



# Air pollution and health – The views of policy makers, planners, public and private sector on barriers and incentives for change



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## ABSTRACT

**Introduction:** Traffic volume and urban air quality has not improved in Scotland in recent years. The aim of this study was to investigate the barriers and incentives to reducing the risk of traffic-related air pollution and protecting physical and general wellbeing.

**Method:** Semi-structure interviews were held with professionals from the key environmental organisations involved in policy, planning, implementation and lobbying for improvements in air quality.

**Results:** The most frequent barrier identified was the lack of integrated planning between housing developments – shopping – schools – employment centres – and transport systems (e.g. roads, footpaths, cycle lanes, public transport options). The next most frequent barrier was the lack of personal or business choices that might facilitate an increase in active and public transport uptake. Almost as important was the perceived lack of understanding amongst the public about the health risks associated with air pollution, and the lack of voice for vulnerable people, particularly children.

The top three incentives for change mirrored the key barriers with proposals for subsidising public transport and coordinating services to make it a more feasible option; improve public understanding; and address the planning and infrastructure fragmentation.

**Conclusion:** A lack of progress in reducing air pollution may be related to the invisibility of the problem both in health and economic terms. There is a disconnect between planning and development priorities at a national and local level which means vehicular transport is still the most efficient and cost effective option for personal and business transport. What is needed is political commitment to align policies and use both hard (punitive) measures and soft (behaviour choice) measures to reduce traffic-related air pollution in urban areas and protect and improve health. To address this real time, linked air pollution and health impact information must be made widely available.

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## 1. Introduction

Traffic volume (Transport Scotland, 2015) and urban air quality (Ricardo, 2015) has not improved substantially in Scotland in recent years. This is despite a wealth of evidence that air pollution from traffic has a negative impact on physical health, particularly in vulnerable individuals (Hyland and Donnelly, Submitted for publication). It is hypothesised that the balance of risk between the longer term and less visible physical health impact, and the more immediate need to use vehicles for wellbeing (social, emotional and economic) (Yamazaki et al., 2005; MacKerrin and Mourato, 2009) lies in favour of meeting immediate issues.

There have been reviews of traffic management initiatives (Nural Amin, 2009) and enquiries into why progress is slow (House of Commons Environmental Audit Committee, 2015). However there is little evidence of a systematic approach to seeking and weighting the views of the people attempting to implement change. This paper provides the results of a survey of key stakeholders involved in air pollution policy development, planning, monitoring or campaigning in Scotland. The aim of this study was to investigate the barriers and incentives to reducing the risk of traffic-related air pollution and protecting physical and general wellbeing

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## 2. Method

Semi-structure interviews (Harden et al., 2004) with stakeholders were undertaken over two months as face-to-face meetings or by telephone. The stakeholders were members of a Scottish multi-agency group representing public and private sector organisations. The group is responsible to leading on the operational implementation of air quality initiatives across Scotland. The questions were piloted at meetings with a number of representatives from these organisations. Prior to the interview each interviewee was provided with an information sheet, and consent to interview was sought. The University of St Andrews Teaching and Research Ethics Committee approved the survey. The survey questions were:

- What is your agency responsibility in relation to air pollution?
- What actions has your organisation implemented to date to support a reduction in traffic related air pollution?
- What are your views on barriers to behaviour change?
- What are your views on possible incentives that might influence change?
- What would you see as the key theme to promote to reduce traffic related air pollution?

The responses analysed according to emerging themes (grounded theory approach (Crowther and Lancaster, 2009)). Responses were hand written during the interview and subsequently transcribed in an anonymised format on to survey response tables with one table for each question. A list of key words/phrases was built from the free text responses for each question. Where words/phrases were similar they were listed together as one group. If one of the words/phrases was voiced at any time by an interviewee then the word/phrase was scored once for this interview. The total responses were counted and this reflected the importance this word/phrase was considered by the interviewees to contribute to the question asked. For example, in the question relating to barriers to change the word/phrase *Integration of services/planning/infrastructure* came up in 18 of the 19 interviews.

## 3. Results

Nineteen out of a possible 22 interviews were completed over a 10-week period. Three individuals were unavailable for interview because it was not possible to contact them within the period available.

### 3.1. Agency responsibility

There was a mix of agency responsibilities amongst respondents with most being involved in strategy and policy development, either as a sole function or within the delivery of other functions (Fig. 1).

### 3.2. Traffic reduction

All organisations had undertaken some actions to support the reduction in traffic related air pollution. Most of these functions related to monitoring traffic and air quality, and actions to address local traffic movement (Fig. 2).

### 3.3. Barriers to change

There were many suggestions for what the barriers were to changing behaviour across the different sectors i.e. car users, public transport, business and fleet management. The most frequent barrier identified was the lack of integrated planning between housing developments – shopping – schools – employment centres – and transport systems (e.g. roads, footpaths, cycle lanes, public transport options).

The next most frequent barrier was the lack of personal or business choices that might facilitate an increase in active and public transport uptake. It is difficult to manage family-working-business lifestyles in a busy and competitive environment without use of a motorised vehicle.

Almost as important was the perceived lack of understanding amongst the public about the health risks associated with air pollution, and the lack of voice for vulnerable people particularly children (Fig. 3).

### 3.4. Incentives for change

The responses identifying incentives for change were very varied with no outstanding proposal. The top three mirrored the key barriers with proposals for subsidising public transport and coordinating services to make it a more feasible option; improve public understanding; and address the planning and infrastructure fragmentation (Fig. 4).

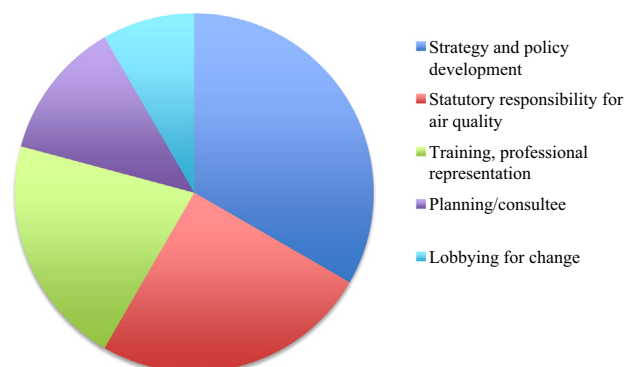


Fig. 1. Agency responsibility.

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