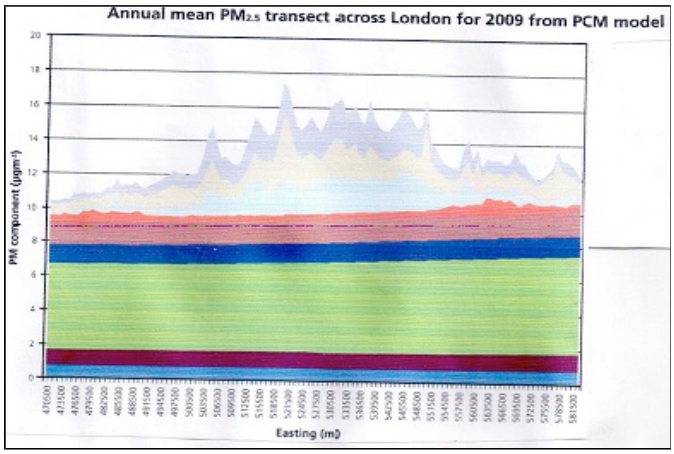
Attachment 10

SOURCES OF PM2.5

COMPONENTS OF PM2.5,THEIR SOURCE AND FUTURE PROJECTIONS

The figure below shows a west to east traverse of 111 km. across London from Henly to Southend-on-Sea giving the Annual Mean PM2.5 concentration and the breakdown of components.
It shows a remarkably uniform "background" concentration between 10-12 ug/m^3 with little direct urban traffic contribution at either extremity. Towards central London, the mean concentration increases to between 14-16 ug/m^3, the increase mainly traffic related, suggesting a 30-40 % contribution to the overall PM2.5 mean.
The PM2.5 values for Village road, though scattered, suggest a "background" concentration of 8.3 ug/m^3 (corresponding to zero traffic flow) rising to 11.5 ug/m^3 for a traffic flow of 600 vehicles per hour, suggesting a similar traffic-related contribution of 30-40%.



CONTRIBUTIONS AND PROJECTIONS

The Table below taken from (1) shows the contributions to annual mean PM2.5 in the UK in 2009 and a projection to 2020 indicating a 15% reduction.

Component	2009	2020
sea salt	0.67	0.67
residual	1	1
secondary inorganic aerosol	4.05	3.34
secondary organic aerosol	0.86	0.86
regional primary	1.14	0.8
rural dust	0.51	0.51
urban dust	0.62	0.62
point source	0.07	0.06
non-traffic area sources	1.02	0.78
traffic area sources	0.75	0.38
Total	**10.69**	**9.02**

(1) Fine Particulate Matter(PM2.5) in the United Kingdom, Air Quality Expert Group, Prepared for Department for Environment,Food and Rural Affairs, Scottish Executive;Welsh Government, and Department of the Environment in Northern Ireland (2012); http://www.defra.gov.uk/environment/quality/air/