



Birmingham City Council

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Councillor Fiona Williams
Chair, Tree Policy Task and Finish Committee

Dear Fiona

Re: Tree Policy Task and Finish

Regrettably I am unable to attend the evidence gathering sessions due to existing commitments; I am however pleased to submit the thoughts and considerations below which I hope will be useful to your enquiry. I am also mindful that the officers that are able to attend will be able to provide much more detail.

In my mind there is no doubt whatsoever that street trees can and do play an important part in the improvement in air quality, particularly in respect of PM_{2.5}. However, the science available demonstrates that it is equally true that they can have a negative impact on air quality if their dense canopies restrict air circulation thereby trapping poor air quality at low levels where people breathe.

What is clear and suggested by several studies is that urban tree planting, if it is going to have a positive effect on air quality, must be properly coordinated alongside other PM reduction strategies such as transportation, SO₂ and NO_x reduction whilst also taking into consideration the locations where trees would have a positive impact, what type of tree should be planted and the space required between them. Trees should not be planted in a particular place just because they look nice; decisions should be taken based on an urban tree strategy which identifies where they will do more good than harm.

Finally, we know of course that trees play a much wider role as with the other aspect of natural capital, and one which is just as important, than just improving air quality – they provide a multitude of other benefits including: countering the effects of heat and UV radiation, flood relief, house value uplift, psychological well-being, etc. I would urge the Scrutiny task and finish to recommend the drawing up, by a representative citywide group, of an urban tree planting strategy driven by a clear policy that demonstrates the importance of trees in their widest contribution.

I have drawn this conclusion from the summary statements below:

- The science is equally weighted between benefit and blockage when it comes to air quality; but if this is considered on a singular approach it is yet another aspect of a silo thinking as the multiple benefits absolutely outweigh the negatives. The presence of trees has several behavioural effects e.g. it slows traffic, people will walk and cycle more through a greened route.
- The issue is complex and one we mustn't shy away from – it needs holistic thinking- that informs- simple actions; not single thinking informing single simple actions.
- As a city we should be very mindful about not only the role played by an individual tree in someone's garden but the whole urban forest canopy across the city; so for that should we set some ambitions or visions as has been the case elsewhere. Both the Mayor of Manchester and London Mayor have both got citywide plans out for consultation where one of their primary long-term objectives for their cities is canopy cover. For all these multiple benefit reasons; London is a 5% increase by 2025 and 10% increase by 2050; Manchester is to get from 15% to 20% by 2025. Should Birmingham have similar ambitions?
- Planting trees is widely recognised as a cost effective way to tackle urban air pollution.
- A recent study has shown that the average reduction of particulate matter near a tree is between 7 – 24%
- As well as avoided mortality there is even more avoided hospitalisation as a result of cleaner air.
- Planting trees in urban areas is not without pitfalls; one is regarding the flow of air in heavily polluted streets, particularly those with large volumes of traffic e.g. Northumberland Avenue. Thick canopies can limit air circulation, trapping poor air quality at low levels where people breathe.
- Planting the right trees in the right place is critical, should develop a 'planting strategy' that is properly determined and plants the right trees in the right places with the right spaces between to ensure air flow.
- A 2014 report, following what was described as the largest worldwide tree survey of its kind, it was calculated that London's trees provided at least £133m of benefits every year in terms of air pollution removal, carbon sequestration and reducing the amount of water flowing into drains.
- Parks management, developers, planners and health professionals must work together.
- Natural capital – re-greening the planet could cut as much Carbon as halting oil use! Natural solutions such as tree planting, better land management, protecting peatlands could account for 37% of all cuts needed by 2030.
- Answers to the following questions are needed: 1) what fraction of the air quality problem can trees solve? 2) Which neighbourhoods can be helped the most [working on a total place agenda should capture and record this information]? 3) How much investment in terms of trees planted, £'s spent? 4) Where are trees a cost effective investment, relative to other strategies that can reduce PM or combat air temperature?
- The findings from the recent Nature Conservancy report (global) emphasises the importance of maintaining the current stock of urban trees.
- Targeting the neighbourhoods with the highest mitigation impacts is crucial.

- Planting of street trees should be part of a cost effective portfolio of interventions aimed at controlling particulate matter and not considered in isolation.
- Need to bear in mind that the median cost of tree planting for PM mitigation may be higher than other PM reduction strategies.
- New draft guidelines from NICE suggest that ad hoc planting of street trees may in fact cause air quality to deteriorate at street level.
- NICE urges planners, LAs and developers to work together and take into account the adverse effect that trees can have on air quality if badly sited or unmanaged.
- Research published in the Atmospheric Journal states that hedges (with greatest leaf surface area) should be planted on the edge of pavements (or central reservations by traffic islands – many of these have been removed in B’ham to reduce maintenance costs and trapping of litter) as they are closer to the source (exhaust pipes) and can absorb PM before they disperse into the air.
- Trees do play a vital role in battling pollution in towns but they can create ‘street canyons’ making matters worse.
- Study in Guildford found that planting hedges along busy main roads cut toxic fumes by around a third.
- There is a crucial need for research to provide effective tree planting policy advice for urban planners. This could lead to substantial air quality improvements depending on the interaction of trees with local meteorological conditions and building arrangements.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Lisa Trickett', with a stylized, flowing script.

Councillor Lisa Trickett
Cabinet Member for Clean Streets, Recycling & Environment