

**\*\*STRICT EMBARGO 00:01 THURSDAY 16 DECEMBER 2010\*\***

## **Increased mobile phone masts match increased numbers of local births**

*New mathematics research has shown that there is a direct correlation between the prevalence of mobile phone transmitter masts and the number of births in the local population.*

The research was undertaken by mathematician Matt Parker, the London Mathematical Society Popular Lecturer 2010, using publicly available data. "I have shown that the locations of mobile phone towers are directly linked with the local number of births each year. In fact, the relationship is so strong that in areas with above normal numbers of mobile phone towers, I can predict how many more births above the national average there will be."

The findings show that for every additional mobile phone base station in an area, the number of births goes up by an average of 17.6 babies. Swansea has 149 mobile phone stations and it had 2581 births in 2009 while Swindon has 10 more masts (a total of 159) and had 2759 births, which is 178 more: almost exactly the expected 17.6 births per tower. This trend holds right across the United Kingdom. Dundee City has 120 masts and 1768 births, while Newport's 130 masts match with a population increase of 179 to 2759.

Mr Parker obtained mobile phone base station information for 166 counties from the Ofcom "Sitefinder" database, which gives the numbers and types of stations across the United Kingdom. He then compared this data with the live birth statistics for England and Wales, Scotland and Northern Ireland using each nation's 2009 birth statistics. This showed a precise correlation with an accuracy of 98.1% out of 100. He said "This shows that the correlation I have discovered is definitely statistically significant."

Matt Parker matched the county mobile transmitter masts with the number of births in that county and then computed a regression trend-line for the data. "This is a measure of how closely related the data is" he explained "In this case the correlation coefficient - a measure of how close on average the data matches - is 0.9806 on a scale of 0 to 1, with 1 being a perfect match."

"These are indisputable mathematical findings and they need to be looked at carefully. Particularly as these kids are going to grow up, get mobile phones and more towers will need to be built."

## **Contact**

Matt Parker

mathsman@gmail.com

## **Editors notes**

The the full data set in Excel spreadsheet form is available on request.

## **Data**

Ofcom "Sitefinder" data

<http://stakeholders.ofcom.org.uk/sitefinder/table-of-totals>

England and Wales Live Birth data

<http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14408>

Scotland Live Birth data

<http://www.gro-scotland.gov.uk/statistics/theme/vital-events/general/ref-tables/2009/births.html>

Northern Ireland Live Birth data

<http://www.nisra.gov.uk/demography/default.asp8.htm>

## **Statistical Significance**

### ***Linear Regression***

A line of "linear graph" is an attempt to match two data sets with a linear function, represented as a straight line on a graph. The closer the data is to this line, the stronger the underlying relationship. A "correlation coefficient" measures the average distance the data is from the line and gives this as a value from 0 to 1, with 1 being an exact match. This data has a correlation coefficient of 0.9806, meaning a very strong relationship.

### ***T-test***

Data is subjected to a "T-test" to evaluate how significant the findings are. This gives a "p-value" between 0 and 1, with values below 0.5 indicating significance. This data has a p-value of 0.0000003 meaning that it is a highly significant correlation.