



Case Study

ITV



Overview

EarthSense worked alongside producers at ITV Wales to deliver a programme that explored air quality on children's journeys to school taken through various types of transport.

Using mobile Zephyr® sensors placed inside backpacks, air quality data was measured and NO₂ data was provided to identify the journey that experienced the highest concentrations and was the most harmful for children.

The Challenge

Exploring the effects of air pollution on children is incredibly important as it can be detrimental to their development. As their airways are smaller, they breathe at a more rapid rate than adults so higher amounts of harmful pollutants enter their airways.

Identifying air pollution concentrations throughout a variety of journeys to school outlines how children are experiencing poor air quality in everyday life.

The Solution

After previously seeing our segment on ITV Central regarding air pollution, producers at ITV got in contact with us and informed us that they

would be making a programme that discussed air pollution for 'ITV Wales This Week'. They wanted to assess nitrogen dioxide (NO₂) concentrations experienced by children on their way to primary school in cars, buses and by cycling and walking.

This was to help them identify which journey experienced the highest levels of the pollutant and understand more on which journey was the most harmful for children.

We discussed with producers at ITV the different options for measuring pollutant levels and concluded that using Zephyr® air quality sensors would be the perfect way to measure NO₂ concentrations for each of the routes.

When experiment day came around, we put 4 Zephyr® sensors into backpacks which were worn by 4 pupils. Each child made their usual journey through cycling, walking, by bus and by car. Taking advantage of the mobile modes of the sensor and its ability to provide real-time pollutant levels allowed us to carry out the experiment as planned.

Once the children arrived at school, they were met by one of our Data Scientists who used the MyAir® web app to view and interrogate measured sensor data. Using MyAir® provided quantifiable NO₂ data that could be easily viewed on a map to identify the journey that experienced the highest levels of the pollutant. Whilst the data was being analysed, school

children had an assembly with ITV presenter Louise Elliott, who taught them about air quality and the impacts that harmful pollutants and gases can have on their health.

Outcomes

Once the Zephyr® sensors collated NO₂ levels, the results of the experiment were revealed. From door-to-door, the average NO₂ concentrations for the different routes were walking – 51 ug/m³; bus – 72ug/m³; cycling - 86ug/m³; car – 86ug/m³.

We then discussed advantages and disadvantages of each method which helped us to conclude that the car journey was the most dangerous method of transport for children to get to school. Once our research had been carried out, ITV Wales This Week was broadcasted on ITV Wales to show people the impacts of poor air quality on children.

Get in Touch

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