

# Air Quality Monitoring

These instruments measure the concentration of particulate matter pollution in the air. They are being developed for use in a project to measure the exposure of school children in Bradford to particulate matter air pollution.

We are using the data to identify behavioural changes which could reduce children's exposure, and to examine links between exposure and development of medical conditions e.g. asthma.

We have tested the devices individually, but never before measured with multiple devices simultaneously. Please feel free to give feedback / ideas for ways of working with these devices.

Disclaimer: They are prototype devices, so they still have some technical glitches 😊

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## Instructions:

- 1) Please walk to area marked by the red box identified on the map.
- 2) Walk at normal walking speed.
- 3) Keep a watch out for significant local sources of pollution – buses, tucks, people smoking.
- 4) If possible, return by a slightly different route.
- 5) Please return within 20 minutes.

Thank you for your help with testing these devices!

# Particulate matter air pollution

- Particulate matter are **tiny invisible particulates** that are in the air we breathe. They can be formed naturally, or as a result of human activities – in cities diesel vehicles are a big source.
- Increased concentrations of particulate matter has been linked to a **wide range of adverse health effects**, including asthma, cancer and cardiovascular disease. The relationship between particulate matter and health is the subject of ongoing research.
- These monitors measure **PM2.5**, which is the mass of all particulates with **diameter less than 2.5 um** (about a 20<sup>th</sup> of the width of a human hair). Small particles are the most dangerous as they can penetrate deep into the lungs.
- Globally, exposure to particulate matter air pollution is estimated to contribute the premature death of more than **3.3 million people / year**.
- **Children are more affected by air pollution** than adults, and people living in economically deprived areas are often disproportionately
- Light weight monitors hold great potential to allow us to **better quantify people's exposure to air pollution**. But they are still being tested.
- The area we are in will be in the **Leeds Clean Air Zone**, a low emission zone due to be introduced January 2020, but is currently delayed.

**Hopefully we'll see the results from the walks today, if not then I'll email them out after the meeting.**