

## Note on HGV & LDV emissions

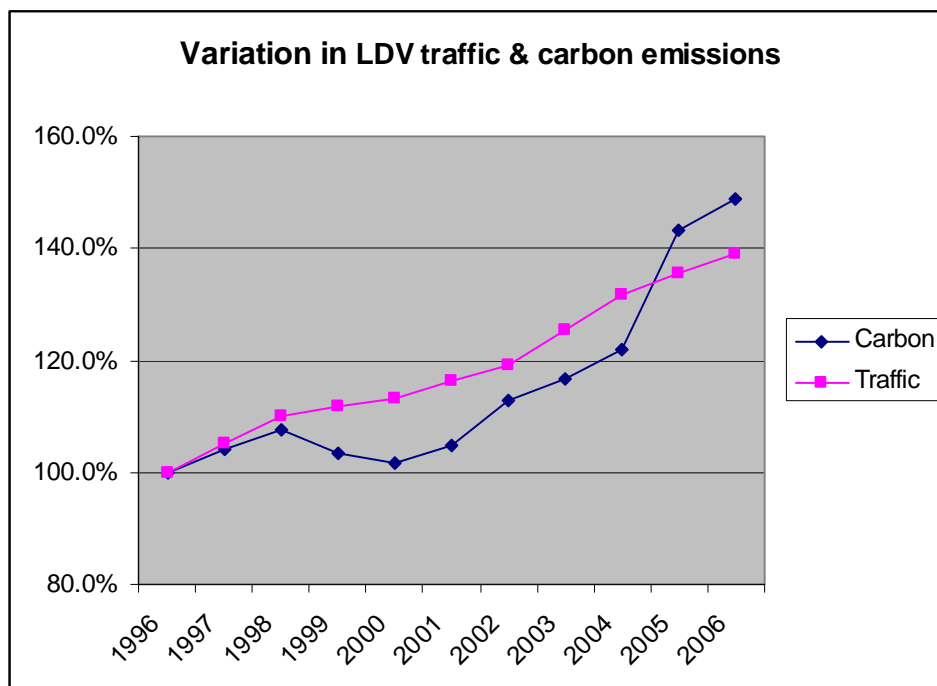
Keith Buchan, MTRU, 11<sup>th</sup> November 2008

The UK National Atmospheric Emissions Inventory (NAEI) is based on the total amount of fuel (petrol and diesel) used by transport. This figure is fairly robust and provides a “top down” total.

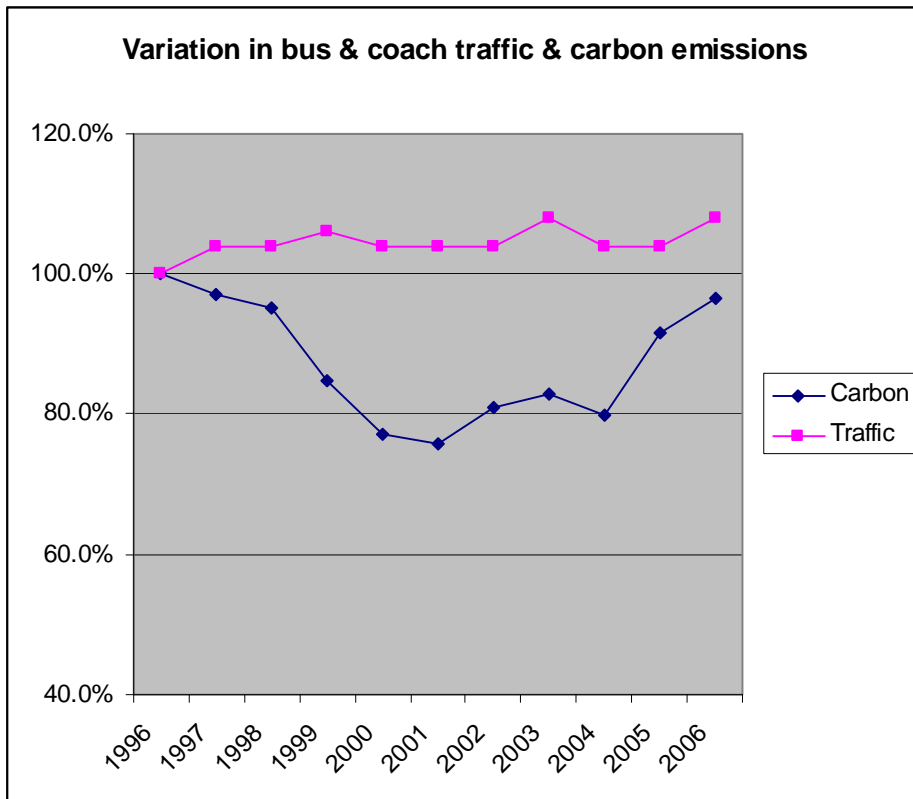
NAEI then produce another estimate, using a “bottom up” approach. This calculates the fuel used by different vehicle types using traffic counts and fuel consumption figures. For HGVs consumption is based on a survey, while for light goods vehicles, buses and coaches, this is based on manufacturers’ averages.

The above process results in a figure which is often not the same as the top down total. To adjust the figures so that they meet the correct national total, the amounts for the categories are factored up or down.

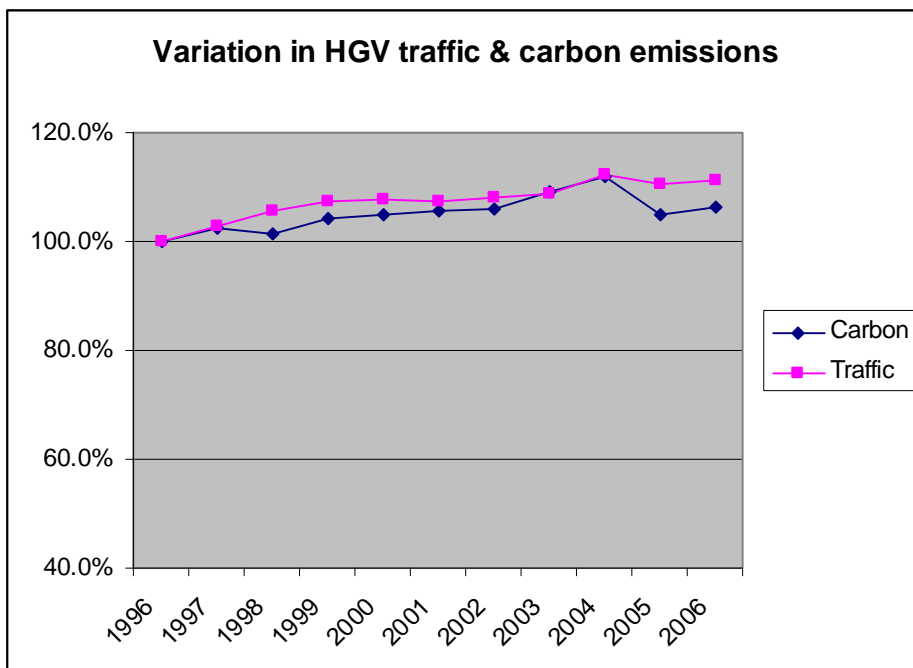
However, the factoring for non-car diesel use is only applied to the LDV and bus/coach categories, because the HGV estimate is held to be fixed. This magnifies the impact of the adjustment factor and appears to have resulted in an underestimate of HGV carbon emissions, and an overestimate of LDV, bus and coach emissions. This is important in the design of transport policies which seek to reduce carbon emissions. For example, in 2006 this means that HGV emissions could be shown as 12% lower than they should be, with LDVs 16% too high<sup>1</sup>. To illustrate the effect, graphs have been produced for LDVs and buses which show how the carbon emissions vary significantly and not in line with traffic. This is particularly strong between 2004 and 2006.



<sup>1</sup> This is calculated by comparing the original 2005 figures (old method) which did not take the new HGV consumption figures into account, with the new method figures in the current NAEI spreadsheet.



For comparison, the HGV figures are better related to traffic, as shown below.



Source for all the above charts: National Atmospheric Emissions Inventory 2006 website Databank

Further work should be undertaken to identify the precise extent of the variations, and, for example, figures produced which simply factored up all categories equally to meet the desired total on a consistent basis.