Air quality in Lancashire results from the 2015 index of multiple deprivation

Introduction

This article considers air quality and emission results for the Lancashire 14-authority area. This encompasses the 12-districts that are within the Lancashire County Council area, and the two unitary authorities of Blackburn with Darwen and Blackpool.

A combined indicator of air quality for small local areas was developed as part of the English Indices of Deprivation and the results are available for the 941 lower super output area level (LSOAs) in the Lancashire-14 area. The air quality indicator is one of the sub-indicators that forms part of the living environment deprivation domain.

The air quality indicator is a modelled estimate of the concentration of the four pollutants: nitrogen dioxide, benzene, sulphur dioxide and particulates. Air quality data for 2012 on a 1km grid were obtained from the UK Air Information Resource. For each pollutant, the atmospheric concentration is related to a guideline or standard value. Please see the national atmospheric emissions inventory website for details of various air pollutants.

An index value of 1 is equivalent to the national standard for that pollutant. The index values for the four pollutants were then summed to create an overall air quality index score for the LSOA. Values greater than 1.0 are deemed to represent an unsafe concentration of the pollutant in question. Values of less than 1.0 indicate that the pollutant is below the objective set and thus “safe”. The combined air quality figure which represents the overall quality score or ratio for each LSOA is derived simply by the addition of the scores for each of the four pollutants. A higher value implies a poorer overall air quality though there is no stated value above which the Combined Air Quality Indicator itself is said to indicate an unsafe concentration of pollutants.

The Lancashire Results

Many urban areas in Lancashire suffer to some degree from poorer air quality than other parts of the county though it is clearly much less of an issue in the coastal towns of Lancaster/Morecambe, Fleetwood, Lytham St Annes and Blackpool, presumably due in part to the direction of the prevailing winds.

Figure 1. Combined Air Quality Indicator (2015 Index of Deprivation)
Most Lancashire areas recorded good overall air quality results. A total of 20%, 192 of the 941 LSOAs in the Lancashire-14 area recorded a combined air quality result in excess of 1.00, although this was double the number from the previous (2010) indices. The highest recorded score in Lancashire (1.31 in Hyndburn 002C) is significantly below the worst level recorded in the country (2.301). No areas of Lancashire experience air pollution levels anything like those recorded in the centres of London and other larger cities. Of the 100 LSOAs with the highest indicator scores all but 4 are in London, but 2 of these, the top 2, are near the centre of Scunthorpe. Of the 200 LSOAs with the next highest indicator scores, all but 34 are in London. There are some parts of the county where the figures are not encouraging but the combined air quality Indicator reveals that out of 32,845 LSOAs in England, the worst performing Lancashire LSOA was in 4,838th position.

The LSOA in Hyndburn mentioned above (002C) is located between Church and Clayton-le Moors. It straddles the M65 motorway, being just east of Junction 7. It lies at the centre of a large extent of areas with an indicator score of more than 1. The area takes in most of the towns in Hyndburn also including Rishton, Altham, Oswaldtwistle, parts of Great Harwood and most of Accrington. The area is largely urban, but not exclusively so. The key feature is perhaps that the M65 runs through the middle of it. To the west of Hyndburn the area extends into the built-up urban parts of Blackburn, and continues south into Darwen. To the east of Hyndburn there is a gap where the indicator score falls below 1 into the 2nd band then much of Burnley and Nelson further east along the M65 scores over 1. Other areas with an indicator score over 1 lie within or adjacent to the built up areas of Preston, Bamber Bridge (in this case extending south to Whittle-le-Woods), Chorley, Skelmersdale, Shevington Vale and Haslingden. The sole LSOA in Fylde with a score above 1 (Fylde 007E), that is away from the true urban areas, covers part of the Warton aerodrome. Other high scoring areas may all be on account of traffic. These are near the western end of the M65, its junction with the M6, the triangle formed by these 2 roads and the M61, an area south of the M58, the M6/M55 junction zone and at the southern sections of the M6 and M61 where they leave Lancashire.

Much of Lytham, Fleetwood, Preesall and Bolton-le-Sands are in the lowest scoring band while much of Blackpool, St Annes, Tarleton and Clitheroe are in the second. With the exception of Clitheroe, these are all near the coast.

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