

1 Air

1.1 Air Quality in Torbay

- 1.1.2 Air quality in Torbay is generally good, meeting six out of seven air quality objectives specified in the Air Quality Regulations 2000 (as reported to DEFRA in March 2004). These objectives cover the following pollutants: carbon monoxide (CO), benzene, 1-3-Butadiene, lead, nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and PM10 (PM10 stands for particulate matter below 10 microns in diameter).
- 1.1.3 The air quality objective that was not met in 2003-2004 was for nitrogen dioxide and was linked to one location close to a busy road. It is anticipated, however, that the air quality objectives in Torbay will be reached by their target date of 2010 in regard to the seven key pollutants, which include nitrogen dioxide
- 1.1.4 The air quality figures have been established through monitoring in both temporary and fixed locations. Suspected problem areas were targeted for the sampling of nitrogen dioxide and are therefore likely to represent the worst figures for this pollutant, but more work is needed. In general terms, however, much more monitoring needs to be undertaken that may identify some other areas of poor air quality.

1.2 Sources of Air Pollution in Torbay

- 1.2.1 Torbay has relatively low levels of industrial activity and therefore traffic forms the main source of air pollution in the area, in particular levels of nitrogen dioxide. This is likely to remain a key issue as traffic flows are increasing in Torbay on average by 1.4% per annum¹. This problem is exacerbated in the summer months when roads are placed under strain by an additional 80,000 visitors and tourists.
- 1.2.2 The increase in traffic has led to a potential deterioration in air quality in a small number of areas particularly roads where the close proximity of properties have led to a canyon effect and in highly congested areas (discussed below). A monitoring exercise for nitrogen dioxide was carried out in Torbay in 2003 and placed 36 tubes on roads of highest traffic flows and congestion in close proximity to residential properties. This exercise was designed to highlight areas where further study is required².
- 1.2.3 The result of the studies outlined above indicates that there are a number of areas that required further investigation³. This investigation was undertaken during 2003/04 and indicated that Hele Road was likely to fail its air quality objective (discussed further below). Several other areas were also close to

¹ Torbay Council (2004) (Local Transport Plan 2001-2006) 'Annual Progress Report '

² Torbay Council (2003) (Local Air Quality Management) 'Updating and Screening Assessment Report 2003'

³ Torbay Council (2004) (Local Air Quality Management) 'Detailed Assessment and Progress Report 2004'

⁴ Torbay Council (November 2004) (Local Air Quality Management) 'Detailed Assessment and Progress Additional Report November 2004'

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failing the objective (e.g. Dartmouth Road and Brixham Town Hall) and monitoring of these areas continues. It is anticipated that all of these will experience a reduction in nitrogen dioxide by 2010 as a result of improved vehicle technology, although this may be overtaken by traffic volume increases.

1.2.4 Table 1.1 below shows the results of five monitoring locations on Hele Road which were undertaken for a 12 month period⁴ during 2003/04. Table 1.2 shows that even with the corrections made two areas are predicted to be failing the air quality objective for 2005, though not for 2010.

1.2.5 There is still some concern over other areas within Torbay that were highlighted during these investigations. No other location, however, has as yet been identified as failing the air quality objective, but with the potential of increased traffic levels, and the unpredictability of technology for improvement, monitoring continues.

Location	NO ₂ Concentration (gm ⁻³)	Bias Corrected (gm ⁻³)
1	42.3	38.9
2	30.5	28.1
3	34.7	31.9
4	45.4	41.7
5	45.6	42.0

Table 1.1: Monitored and Corrected NO₂ Diffusion Tube Concentrations (Detailed Assessment and Progress Report - November 2004)

Location	Predicted Concentration (gm ⁻³) 2005	Predicted Concentration (gm ⁻³) 2010
1	37.7	26.6
2	28.2	23.2
3	31.5	25.9
4	41.0	33.7
5	40.9	33.7

Table 1.2: Predicted NO₂ Diffusion Tube Concentrations (Detailed Assessment and Progress Report - November 2004)

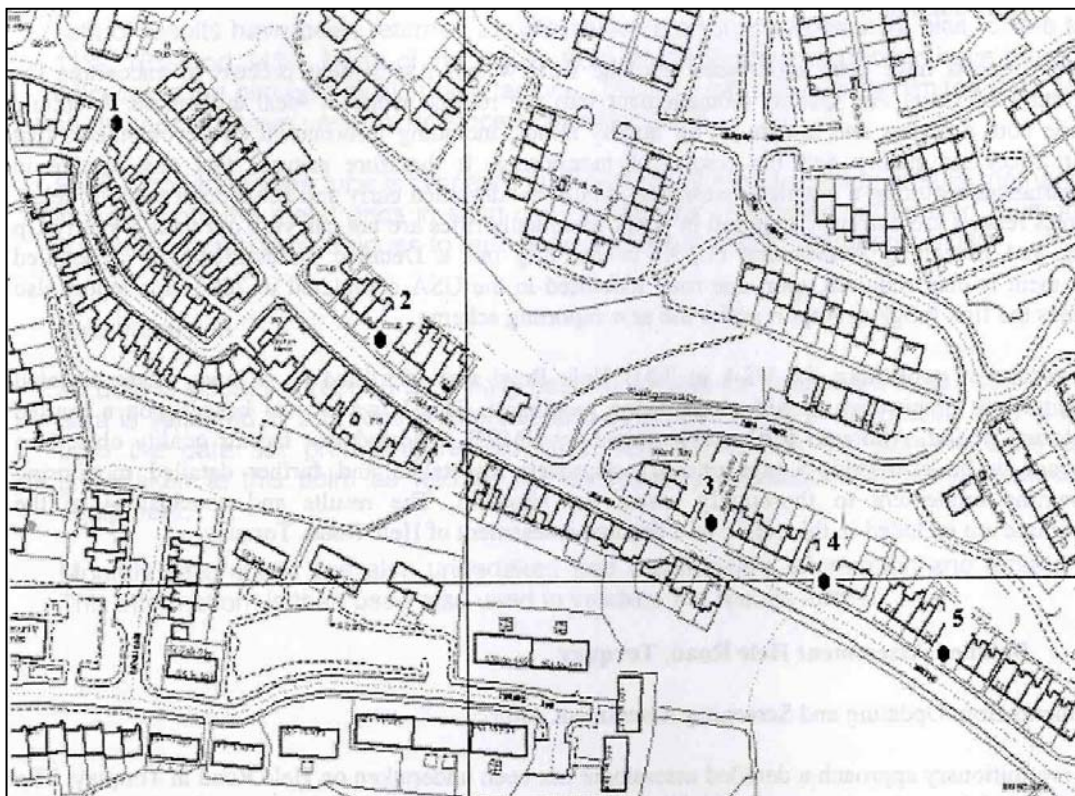


Figure 1.3: Diffusion tube monitoring locations, Hele Road³

1.3 Air Quality Management Area:

1.3.1 Following the submission of a detailed report to DEFRA in November 2004 Hele Village has been designated as an Air Quality Management Area. The level of nitrogen dioxide here has exceeded that set by the Air Quality Objective. Monitoring using diffusion tubes was carried out along a stretch of Hele Road (see Figure 9.3) at various locations in order to monitor nitrogen dioxide levels. This problem is attributed to two main factors: an increase in traffic flows; and a localised canyon effect of houses and embankments that prevent dispersal of pollutants. The eastern extent of Hele Road experiences localised elevated levels of nitrogen dioxide.

1.3.2 A number of key issues have been identified for investigation, which may help to alleviate this problem and they are outlined below:

- A School Travel Plan – Initial discussion have already taken place with the school to undertake an assessment and proposal to limit the number of vehicles
- Assessment of on-street parking on Hele Road and potential removal of bottleneck
- Transportation study to be undertaken for a double roundabout system and the potential for an alternative signalling system
- Overall assessment of traffic flow movement along Hele Road

Torbay Council (2004) Progress Report 2004

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- 1.3.3 A monitoring station has been installed to determine nitrogen dioxide levels at different times during the day, which will allow assessment of when the peak periods of nitrogen dioxide occur. This is likely to correspond with traffic flows. It will also give a more detailed picture of levels.