# Week 1 Commencing 16th January

### Progress Report

During this week, I confined the problem to its basics in order to address it in manageable/progressive chunks. So essentially I made one big problem into smaller, more approachable ones. The smaller problems are outlined below.

* What algorithms will be involved
* How will measures of pollution be made and is the data accessible
* What is currently out there and what methods have they deployed

Through the above questions and some probing by my supervisor during our meeting, I came across the following information.

* My assumption that Google’s traffic layer API could be integrated was incorrect, Google’s API only provides a graphical representation, which does not allow me to make calculations on traffic density as intended.
* Mobile GPS data is very inaccessible for security reasons and certainly is not free as I found out. There are many security implications surrounding it which make it inaccessible.
* There is a possibility of using an alternative method implemented by Bing/Microsoft which provides traffic data by location, but it’s accuracy and workability are still under questioning.
* There is an existing APP named CityAir by Kings College London who has implemented the least polluted route path finder
* I made contact with Kings College London who kindly explained their solution to me
* I learnt about particular algorithms which opened up my thinking towards what is do-able, how the application could work and what may be the most efficient approach

What algorithm design will I use to path find?

* Researched algorithms: A\*, Dijkstra’s,

What API will be used?

* Discovered that Google API will not work. Bing/Microsoft may have an alternative solution which is undergoing investigation.