

# How Airports Affect Their Surroundings in London

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## Abstract

As a world-leading global city, several airports are serving London right now. But only two of them are in Greater London, one of them is Heathrow Airport, it is known as the second busiest airport in the world and an aviation hub, handled 75.7 million passengers in 2016, a 1.0% increase from 2015.(Civil Aviation Authority, 2016) It is predicted that this number will continuously increase in the next couple of years. At present, although it has been a really huge airport which has two parallel east-west runways along with four operational terminals, on 25 October 2016, a new northwest runway and terminal was approved by the government after a long-term argument. Since the government certainly has its long-term view or strategy about this expansion, but when we stand from a distinctive point of view, like local residents, the construction of new runway or terminal would have bad influence on many aspects. So next I would like to use several graphs and information to demonstrate how airports may affect its surrounding areas or even the whole city using Heathrow Airport as an example.

## Keywords

**Airport; Surrounding Impact; Heathrow Airport.**

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## 1. Introduction

Heathrow airport's history can be traced back to 1929 since it was only a small airfield at that time. It was surrounded by farms, market gardens and orchards. Interestingly, the first opportunity for Heathrow Airport to develop into a modern airport is the war since 1944. It was stated to be for long-distance military aircraft bound for the Far East. Unfortunately, World War II had ended when it was nearly finished. Yet it was not put into use as military functions, the government planned to develop the airport as a civil airport. It was firstly opened to citizens as 'Heathrow Airport' in 1966 after a masterplan adopted. Heathrow lies 14 miles west of central London where is in London Borough of Hillingdon.

## 2. Heathrow and T5 affects

Over the years, Heathrow Airport has played an important role in Hillingdon's economy because large number of people is brought to this area. However, since around 2005, people who lived here felt a sense of risk due to the impact that Heathrow Airport has had on local health and social care economy. So they want to reach a balance between the benefits and costs of having the world's busiest airport located in the Borough. They had several concerns about this. Firstly is a research provided by Local Strategic Partnership (LSP), it found that Heathrow creates about 123,000 jobs within the region (till 2005), approximately 89,000 of these jobs are within the boundaries of Hillingdon Council. However, this same research estimates that Hillingdon residents take only 14,100 (about 16%) of these 89,000 jobs (Roger Tym & Partners Final Report, 2004). And also, at that time, the fifth terminal was being built at Heathrow. They believed that this would significantly increase Heathrow's passengers so that the burden placed on health and social services providers is likely to increase. They

also considered those population in Heathrow will increase the number of asylum seekers and refugees in Hillingdon potentially. All of these elements would put substantial burden on local government and infrastructures. Apart from local government's point of view, environmental issues like noise and air pollution should also be strictly controlled as well. To be more specific, any loud noise should be prevented, including night flights, sometimes removal of night flights is needed, also certain steps should be taken as the new terminal will result in increases in air pollutants around Heathrow because of more aircraft movements and larger planes. From the graph above, it is obvious that the average annual concentration of NO<sub>2</sub>(which is one of air pollutants) around Heathrow Airport was much higher than other relatively suburban places like it due to the distinctive colour change. In addition, the proposed terminal is in the green belt and would adversely affect Colne Valley Park, although remedial work is promised to reduce impact and improve the park. There would also be ecological damage. The building would be visually intrusive but the terminal would be of light elegant construction which would offset this. Two rivers which pass through the site in culverts will be diverted round the western edge of the site. This was a complex scheme, which involved not only the re-routing of the two rivers but also the realignment of the A3044 dual carriageway and Western Perimeter Road. The challenge was complicated by strict time constraints and the proximity of the works to local residents. Further restrictions to site activities resulted from the overhead flight path from both runways. 95% of the diverted rivers were placed in two open man-made channels 6 kilometres (3.7 mi) in length, compared with only 50% of the original rivers which were conveyed beneath the runways in culverts. The Twin Rivers Diversion scheme achieved a Civil Engineering Environmental Quality (CEEQUAL) Award for its ability to maintain high environmental standards and quality during design and construction of the project (IEMA, 2008). So, the process of construction of Heathrow Terminal 5 had met many barriers and trouble, appropriate actions had taken place in this area to prevent serious urban issues emergence.

## Average Annual Concentration of NO<sub>2</sub> in Greater London in 2013

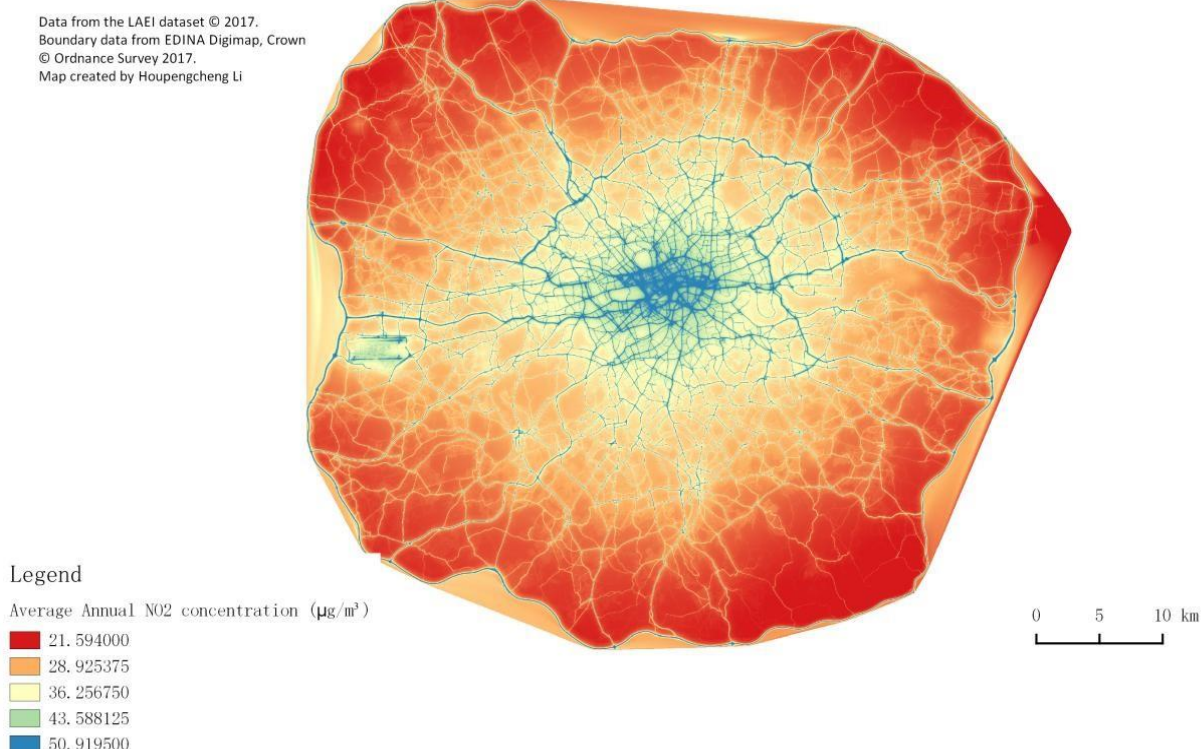


Figure 1. Average annual concentration of NO<sub>2</sub> in Greater London, 2013

Table 1. How expansion of Heathrow will benefit UK economy

Generated user benefit	+ £9 billion
Producer benefit	+ £5 billion
Government revenue	+ £3 billion
Climate costs	- £4.8 billion
Building costs	- £6.8 to 7.6 billion
Tourism	Positive, but not quantified
Other costs/benefits	- £0.3 billion
Total net economic benefit	+ £5.1 to 5.9 billion

### 3. Potential Influence by 3rd Runway

Nevertheless, good things did not last long. Recently, as I mentioned above, Heathrow will get a third runway after the government gave the go ahead on 25 October 2016, paving the way for hundreds of thousands more flights a year at the airport in west London. This triggered a series of controversies from societies. In the first place, the official appeal for expanding Heathrow is to enhance the economic growth of the UK. As an important aviation hub, Heathrow can attract big numbers of transfer passengers overseas at high frequencies. So the government claimed that this helps London and the South East compete with other European cities for business investment, and then creates larger profits for the UK. Also, one other significant factor is that Heathrow's runway area now operating at around 99% capacity, which increases delays when flights are disrupted, and risks competing European airports gaining destinations at Heathrow's expense (Department of Transport, 2009). This can be fatal to Heathrow's connectivity. So, building a third runway is extremely urgent in order to relieve this situation. In addition, construction was estimated to provide up to 60,000 jobs. Operating the expanded Heathrow was expected to create up to 8,000 new jobs at Heathrow by 2030, with multiplier benefits to West London (Department of Transport, 2009). Not long from the approval, the Guardian interviewed people who living in Harmondsworth, Sipson and Harlington and talked about how they would be affected. Some people really support the government's strategy although their houses would be under compulsory purchase if the runway goes ahead. Some claimed that a third runway means long term prospects for employment, though it would be built over their houses but they may get more money for it because of the compulsory buyout. These people are all relatively elder, so more young people have complains with this decision. Some thought with the potential compulsory purchase of their village, they are not worth enough to enable them to buy another house inside the M25, and they may even be forced to move out of London. Most of them believed the expansion of Heathrow only has negative aspects to them without any positives: losses of homes, increase in travel expenses, losses of green land and local schools and so on, the local community will disappear with this kind of construction.

Actually, in my opinion, the site selection of Heathrow Airport is a mistake because such a modern major international aviation hub should not be located in a populated area without any concerns. Also, building an airport away from a population centre would help reduce the cost of noise and air pollution to local residents. However, right now this issue rises to country level because without certain expansion, the UK will have an infrastructure bottleneck, which could damage London's competitive advantage and also in fact, increasing the capacity of Heathrow is the cheapest and most effective way to relieve such a problem. So the government had this decision with deliberation and weighed the advantages and disadvantages to minimise their losses.

# London Borough Population in 2011

Data from nomis, Crown © 2017.  
 Boundary data from EDINA Digimap, Crown © Ordnance Survey 2017.  
 Map created by Houpengcheng Li

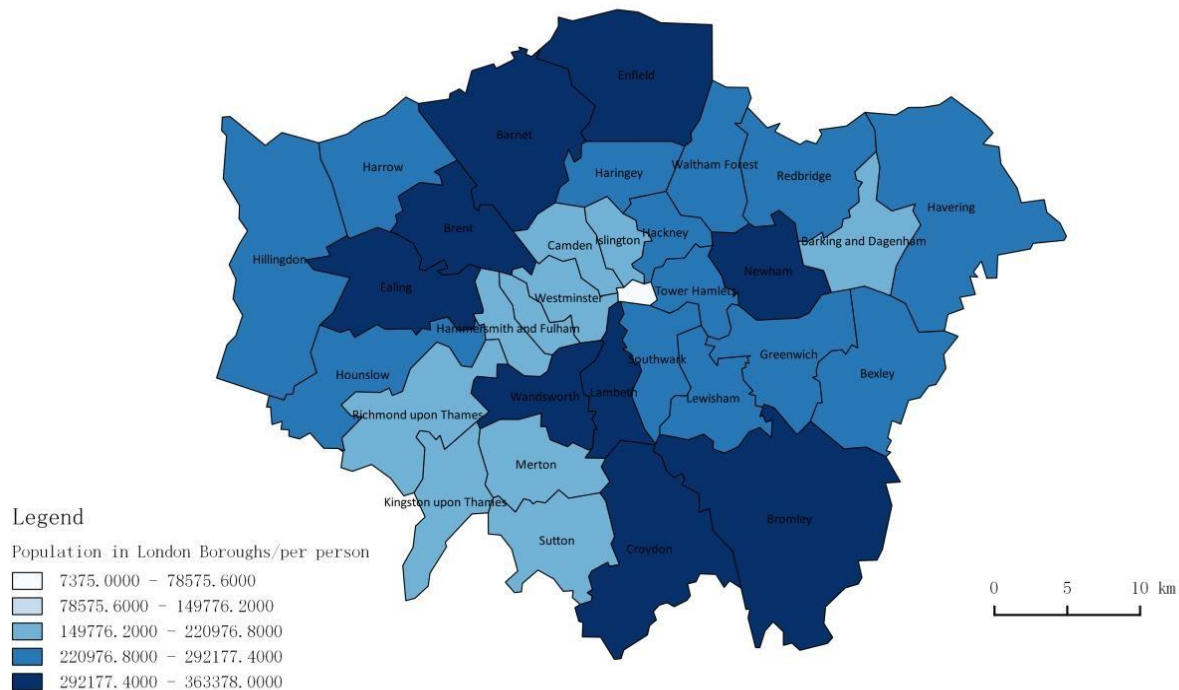


Figure 2. London Borough Population, 2011 (London Borough of Hillingdon is the westernmost one)

## References

- [1] "Aircraft and passenger traffic data from UK airports". UK Civil Aviation Authority. 11 March 2017. Retrieved 11 March 2016.
- [2] Roger Tym & Partners Final Report – The Impacts of Heathrow Airport on Hillingdon – Executive Summary. May 2004.
- [3] IEMA Website – Sustainable Construction at Terminal 5. Retrieved 3 December 2008 "Transport Secretary's statement to the House of Commons, 15th January 2009".
- [4] Department of Transport. Archived from the original on 6 March 2009. Retrieved 2009-01-16.
- [5] Wikipedia entry: Heathrow Airport, Heathrow Terminal 5, Expansion of Heathrow Airport <https://www.theguardian.com/environment/2016/oct/25/local-residents-on-heathrow-third-runway-kids-love-the-planes>.
- [6] <https://www.theguardian.com/uk/2001/nov/21/transport.publicservices>
- [7] <https://www.economicshelp.org/blog/6083/economics/pros-and-cons-of-heathrow-expansion/>