce these negative patterns. Where negative impacts of poor air quality have been identified in studies of these groups it is hoped to reduce the occurrence of such impacts but the project would hope to increase positive outcomes for all visitors to and users of schools whatever their individual background or characteristics based on improvements in air quality at the school gates.</p> <p>Young Children – Attend school on a daily basis</p> <p>Elderly People – Some older people eg. grandparents have caring roles for children and will be responsible for the drop-off and collection of children from school.</p>	H
Disability	<p>Positive – see above</p> <p>Children, parents and grandparents with disabilities and ongoing conditions will attend school during drop-off and collection.</p>	H
Gender	Positive – see above	H
Gender reassignment	Positive – see above	H
Marriage/civil partnership	Positive – see above	H
Pregnancy/maternity	Positive - see above	H

	Pregnant parents may need to attend school for drop-off and collection of older siblings	
Race	Positive – see above	H
Religion/belief	Positive – see above	H
Sexual orientation	Positive – see above	H

Section 5: Conclusion

		Tick Yes/No as appropriate	
5.1	Does the EqIA in Section 4 indicate that the policy or decision would have a medium or high adverse impact on one or more equality groups?	No	X
			If ' YES ', use the action plan at Section 6 to describe the adverse impacts and what mitigating actions you could put in place.

Section 6: Action plan to address and monitor adverse impacts

What are the potential adverse impacts?	What are the mitigating actions?	Date they will be achieved.

Section 7: Sign off

**I confirm that this initial analysis has been completed appropriately.
(A typed signature is sufficient.)**

Signature of Head of Service: Nick Dawe

Date: 28/2/21

Signature of person completing the EQIA: Mike Warr

Date: 26/2/21

Advice

Keep your director informed of all equality & diversity issues. We recommend that you forward a copy of every EqIA you undertake to the director responsible for the service area. Retain a copy of this EqIA for your records. If this EqIA relates to a continuing project, ensure this document is kept under review and updated, eg after a consultation has been undertaken.