



Community information



# Francis Street

## Monitoring program - Report two

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EPA Victoria commenced a 12 month program in May 2012 to monitor air pollution and the noise impacts of vehicles in Francis Street, Yarraville. The program will use the latest scientific data to inform EPA about noise and air pollution in the area. This report is for the first six months of monitoring.

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### Summary

Air quality results have again been measured at slightly higher levels than EPA's other fixed monitoring stations in Footscray and Alphington, but these levels remain within the Victorian and Australian health-based objectives for air quality. These levels are not surprising given that Francis Street has an estimated 20,000 cars and trucks travelling each week day between Williamstown Road and Whitehall Street. During the first six months of monitoring, there was one day that exceeded the daily PM<sub>10</sub> objective and none for PM<sub>2.5</sub> the two key particles being measured as part of this air monitoring program.

Nitrogen dioxide levels were below the air quality objective; and benzo(a)pyrene measured over 12 months through an annual objective are expected to remain below the annual objective based on results so far.

The monitoring program for noise has continued to measure readings high enough to impact residents.

### What is being measured?

#### Noise

Noise monitoring is physically measured on site in fortnightly blocks periodically throughout the year, recording these results in decibels dB(A). In Victoria, there is no official assessment criteria for arterial roads constructed before 1979, such as Francis Street.

EPA uses a common regulatory standard to measure noise impacts, calculating the average maximum levels of 18 separate hourly readings that are recorded between 6am and midnight on an average day. EPA found noise levels recorded in November were similar to those taken in the first round of monitoring, in July.

In order to help EPA understand different noise levels and patterns along Francis Street, EPA measured noise at two additional sites, finding some differences in noise levels across the three sampling sites, but consistently lower levels of noise at the weekend across all sites.

## HOW ARE THE MONITORING RESULTS ASSESSED?

#### Air

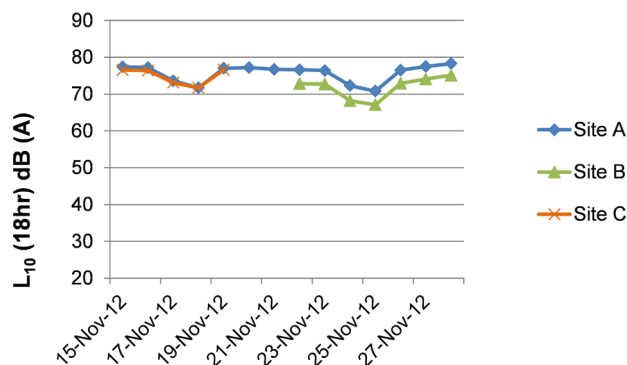
PM<sub>10</sub> and NO<sub>2</sub> levels are compared against Victorian and Australian air quality objectives and goals<sup>1</sup>. The objectives are set at levels that protect general human health and wellbeing. The goals, expressed as a maximum number of high-pollution days per year, are used to guide strategies for the management of activities affecting our air quality.

For PM<sub>2.5</sub>, instead of objectives, the Ambient Air Quality National Environment Protection Measure (AAQ NEPM) specifies the use of advisory reporting standards for assessment<sup>2</sup>.

Benzo(a)pyrene is assessed against the National Environment Protection (Air Toxics) Measure, 2004<sup>3</sup>.

#### Noise

Noise levels are measured in decibels (dB)<sup>4</sup>. In Victoria, there is no official assessment criteria for arterial roads constructed prior to 1979 such as Francis Street. More information on road traffic noise is available on EPA's website [www.epa.vic.gov.au/your-environment/noise/motor-vehicle-train-and-tram-noise](http://www.epa.vic.gov.au/your-environment/noise/motor-vehicle-train-and-tram-noise)



**Figure 1: dB noise results recorded at Francis Street**

(Note: all noise monitoring sites were along Francis Street. Site A was between Stephen Street and Hyde Street. Site B was between Beverley Street and Stephen Street. Site C was between Beverley Street and Hughes Street.)

<sup>1</sup> State Environment Protection Policy (Ambient Air Quality), Victoria Government Gazette No. S19, 9 Feb 1999 (amended Dec 2001), available at [www.epa.vic.gov.au](http://www.epa.vic.gov.au)  
<sup>2</sup> National Environment Protection (Ambient Air Quality) Measure, National Environment Protection Council, available at [www.ephc.gov.au](http://www.ephc.gov.au)  
<sup>3</sup> National Environment Protection (Air Toxics) Measure, National Environment Protection Council, available at [www.ephc.gov.au](http://www.ephc.gov.au)  
<sup>4</sup> EPA Noise Fact Sheet, Publication 1467, available at [www.epa.vic.gov.au](http://www.epa.vic.gov.au)

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## Air

EPA is measuring major air pollutants associated with motor vehicle emissions.

This includes:

- Two types of small particles; those less than 10 micrometers in diameter (PM<sub>10</sub>), which is also found in windblown dust, and particles less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) typically from burning or combustion, including fuel.
- Pollutants related to the burning or combustion of fuel including nitrogen dioxide (NO<sub>2</sub>) and benzo(a)pyrene.

More information on these air pollutants is available on EPA's website [www.epa.vic.gov.au/your-environment/air/air-pollution](http://www.epa.vic.gov.au/your-environment/air/air-pollution).

## PM<sub>10</sub>

The PM<sub>10</sub> air quality objective (50 µg/m<sup>3</sup>) was not met on one day, June 12, with the period of poor air quality lasting for three hours before midday when light northerly winds prevented dispersion of air pollutants.

PM<sub>10</sub> levels in Francis Street were lower in spring, when stronger winds tended to disperse particles more readily than in the cool, still months of winter.

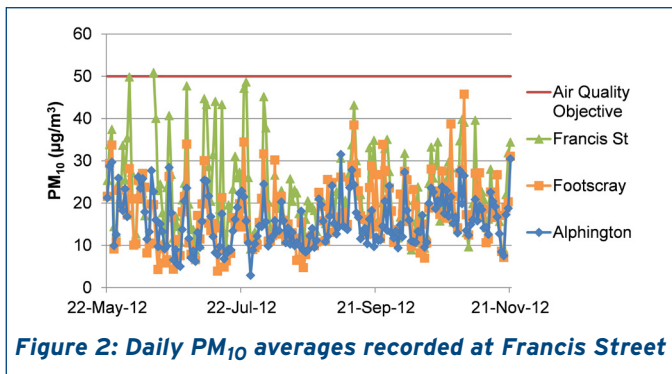


Figure 2: Daily PM<sub>10</sub> averages recorded at Francis Street

## PM<sub>2.5</sub>

For the first six months of monitoring, PM<sub>2.5</sub> levels in Francis Street fell below the daily PM<sub>2.5</sub> reporting standard (25 µg/m<sup>3</sup>) but were generally higher than levels recorded at Alphington and Footscray monitoring stations.

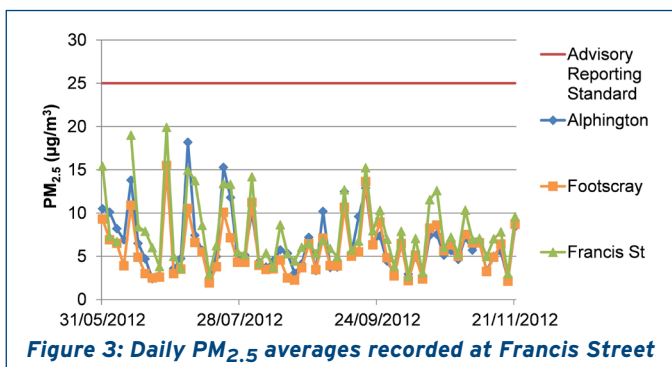


Figure 3: Daily PM<sub>2.5</sub> averages recorded at Francis Street

The PM<sub>2.5</sub> average for the first six months of monitoring is 7.9 µg/m<sup>3</sup>, which is tracking slightly below the annual PM<sub>2.5</sub> reporting standard (8 µg/m<sup>3</sup>). This standard will be assessed after 12 months.

## Nitrogen Dioxide (NO<sub>2</sub>)

NO<sub>2</sub> levels measured at Francis Street have been generally higher than levels measured at Footscray and Alphington but remain within the state and national air quality objective (120 parts per billion).

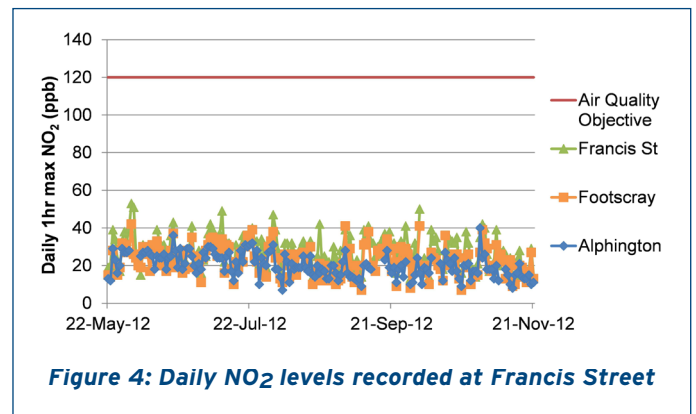


Figure 4: Daily NO<sub>2</sub> levels recorded at Francis Street

## Benzo(a)pyrene (B(a)P)

The measurement for Benzo(a)pyrene is an annual objective (0.3 ng/m<sup>3</sup>). At the end of the 12 months of monitoring the results gathered throughout the year will be averaged and measured against this annual objective. Based on the first six months of results, shown below, the annual objective is not anticipated to be exceeded.

Table 1: 24-hour benzo(a)pyrene levels measured at Francis Street

	Maximum ng/m <sup>3</sup>	Average ng/m <sup>3</sup>
(B(a)P)	0.55	0.08

## MORE INFORMATION

EPA will provide the community with reports throughout the program.

Visit [www.epa.vic.gov.au](http://www.epa.vic.gov.au) or phone EPA on 1300 EPA VIC (1300 372 842) for further information.