

Spring 2018

Actively improving air quality

Sustrans round table report

Making it easier for cycling and walking to play a key role in reducing air pollution



About Sustrans

Sustrans is the charity making it easier for people to walk and cycle.

We are engineers and educators, experts and advocates. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute.

Sustrans works in partnership, bringing people together to find the right solutions. We make the case for walking and cycling by using robust evidence and showing what can be done.

We are grounded in communities and believe that grassroots support combined with political leadership drives real change, fast.

Join us on our journey. www.sustrans.org.uk

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Summary recommendations

There is strong evidence that cycling and walking programmes have a key role to play in helping to solve our air quality crisis when modal shift is achieved. However, there are many barriers that local authorities currently face that prevent them from implementing cycling and walking programmes to tackle air pollution.

The below recommendations to help overcome some of these barriers stem from local authority, public health and academic representatives from across England and originate from a round table held by Sustrans. The recommendations are primarily for UK and local Government but some are also directed to other stakeholders working in the area.

Recommendation 1

The UK Government should show leadership by creating a new Clean Air Act that tackles all forms of air pollution; and improves and strengthens existing legislation, enshrining the right to breathe clean air into law after we leave the EU.

Recommendation 2

The UK Government should better link up cross-departmental policies that produce positive air quality outcomes, starting with properly funding and linking the CWIS and LCWIPs with air quality plans and funding.

Recommendation 3

Local Government should place health practitioners in transport and planning teams to help integrate cycling and walking infrastructure that promotes healthier lifestyles and better air quality.

Recommendation 4

The UK Government should lead a national campaign to increase awareness and build momentum from communities to tackle air pollution and give politicians the mandate to act.

Recommendation 5

Health, environmental and transport charities should work together more, to raise awareness and deliver change to enable more people to walk and cycle to tackle air pollution.

Recommendation 6

All combined authorities should have a Walking and Cycling Commissioner with the power and mandate to deliver walking and cycling programmes that improve air quality.

Recommendation 7

The UK Government should reframe the appraisal mechanism for bids from LEPs and by extension local authorities, so that local authorities can build cycling and walking programmes into their plans and bids to tackle air pollution with confidence.

Recommendation 8

The UK Government should prioritise direct measures to limit private vehicles as the mode of choice into city centres as a central component of Clean Air Zones. In addition, they need to help local authorities set a trajectory of measures to deliver long-term continuous improvement in air quality beyond 2020.

Recommendation 9

The UK Government should provide dedicated, continuous funding and 'over the horizon' transparency of future funding options for walking and cycling as part of a long-term strategy that enables local authorities to prepare cycling and walking programmes that are shovel-ready in order to tackle air pollution.

Recommendation 10

Local authorities and charities need to work closely with communities from the outset on community engagement programmes that help to increase the public's understanding of the benefits of walking and cycling on air quality.

The air quality crisis

We face an air quality crisis. An invisible issue that kills tens of thousands of people prematurely every year in the UK; that stunts the growth of children's lungs; and will be the greatest environmental cause of mortality worldwide by 2050, ahead of dirty water and lack of sanitation¹.

One of the greatest threats for human health is particulate matter (PM₁₀ particles [$<10\mu\text{m}$] and PM_{2.5} [$<2.5\mu\text{m}$]). These particles are small enough to penetrate deep into the lungs and the World Health Organisation states there are no safe levels of exposure. The other is nitrogen oxides – NOX – a mixture of nitric oxide (NO) and nitrogen dioxide (NO₂).

Road transport is responsible for 80% of the NOX pollution where legal limits are being broken and the majority of that pollution comes from diesel combustion². Additionally, 60% of particulate matter is caused by road transport: 15% by exhaust emissions and 45% from tyre and brake wear. Therefore a move to electric vehicles will not solve all our air quality problems as we will still have dangerous levels of particulate matter pollution from tyre and brake wear.

The only way to improve air quality is to reduce the number of motorised vehicles on the road and offer alternatives to private vehicle travel, such as walking, cycling and public transport.

Current situation

In response to continually missing EU targets for NO₂, the UK Government published its 'Air Quality Plan for Nitrogen Dioxide' in July 2017. Each of the devolved nations is enacting their own strategies to deal with air pollution which feed into this wider plan. In England this has resulted in many local authorities with areas currently breaking air pollution limits being mandated to produce Clean Air Plans (CAPs) by the Autumn of 2018 or Clean Air Zones (CAZs) by 2020. Many other local authorities are also looking to tackle poor air quality.

There are currently two pots of funding to help local authorities outside of London in writing and implementing these plans. An Implementation Fund of £255 million and a Clean Air Fund of £220 million that is specifically for additional measures which minimise the 'adverse effects' of local air quality plans on individuals and businesses. The Government has stated these measures "could include ... changes to cycling infrastructure."

Sustrans has had evidence from local authorities and held a round table, chaired by Chris Boardman MBE, with local authorities, public health and academic representatives from across England to discuss:

- The role increasing mode shift to cycling and walking can play in improving air quality.
- The barriers that currently exist that prevent the adoption of cycling and walking programmes to help improve air quality.

- How these barriers can be overcome.

The findings and recommendations from the round table are laid out below. Whilst these results specifically relate to an England context they can largely be applied at a UK level.

Making the case for cycling and walking to improve air quality

Cycling and walking play a key role in improving air quality in towns and cities when modal shift is achieved. Sustrans has developed a model which can measure the contribution of individual walking and cycling schemes to improving air quality in respect of changes in personal exposure to air pollution. The results are startling – we can expect savings to the economy of nearly £6 billion over ten years in England through reduced health costs from air pollution. This will occur if the targets to double cycling and increase walking, as set out in the Government’s ‘Cycling and Walking Investment Strategy’ are achieved. This is in addition to more than 8,300 premature deaths from air pollution being prevented over that time.

In Scotland, the modelling found savings to the economy could be well over £3.5 billion over ten years from improved air quality alone, if the vision of 10% of everyday journeys made by bike set out in Scotland’s Cycling Action Plan were achieved. It would also mean nearly 4,000 premature deaths could be avoided over a decade.

A modal shift from increased cycling and walking investments improves air quality and has the additional benefit of providing an alternative way of getting from A to B, mitigating against some of the potential negative effects from other air quality measures, such as road charging for dirty vehicles. It also better tackles particulate matter than other approaches like electric vehicles, in which dangerous levels would still come from tyre and brake wear.

However, it is the addition of the wider co-benefits achieved from modal shift to walking and cycling which make it one of the best approaches for tackling our air quality crisis. At present, many of our towns and cities suffer from crippling congestion. Increasing the numbers of visitors and residents walking and cycling for shorter journeys reduces congestion and vehicle idling, which plays a significant role in improving air quality. The reduction in general traffic also decreases journey times for those using public transport and results in the need for fewer car parking spaces. This, in turn, frees up more space for public use.

We also have a physical inactivity epidemic in the UK, with some estimates putting the cost of physical inactivity as £20 billion a year to the UK economy³³. Equally, a child born today in the UK could have a life expectancy of five years less than that of their parents due to physical inactivity. Incorporating walking and cycling into everyday journeys is one of the best ways of improving public health through increased physical activity and improved air quality and is better for people’s wellbeing.

Despite the potential role of cycling and walking in tackling air pollution, there are a number of barriers that prevent local authorities from pursuing this course of action. Below we highlight some of the key barriers discussed at Sustrans’ round table and the ways in which they can be overcome.

Cycling and walking air quality solutions: Identifying and overcoming barriers

Cycling and walking programmes can play a key role in tackling our air quality crisis. However, local authorities at the round table identified five key barriers that prevent them from successfully implementing these schemes:

- 1 Political leadership on air quality
- 2 Framing of acceptable solutions
- 3 Timing – the pressure for immediate success
- 4 Funding
- 5 Car dominance and lack of community engagement

These five areas are explored in more detail below with key recommendations on how some of these barriers may be overcome. The recommendations are primarily for UK and local Government but some are also directed to other stakeholders working in the area.

1. Political leadership on air quality

A lack of political leadership at all levels of Government in tackling the air quality crisis is perhaps the greatest barrier, not just to implementing cycling and walking to address the problem, but to improving our air quality overall. This lack of commitment manifests itself in a number of ways:

1.1 National lack of commitment from UK Government to solve air pollution

Multiple Governments have shown a lack a commitment to solving air pollution. Our current Government has been found guilty in court for a third time for not delivering a reduction in air pollution that will bring the country within legal limits as soon as possible. Had the Government had an ambitious, joined up and fully funded plan to begin with that had brought us within legal limits in the time necessary, then local authorities would know what to expect and could plan properly. Instead, the court cases against the Government mean that goal posts keep changing as the Government brings through rapid policy changes to meet legal NO₂ requirements. This causes uncertainty for local authorities as well as confusion over what responsibilities lie with them. As a result, the Government is looking solely at NO₂ as this is where legal limits are being broken, rather than including action on particulate matter for consistent, joined up policy. Instead, the Government's Air Quality Strategy is due out later in 2018 and will include action on particulate matter.

Brexit also creates a level of uncertainty. Whilst the UK Government has implied that it will continue with current air quality standards after Brexit, there is no indication of how the Government will be held accountable for future failures after leaving the EU.

Recommendation 1

The UK Government should show leadership by creating a new Clean Air Act that tackles all forms of air pollution; and improves and strengthens existing legislation, enshrining the right to breathe clean air into law after we leave the EU.

1.2 Lack of a joined up approach from the UK Government and across local Government

Working in silos is a problem at national and local level. At a national level, the Joint Air Quality Unit (JAQU) has responsibility for air quality policy and is made up of representatives from the Department for Transport (DfT) and the Department for Environment, Food and Rural Affairs (Defra). However, there are currently few links to the health department or other key departments that could bring out policies that improve air quality. In regards to cycling and walking's role, despite DfT's involvement in JAQU, there is little integration of air quality policy with the Cycling and Walking Investment Strategy (CWIS) and Local Cycling and Walking Infrastructure Plans (LCWIPs). This is despite nearly £6 billion in economic savings from improved air quality that could be achieved over ten years if the targets in the CWIS were met. The UK Government needs to provide consistent messaging and policy to local authorities to give them the confidence to invest in walking and cycling as a solution.

In addition, the failure to recognise air quality and carbon emissions reduction as being heavily interlinked presents a huge issue. The 'silo-ised' policy responses to these challenges lead to incoherent policy positions and contradictory investment priorities, such as the historical policy levers which encouraged the uptake of diesel vehicles to help address carbon emissions at the detriment of air quality. These two environmental issues should be tackled together and can both be improved by investing in better cycling and walking infrastructure.

Air quality in local government tends to be held within health teams more than environment and transport teams. Local authorities need to bring health practitioners into transport and planning teams to help plan healthier neighbourhoods. For example, this could include creating a public realm that promotes cycling and walking over driving cars. This will improve air quality and public health and create better environments for people to work and for businesses to invest. Authorities such as Bristol and Manchester have already done this and it is helping to stimulate demonstrator sites for different travel projects that can improve air quality.

Bringing a health practitioner into a transport and planning team also better links transport planning to wider public health initiatives such as social prescribing in which primary care services refer patients to a range of local, non-clinical services. These can be provided by the voluntary and community sector, and often include walking and cycling.

Recommendation 2

The UK Government should better link up cross-departmental policies that produce positive air quality outcomes, starting with properly funding and linking the CWIS and LCWIPs with air quality plans and funding.

Recommendation 3

Local Government should place health practitioners in transport and planning teams to help integrate cycling and walking infrastructure that promotes healthier lifestyles and better air quality.

1.3 The party political and demographic challenge of air quality

Cities are often a mix of many demographics and not one entity. This regularly reflects itself in a mix of political representation. Therefore, there is often the need to gain cross-party support to secure collective buy-in to take action, such as encouraging Combined Authorities to invest in cycling and walking to improve air quality.

To give politicians from all parties the mandate to invest in measures to tackle air pollution we need a national campaign that shifts public opinion and gives politicians the courage to take action. The issue with air pollution is that it is largely an invisible problem. We need more people to be angry about the dirty air that they and their children are breathing so that they contact their school governors, councillors, mayors and MPs.

An awareness raising campaign should:

- Be national and akin to the 'Think' road safety campaign and include additional activities that can be tailored locally, such as events like 'Clean Air Day'.
- Be visual, emotional, personal and child centric – using methods such as cartoons to bring the hazard of air pollution to life and to debunk myths such as you are protected from air pollution in your car eg. a car filling up with smoke.
- Use social media and social norms to show that many people are concerned about air pollution to help build momentum and prevent false consensus that consumers think the views of motor companies reflect the views of the majority of the population, when evidence shows this is not the case.
- Be accompanied by toolkits for local authorities and schools that include air quality monitors and a number of options that tackle air quality.
- Overtly link cycling and walking to better air quality so that people see the correlation.
- Be positive and sell cycling and walking on its practicalities (as very few people are motivated by health who don't already frequently travel by bike and foot) such as there being no need to find and pay for parking, being quicker than being stuck in traffic and more fun.

Recommendation 4

The UK Government should lead a national campaign to increase awareness and build momentum from communities to tackle air pollution and give politicians the mandate to act.

In addition to a good national campaign we need more cross-charity dialogue between health, environmental and transport charities at a regional as well as national level. This will help to gain momentum and deliver changes that enable more people to walk and cycle.

There is also an opportunity with Combined Authorities and Metro Mayors. All Combined Authorities should have a Walking and Cycling Commissioner with a mandate and the powers needed to build political momentum and create real change on the ground. This will enable more people to move from motorised private transport to walking and cycling for short journeys.

Recommendation 5

Health, environmental and transport charities should work together more, to raise awareness and deliver change to enable more people to walk and cycle to tackle air pollution.

Recommendation 6

All combined authorities should have a Walking and Cycling Commissioner with the power and mandate to deliver walking and cycling programmes that improve air quality.

2. Framing of acceptable solutions

The framing of solutions that are most acceptable to tackle air pollution from the UK Government is influential in what local authorities are opting to deliver on the ground and inhibits more cycling and walking projects from being taken forward.

2.1 Narrow framing of economic benefit and favouring of technological advancement

The UK Government appears to favour technological solutions and measures that rely on technological development when tackling air pollution. For example, the electrification of transport. Whilst the electrification of transport definitely has a role to play in tackling our air quality crisis, it will have limited impact on particulate matter levels. So investment in 'techno-fixes' should not be to the detriment of other measures such as modal shift to walking and cycling.

The UK Government also appears to favour big capital infrastructure projects, such as the roads building programme supported by the Roads Investment Strategy. The success of road schemes is narrowly measured. The primary parameter for Local

Enterprise Partnerships (LEPs) is that transport schemes must show an economic benefit. The issue is that the costs and benefits are too heavily weighted towards unconvincing economic benefits. Whilst the costs of such schemes in terms of damage to public health, for example, in respect of physical activity and exposure to poor air quality is disregarded. Health improvements are where the main benefits lie with cycling and walking projects. This makes it hard for cycling and walking to be part of the solution to air quality even in areas with lots of capital funding as the appraisal mechanism does not currently place cycling and walking projects on the same footing as big infrastructure projects.

Recommendation 7

The UK Government should reframe the appraisal mechanism for bids from LEPs and by extension local authorities, so that local authorities can build cycling and walking programmes into their plans and bids to tackle air pollution with confidence.

2.2 Clean Air Zone framing

More specifically, there has been unintended consequences from UK Government framing of Clean Air Zones (CAZs). There are two overall types of CAZ, a charging or a non-charging zone. The Government's own analysis showed that charging CAZs would be one of the most effective ways of improving air quality and cycling and walking can provide a viable alternative to entering charging CAZs. However, the UK Government has prescribed the category of CAZ it thinks each city should be pursuing with restrictions on the access of private cars being seen as a measure of last resort. This drives the response of the city. For example, if a city is prescribed a category that only includes buses, taxis, coaches and HGVs but not private vehicles, it concentrates the focus on measures that enable the transition of those industries to cleaner fuels or better practices and private cars don't come into the mix. This in effect, de-prioritises modal shift away from private cars. This is particularly difficult because if the UK Government does not lead on the inclusion of measures to limit private cars then a willing local leader is needed to take charge and say, "yes private vehicles will be included", and this is not something many politicians are happy to do. More must therefore be done by the UK Government to push clear and direct measures that limit private vehicles as the mode of choice into city centres, coupled with investment in the Cycling and Walking Investment Strategy to improve cycle links.

Recommendation 8

The UK Government should prioritise direct measures to limit private vehicles as the mode of choice into city centres as a central component of Clean Air Zones. In addition, they need to help local authorities set a trajectory of measures to deliver long-term continuous improvement in air quality beyond 2020.

3. Timing – the pressure for immediate success

The UK Government is under a lot of pressure to deliver on air quality targets as quickly as possible following three defeats in court over illegal levels of air pollution. This has resulted in them requiring very quick solutions which has created pressure on local authorities to invest money only where they will achieve the quickest results. Whilst this is important, it can make investment in cycling and walking less favourable in the fight against air pollution. This is because it can be a quite lengthy process to implement infrastructure that people can use to travel across a town or city by foot or by bike.

Highways England also has an expectation of local authorities that there should be investment on day one, with immediate improvements to air quality on day two. Again, this doesn't lend itself to walking and cycling programmes that take time to create change. It is one of the reasons local authorities have found it hard to engage with Highways England and why Highways England has found it difficult to spend their air quality designated fund. A range of measures is needed to tackle air quality in the long term. Both Highways England and the UK Government should therefore do more to help local authorities invest in a variety of measures to tackle air quality.

4. Funding

4.1 Fluctuating and complex funding streams

Stop – start funding is an issue in planning and implementing cycling and walking programmes. Unlike road investment, there is no long-term pot of funding for cycling and walking. What is needed is a twenty-year strategy backed by long-term funding, like the road strategies which allow cycling and walking programmes to be fully integrated into wider transport planning around roads and public transport, and continue to improve air quality even after legal limits have been achieved. The new funding available around CAZs and Clean Air Plans is welcome but still insufficient and short-term. The complexity of the funding environment because of the lack of joined up policy from central Government, is also problematic, leaving local authorities to try and synthesise the different funding streams around them.

The combination of fluctuating and complex funding streams available prevents many local authorities from being more pro-active in creating a pipeline of cycling and walking infrastructure. This is because they often do not have the resource in place to plan or the certainty they will secure the money to roll-out cycling and walking schemes. Properly funded Local Cycling and Walking Infrastructure Plans would help with this but at present many cycling and walking programmes are tagged on to road programmes to improve air quality. This is rather than being fully integrated into an infrastructure programme that can stimulate modal shift from cars to walking and cycling and ensure that traffic isn't just displaced. On top of this, there has been a reduction in revenue funding which means there is little funding to put programmes in place that help create the behaviour change to stimulate use of new infrastructure for walking and cycling.

Recommendation 9

The UK Government should provide dedicated, continuous funding and ‘over the horizon’ transparency of future funding options for walking and cycling as part of a long-term strategy that enables local authorities to prepare cycling and walking programmes that are shovel-ready in order to tackle air pollution.

4.2 Cycling and walking’s lack of revenue

A key barrier is that cycling and walking do not generate revenue in the way that car parking and bus licensing do. Whilst cycling and walking programmes result in vast public health savings, these are not immediately realised by the local authority and are not adequately incorporated in the appraisal process. Therefore, even when there is funding available, cycling and walking programmes are not always the most popular choice for local authorities that are low on resource. The evidence of the benefits of travelling actively need to be better shared with local authorities to help them make longer-term decisions to invest in these schemes.

5. Car dominance and lack of community engagement

The dominance of the car can make a movement away from private vehicles very difficult despite its adverse effects on our air quality. Many residents and businesses fear the effects that traffic restraint measures, such as road closures or taking road space away from motorised vehicles in favour of pedestrians or people on bikes, will have on their streets and businesses. We know that the majority of people (78% according to Sustrans’ Bike Life Survey) would like to see more bike lanes, even if it means taking road space away from other users; and yet when it comes to walking and cycling infrastructure on their own streets they fear change.

In order to get communities to fully support walking and cycling programmes to help improve the quality of the air they breathe we don’t just need a national awareness raising campaign but we also need to fully engage them in the process. Local authorities need a full programme of community engagement, holding tailored engagement with different communities to build capacity and work with them in collaborative design so that communities are invested in the end result.

Charities and local authorities also need to put more concerned residents in touch with other people who may have initially been against cycling or walking infrastructure on their street but have seen the positive benefits once it is in place and now support it to reassure communities. UK Government and the third sector should also share the evidence of the benefits of cycling and walking solutions to air quality to local communities in addition to local authorities. Finally, local authorities and charities need to be more vocal about road safety to try and reduce the perceptions that it is too dangerous to walk and cycle on streets to help increase uptake.

Recommendation 10

Local authorities and charities need to work closely with communities from the outset on community engagement programmes that help to increase the public's understanding of the benefits of walking and cycling on air quality.

Contact us

If you would like to know more about Sustrans' air quality work please contact:

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