

Air Quality Impact  
Sainsbury's Planning Application UTT/1451/09/FUL  
Revised Air Quality Predictions (12260962/001/L03JG)

The revised Air Quality Assessment provided by the applicant highlights the problem associated with increases in road traffic in the central parts of Saffron Walden, in particular the annual mean levels of nitrogen dioxide (NO<sub>2</sub>) at the Air Quality Management Area at the junction of Thaxted Road and Radwinter Road, at the London Road junction with Debden Road, and along Mount Pleasant Road and Peaslands Road.

The revised report contains two scenarios for consideration, the first based on the original Transport Assessment but with changes concerning trip rates and the second uses Essex CC trip rates with 'more conservative' assumptions about trip rates. In both cases an error in the original baseline flow has been rectified, and newly published background pollution concentration maps and emission factors have been used that weren't available when the original assessment was made.

The predicted air quality data for 2011 is produced using a computer model which is scaled to align the results with the level anticipated at the Council's real time monitoring station at the Fire Station site in Hill Street in 2011. The report's author acknowledges that the levels which the model predicts for the Council's diffusion tube (DT) sites are lower, in my opinion substantially lower, than the actual levels, and the explanation is that there is an absence of road traffic data for a number of key areas, but it must also be added that computer dispersion models have a difficulty in calculating pollution levels from idling vehicles as research into the development of idling emissions factors is ongoing but is not yet available (LAQM.TG(09) A3.45, A2.18).

The air quality objective for nitrogen dioxide is an annual mean level below 40 µg/m<sup>3</sup>, levels above this objective require Council's to carry out a Detailed Assessment which if it confirms the predictions would lead to the declaration of an Air Quality Management Area and the production of a detailed Action Plan to reduce levels to below the 40 µg/m<sup>3</sup> standard. In Saffron Walden there are three Air Quality Management Areas and an Action Plan was produced and approved in September 2009 but the proposed measures are unlikely to have a substantial downward influence on nitrogen dioxide levels by 2011.

The most important data is the modelled increase or decrease in NO<sub>2</sub> caused by the development, which when added to the levels anticipated at the Council's DT sites in 2011 (scaled using Government produced factors (LAQM TG(09) Box 2.1)), gives a better picture of the likely levels at these locations with and without the development. The results of using this method are shown in Table 1, and shows that levels at the Thaxted Road/Radwinter Road junction and Debden Road remain at or above the Air Quality Objective.

It should also be noted that the largest predicted increases are along Mount Pleasant Road and Peaslands Road (ranging from 1.17 to 3.9 µg/m<sup>3</sup>) but as we have only just started monitoring at the junction of Mount Pleasant Road with Debden Road it is not possible to estimate levels in 2011 with or without the development.

The development proposals include improvements to three road junctions, Thaxted Road/Radwinter Road, Debden Road/Mount Pleasant Road, and Peaslands Road/Thaxted Road, and these are the locations likely to experience increased congestion as a result of the proposals. The revised report suggests that improvements to the junction of Thaxted Road with Radwinter Road will improve traffic flow and reduce congestion which 'will be of benefit to local air quality', and in Debden Road the increase would be '1% or 2%'.

Table 2 reproduces the Annual Average Hourly Flows (AAHT) traffic data used in the modelling which gives a picture of the predicted increased traffic along some of these routes to the development.

In conclusion this development is predicted to increase nitrogen dioxide levels in 2011 to a level at or very close to the  $40 \mu\text{g}/\text{m}^3$  objective at an area of existing concern at the Debden Road/London Road Junction, and within the existing AQMA (Thaxted Road/Radwinter Road) the modelling suggests a minor reduction in levels but that the  $40 \mu\text{g}/\text{m}^3$  objective will still be exceeded.

Levels of nitrogen dioxide are also predicted to increase significantly along the length of Mount Pleasant Road and Peaslands Road and along parts of Thaxted Road near to the development. I have particular concerns over the consequences of queuing traffic at the proposed traffic lights at the crossroads at the Borough Lane/Debden Road junction and at the junction with Thaxted Road, and with congestion caused by parked cars along this route which, when taken together, are likely to cause localised increases in nitrogen dioxide close to the  $40 \mu\text{g}/\text{m}^3$  objective.

Planning Policy Statement 23 'Planning and Pollution Control' will be relevant to this development and in particular the following extract from Appendix A

*The following matters (not in any order of importance) should be considered in the preparation of development plan documents and may also be material in the consideration of individual planning applications where pollution considerations arise:*

*– the existing, and likely future, air quality in an area, including any Air Quality Management Areas (AQMAs) or other areas where air quality is likely to be poor (including the consideration of cumulative impacts of a number of smaller developments on air quality, and the impact of development proposals in rural areas with low existing levels of background air pollution). The findings of air quality reviews and assessments will be important in the consideration of local air pollution problems and the siting of certain types of development;*

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