

10 New Local Developments

10.1 Impact of new local developments on air quality

Since the publication of City of York Council's Update and Screening Assessment in May 2004, the authority has received and approved a number of planning applications for retail, road and mixed use developments within the city. The following chapter of the Progress Report outlines the measures in place to ensure air quality is assessed and discusses the expected impact on air quality of the developments that have obtained planning approval. Applications that are currently at the 'pre-planning' stage or that have entered the planning process but have not yet been approved are discussed in Chapter 12 (Section 12.2).

10.2 Expected impact of recently granted planning approvals

10.2.1 Foss Basin Air Quality Study

Following the declaration of the AQMA within York, City of York Council received a large number of planning applications for developments in the Foss Basin area to the east of the city. Although it was thought that individually these developments would have only a small impact on air quality, when considered collectively it was acknowledged that they may significantly increase pollution levels both within the current AQMA and the surrounding area. This raised three main areas of concern:

- a) The council has a duty to improve air quality within the AQMA. Further development in the city may impact on the Council's ability to deliver improvements in air quality.
- b) If developments proceed without adequate mitigation measures being put in place, it may have been necessary to extend the AQMA to include further properties.
- c) Air quality is a recognised material consideration in the planning process. Any further deterioration of air quality in the AQMA could form grounds for the rejection of planning applications.

In order for City of York Council to address the above issues along side all other material considerations, there was a need to fully understand the air quality implications of the proposed developments with the Foss Basin area.

In July 2003, Jacobs traffic consultants were appointed to undertake a transport study of the implications of all the known development proposals in the Foss Basin area of the city. The committed (i.e. sites with planning consent which have not yet been developed) and planned (i.e. potential development sites) development proposals that were considered as part of this transport study are detailed in Table 14 below.

Table 14 (a)(b): Development sites included in the Jacobs modelling
 (a) schemes with planning consent (at time of study) (b) recent and future applications (at time of study)

Table 14a. Schemes with planning consent

Number	Site name	Location	Scale of Development
1	Persimmon Homes	NW side of Layerthorpe	148 homes 4869 sq m offices
2	Dransfield	Frog Hall Pub	160 homes
3	Sainsburys	Foss Bank	6272 sq m retail extension
4	Foss Islands Road Retail Park	Foss Islands Road	12263 sq m retail units 372 sq m restaurant
5	Council Depot relocation	James Street	Assume similar impact as existing depot on Foss Islands Road
6	Cala Homes	N of Lawrence Street	100 homes

14b. Recent and Future applications

Number	Site Name	Location	Scale of Development
7	Monks Cross	N of Malton Road	100,000 sq m offices
8	Transco	S of Heworth Green	225 homes 2400 sq m offices
9	Coppergate Centre	Tower St / Picadilly	Assume neutral impact on the highway network
10	Navigation Road	Navigation Rd - Former bus depot	Assume neutral impact on the highway network
11	Sainsburys 2	Foss Bank	8,605 sq m food retail
12	Hungate	Peasholme Green	720 homes 11790 sq m offices 6750 sq m commercial 1075 sq m leisure
13	Foss Islands Road Retail Park 2	Foss Islands Road	7618 sq m
14	Heworth Croft	Heworth Green	205 homes
15	Barbican	Paragon Street	178 homes Hotel/nightclub/swimming pool

The main results of the traffic assessment of the Foss Basin Area of the city were as follows:

- There would be a significant impact on the traffic network caused by those developments which had already been approved/ committed at the time of the study.
- To accommodate all the additional proposed developments the construction of both the James Street Link phase 1 and James Street Link phase 2 would be required to enable the existing junctions to accommodate the development traffic. This is of particular importance at Peasholme Green, situated towards the north-east of the city centre.
- Even with the James Street link in place the highway network around the Foss Basin will become saturated at peak hours. This will result in peak spreading and traffic congestion over a wider geographical area.
- Traffic flows in existing air quality 'hotspots' will intensify (Foss Islands Road, Gillygate and Bishopgate Street) and potential new 'hotspots' could arise on Barbican Road and The Stonebow where currently nitrogen dioxide concentrations are already approaching the objective level.

In order to deal with the predicted saturation of the network at peak times, a mitigation strategy for the Foss Basin has been developed. The key elements of this strategy are the provision of 'insulated' bus routes to encourage a greater use of public transport and measures to encourage an increase in the levels of cycling and use of powered two wheelers.

The primary aim of the mitigation strategy is to facilitate the movement of traffic in peak hours. In its current form it is unlikely to offer any overall improvement in air quality although it will result in some redistribution of congestion 'hotspots'. This could present some opportunities to relocate traffic queues in area where there are fewer opportunities for public exposure to pollutants.

Following completion of the Jacobs traffic study, Cambridge Environmental Research Consultants (CERC) were commissioned by City of York Council to undertake air quality modelling to investigate the impact of the proposed developments on air quality using the ADMS-Urban air quality model. Details of this study can be found in the following report : 'Air Quality Modelling for York Foss Basin, Final Report, CERC, 5th February 2004'.

The air quality modelling results suggested that the increase in traffic flows generated as a result of the various developments within the Foss Basin would not result in a considerable increase in pollution levels when compared with the base case scenario. There were thought to be two possible explanations for this :

- a) Any increase in pollutant concentrations due to additional development traffic is offset by a reduction in traffic emission factors assumed in the model (i.e. the introduction of cleaner vehicles in future years). The different development scenarios modelled thus have little impact on the predicted areas of exceedence of the Air Quality Objectives.
- b) In general, the increases in traffic flows arising as a result of the development are below those that would be expected to trigger significant increases in pollutant concentration (according to DEFRA guidance LAQM.TG(03)). Although two areas within the study areas were shown to experience slight increases in pollutant concentration with all the developments in place, the annual average concentrations of NO₂ at those two locations were predicted to remain below the objective level of 40µg/m³

Since the results of the over-arching Foss Basin Air Quality Study did not indicate any significant increase in pollution levels with all developments in place, the council has, to date, not refused any of the proposed developments on air quality grounds.

To date the following have been granted approval :

- Monks Cross
- Transco
- Foss Islands Road Retail Park
- Heworth Croft
- Barbican

These developments shall be included in all additional modelling work carried out for future review and assessment's of air quality in York.

The following are still outstanding :

- Coppergate Centre
- Navigation Road
- Sainsburys 2
- Hungate

In addition to the over-arching study, each application has been accompanied by its own Environmental Impact Assessment which can be provided on request.

Since traffic is the main cause of pollution in York¹, should any of the assumptions made about future developments and traffic within the city of York be revised to the extent that they differ significantly from original proposals outlined in the Foss Basin Report, it is likely that additional air quality impact assessments will be carried out to reflect this.

¹ Improving Air Quality in York : Action Plan for reducing nitrogen dioxide concentrations in York – Final Document, City of York Council, July 2004.

Any further information submitted to City of York Council's planning department that may have implications for local air quality will be fully reported in the next Update and Screening Assessment due to be submitted to DEFRA in 2006.

10.2.2 Other developments within York

The following text lists other developments outside the Foss Basin Area of York for which an Air Quality Assessment was requested and/or provided, and which have now received approval. A map to show the locations of these developments can be found in Appendix 3.

- **Monks Cross South Business Park** - The developers undertook a screening exercise in accordance with the Design Manual for Roads and Bridges (DMRB) which has indicated that the Business Park, together with the other committed developments in the area should not result in any breaches of the current air quality objectives within the vicinity of the site.
- **College (Tadcaster Road)** - The impact on air quality as a result of this development has been assessed using the DMRB screening model. The results of this work indicate that the current air quality objectives for nitrogen dioxide and PM₁₀ are currently being met in the vicinity of the two college buildings and will continue to be met after 2011 which is the completion date for the project. The proposed development will have a slight negative impact on local air quality with 2011 annual mean concentrations of nitrogen dioxide and PM₁₀ being increased by between 0.01 and 0.35 ug/m³ at some locations when compared with the do-nothing situation for the same year. Increases of this level are not considered significant outside the Air Quality Management Area.
- **Derwenthorpe / Metcalfe Lane (Osbalwick)** – This application was for 540 dwellings on the land to the west of Metcalfe Lane, Osbalwick. The impact on air quality as a result of this development was assessed using the DMRB screening model. The results of this work indicated that any changes in air quality as a result of this development will be very small and will not result in any requirement to extend the boundaries of the existing AQMA. The greatest changes in air quality will occur around Tang Hall Lane and Meadlands where annual average nitrogen dioxide concentrations are predicted to increase by 0.16µg/m³ and 0.17µg/m³ respectively. This would not result in any breaches of the 40µg/m³ air quality objective for this pollutant. Although traffic generated by this site will result in increased traffic flows within the current air quality management area the increases in flow will not be great enough to give rise to a measurable deterioration in air quality. Within the AQMA the greatest increases in nitrogen dioxide concentrations as a result of this development are predicted to range

from 0 to 0.1ug/m³. On the basis of the DMRB air quality impact assessment and the recent air pollution monitoring undertaken in this area it was concluded that the proposals within the application were acceptable in terms of air quality.

- **University of York New Campus (Heslington East)** – The University of York planned to expand from the current Heslington Campus, called Heslington West, onto a new campus on adjacent land south of Field Lane to be known as Heslington East. Although not directly adjacent to the AQMA, the development was likely to impact upon traffic levels within the city and thus had the potential to impact upon air quality. As such, an air quality impact assessment was carried out for this scheme. The DMRB study carried out predicted no exceedences of the annual mean nitrogen dioxide objective level in any of the modelled years (with or without the development). The largest increase in annual mean nitrogen dioxide concentration with the scheme (0.4µg/m³) occurs at the junction of Main Street and Heslington Lane. However, the modelling work showed that this increase is more than outweighed as a result of cleaner vehicle technology in future years. It was concluded that there is unlikely to be any measurable deterioration in air quality as a result of the development.

The cumulative impact of Derwenthorpe and the University was addressed in an additional DMRB study that took into account traffic generation from both developments. The maximum increase in traffic flow (when considering the Derwenthorpe development) was 1.5% above the baseline in 2006 (the baseline being the Heslington East Campus with Traffic Management Measures in place). Consequently, for the majority of receptor locations, the predicted annual mean nitrogen dioxide concentrations were the same as those predicted for the Heslington East Campus as a stand-alone development. Where a difference did occur, it was limited to a maximum change of 0.1ug/m³. This was not considered significant in terms of air quality.

10.3 New Industrial Processes

For the purpose of City of York Council's Update and Screening Assessment, all the Part A and Part B installations, controlled under the regulatory regimes of the Environmental Protection Act 1990 and the Pollution Prevention and Control Act 1999 (PPC), in the vicinity of York were reviewed using information posted on the Internet (<http://www.environment-agency.gov.uk>), and by consulting the relevant public registers.

The purpose of this air quality progress report is to log any changes that have taken place that may affect air quality such that they can be considered more thoroughly during the next full round of review and assessment. City of York Council's designated officer for the Local Authority Pollution Prevention and Control (LAPPC) has been consulted for the preparation of this chapter of the report. In accordance with the guidance note LAQM.PRG (03), A1, A2 and Part B installations have been considered.

10.3.1 New A1 & A2 installations

Since the last round of review and assessment, no new A1 nor A2 installations have been permitted under the PPC regime within the boundaries of City of York Council. One existing installation viz. Murton Abattoir, Murton Lane, York does not currently require an A1 permit under PPC but will be required to apply for one by 1 April 2005 by virtue of the fact that it is an installation "disposing of or recycling animal carcasses or animal waste by rendering at plant with a treatment capacity exceeding 10 tonnes per day of animal carcasses or animal waste, or, in aggregate, of both".

10.3.2 New Part B Processes

City of York Council's Environmental Protection Unit currently regulates a number Part B processes. Two such installations, viz British Sugar (animal feed drying) and William Thompson (animal feed compounding) are currently Part B installations for regulation by City of York Council but in 2005 they transfer to regulation by the Environment Agency as A1 installations. Transfer is by virtue of the fact that both installations "treating and process materials intended for the production of food products from vegetable raw materials at plant with a finished product production capacity of more than 300 tonnes per day (average value on a quarterly basis)".

10.4 New Road Schemes

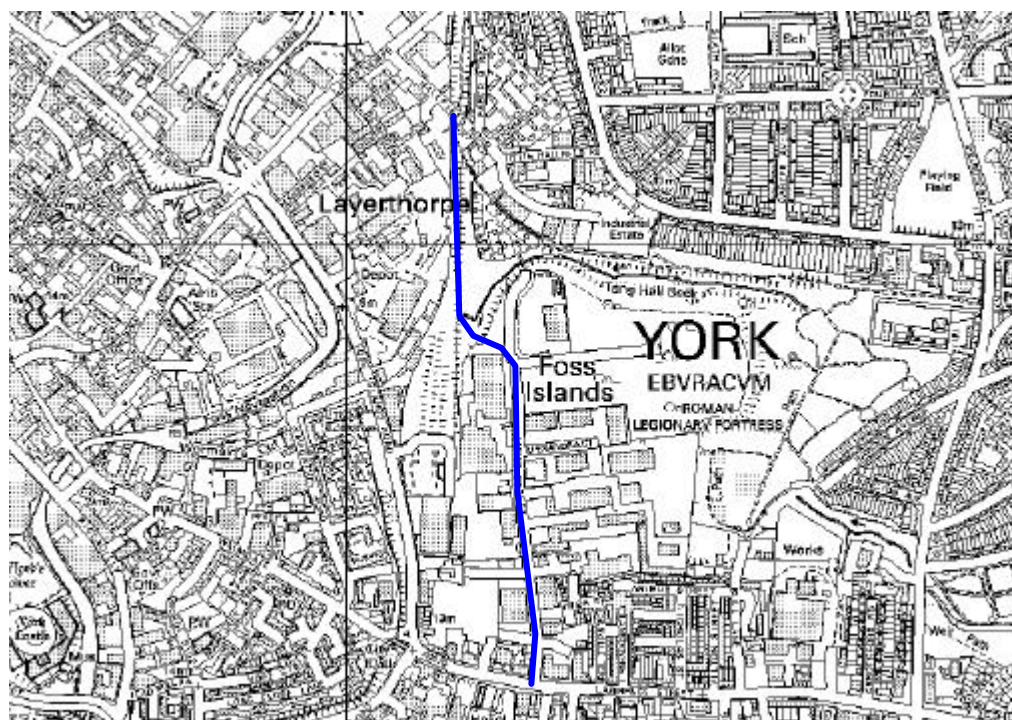
Since completion of the Second and Third Stage Review and Assessment of Air Quality in York, one new road has been built and another one has obtained planning permission. The new road has been introduced as part of the improvements to the Copmanthorpe junction on the A64 and is discussed in the Update and Screening Assessment submitted to DEFRA in May 2003. In summary, this road carries around 4600 vehicles per day and is thus below the 10,000 vehicles per day threshold above which a DMRB assessment is required. Despite this, the new road has been entered into the York ADMS-Urban emissions inventory and will be included in future modelling studies. The planned road is the James Street link road and is described below.

James Street Link Road

The location of this road is shown in Figure 51. Since the submission of the Update and Screening assessment in May 2003, the first phase of this link road has now received planning approval.

The air quality impact of this road has been considered as an independent scenario in the overarching air quality study of the Foss Basin area of York as described in Section 10.2.1. Within this study, concentrations of NO₂ and PM₁₀ were calculated for the year 2005 only. This scenario represented the base case plus committed developments and includes the new Foss Islands Retail Park (FIRP) access, plus the James Street link Stage I, with the addition of an all-movements signalised junction on Foss Islands Road at the retail park.

Figure 51 : The new James Street Link road



When compared with the base case scenario, the Link Road was shown to have a negligible impact on nitrogen dioxide concentrations in most locations. The most significant difference was an increase of $0.5\mu\text{g}/\text{m}^3$ at diffusion tube 75, which is situated at the north end of Stage one of the James Street Link. However, in a number of locations the link road was shown to have a slight positive impact on air quality when considered as an independent construction (i.e. not in the context of other applications for which it is intended as a mitigation measure). Notably, the improvement areas included Lawrence Street, which has been highlighted as one of the areas where there is a technical breach of the annual average nitrogen dioxide objective.

In terms of PM_{10} , the modelling results generated for the link road scenario were not significantly different from those obtained for the base case scenario.

Detailed contour plots and concentrations at specific receptor locations can be found in 'Air Quality Modelling for York Foss Basin, Final Report, CERC, 5th February 2004).

10.5 New landfill and mineral development

There are currently no new landfill sites or quarries within the boundaries of City of York Council. However, approval has recently been granted for extension of the existing waste management facility on the land known as Harewood Whin. Development includes the extension to the existing waste management facility and the construction of a Household Waste recycling Facility, Liquid Waste Treatment Plant and green Waste Composting facility. A full review of the likely air quality implications of such changes will be considered during City of York Council's next Update and Screening Assessment.