

Air Quality—Armagh

The Airshed conducted an air quality impact assessment (AQIA) on behalf of Turkington Holdings for a new Tesco store in Armagh town centre. Armagh City and District Council (ACDC) had previously declared a local air quality management area because ambient levels of pollution in the town centre along the A5 corridor currently exceed the EC annual mean Limit Value for NO₂.

The study area and methodology were agreed with ACDC in advance. The Airshed worked closely with the transport consultants to ensure there was sufficiently detailed information on traffic flows, traffic speeds and fleet composition to support a detailed assessment.

Atmospheric dispersion was predicted using ADMS Roads 3 and five years of hourly sequential meteorological data from Aldergrove Airport. A detailed model sensitivity analysis was conducted to consider the effects of meteorological variability and surface roughness on dispersion. The assessment also considered the effects of increased emissions during peak hours caused by slow moving traffic.

Four traffic emission Scenarios were modelled to assess existing air quality and future conditions likely to arise from the proposed development.

- 2013 – Baseline traffic
- 2013 – Baseline with Scheme
- 2023 - Baseline
- 2023 - Baseline with Scheme

The assessment assumed that background air pollution levels within the study area would not reduce after 2012 and ignored any likely reduction in emissions due to the implementation of stricter vehicle emission standards.

The results from the dispersion model were compared with the local authority and Department of Environment air pollution monitoring in the area, to validate the predictions. This indicated that the model results were likely to be conservative.

The worst case annual mean NO₂ was predicted to increase by ~7–8%, assuming all development traffic was present in 2013, and assuming 2012 fleet composition and 2012 background air quality. The overall significance of the predicted increase was of slight adverse significance, taking account of the European Limit Value of 40ug/m³.

The report was submitted to and accepted by ACDC.

