



ACT
Government



ACT AIR QUALITY REPORT 2025

Environment Protection Authority | June 2026

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LIST OF DEFINITIONS AND ABBREVIATIONS

Term	Definition
AAQ NEPM	National Environment Protection (Ambient Air Quality) Measure
ACT	Australian Capital Territory
CO	Carbon Monoxide
BAM	Beta Attenuation Monitor
Exceptional event	Exceptional event means a fire or dust occurrence that adversely affects air quality at a particular location that: (a) causes an exceedance of one or more of the following that is in excess of normal historical fluctuations and background levels: (i) 1 day average standard for particles as PM ₁₀ ; (ii) 1 day average standard for particles as PM _{2.5} ; (iii) 8 hour average standard for photochemical oxidants (as ozone); and (b) is directly related to bushfire, jurisdiction authorised hazard reduction burning or continental scale windblown dust.
NATA	National Association of Testing Authorities
ND	Not Demonstrated
NO ₂	Nitrogen Dioxide
O ₃	Ozone
PMS	Performance Monitoring Station
PM _{2.5}	Particles with an equivalent aerodynamic diameter less than or equal to 2.5 micrometres
PM ₁₀	Particles with an equivalent aerodynamic diameter less than or equal to 10 micrometres
ppm	Parts per million by volume – parts of pollutant per million parts of air
Q	Quarter (e.g. Q1 means the first quarter of the year)
SO ₂	Sulfur Dioxide
µg/m ³	micrograms per cubic metre

OVERVIEW

The ACT Air Quality Report 2025 ('the Report') presents the results of ambient air quality monitoring in the ACT for 2025 and assesses the results in accordance with the requirements of the National Environment Protection (Ambient Air Quality) Measure¹ (AAQ NEPM) made by the National Environment Protection Council on 26 June 1998 as varied from time to time.

Air quality in this report is assessed against the AAQ NEPM standards shown in Table 3. In accordance with its agreed policy position, the ACT assesses its compliance for the annual average for particulate matter less than 10 microns (PM₁₀) against a lower standard of an annual average of 20 µg/m³ rather than the 25 µg/m³ standard. This means that it is reporting against a more stringent target than in the published national standard. From 1 January 2025, a new goal was implemented to further reduce PM_{2.5} daily concentration from 25 µg/m³ to 20 µg/m³ and the annual concentration from 8 µg/m³ to 7 µg/m³. The goal is set up by the AAQ NEPM and will provide a framework for continuous improvement and facilitate a review of the PM_{2.5} standard in the future.

The ACT monitors four of the six NEPM pollutants:

- carbon monoxide (CO)
- nitrogen dioxide (NO₂)
- photochemical oxidants as ozone (O₃)
- particulate matter (as PM₁₀, particles less than or equal to 10 microns in diameter and PM_{2.5}, particles less than or equal to 2.5 microns in diameter).

The ACT does not monitor sulfur dioxide (SO₂) as it is primarily an industrial pollutant, and the ACT has limited heavy industry. In 2002, lead monitoring ceased with the phase out of leaded petrol.

A summary of the 2025 Report is:

- The ACT maintained good overall air quality in 2025, with no exceedances of AAQ NEPM standards for carbon monoxide, nitrogen dioxide and ozone during the year;
- Particulate matter was the only pollutant that exceeded the national standards;
- The daily PM₁₀ AAQ NEPM standard was met on all stations. The PM₁₀ exceedance on 27 May, 18 October and 19 October were attributed to dust storms which is classified as an exceptional event.
- The daily PM_{2.5} AAQ NEPM standard was met on all but 8 days during June 2025. PM_{2.5} levels increases during the cooler months of the year which is attributed to the emissions from the domestic wood heaters. The exceedance on the 27 May 2025 was attributed to a continental scale dust storm which is considered an exceptional event.
- Annual average levels for particulate matters (PM₁₀ and PM_{2.5}) were below the AAQ NEPM standards at all stations.
- The daily PM_{2.5} goal was met on all but 3 days during May and June months in addition to 8 days of AAQ NEPM standard during the same period.

¹ <http://www.nepc.gov.au/nepms/ambient-air-quality>

- The annual average levels for PM_{2.5} were below the annual goal of 7 µg/m³ at Civic and Florey, however it was slightly above the goal (7.3µg/m³) at Monash station.

MONITORING SUMMARY

Performance Monitoring Stations

The ACT Government has been undertaking ambient air quality monitoring in Canberra since the early 1990's. The Health Directorate is responsible for the Government's ambient air quality monitoring network. The Environment Protection Authority within the City and Environment Directorate is responsible for annual reporting under the AAQ NEPM.

The ACT monitoring network consists of three monitoring stations located at:

- Monash – approximately 300 metres west of Cockcroft Avenue in open urban space area;
- Civic – at the northern end of the carpark on the western side of the Olympic swimming pool adjacent to Allara Street; and
- Florey – at the end of Neumann Place, on public land.

The compliance and non-compliance criteria for the monitoring stations against the siting standard AS/NZS 3580.1.1:2016 are listed in Table 1 below.

Table 1: Summary of stations' siting compliance with AS 3580.1.1:2016

Station	Height above ground	Minimum distance to support structure	Clear sky angle of 120°	Unrestricted airflow of 270°/360°	20m from trees	No boilers or incinerators nearby	Minimum distance from road or traffic
Monash	☑	☑	☑	☑	☑	☑	☑
Civic	☑	☒	☒	☒	☒	☑	☑
Florey	☑	☑	☑	☑	☑	☑	☑

Monash and Florey stations are the ACT's two performance monitoring stations as per the requirements under Section 14 of the AAQ NEPM and they fully comply with relevant standards.

In addition, the ACT Government carries out key pollutants monitoring at Civic station to better inform the community concerning ambient air quality and support formation of government policy.

The Monash and Florey stations contain instrumentation that continuously monitors carbon monoxide, nitrogen dioxide, ozone and particles as PM₁₀ and PM_{2.5}. Following the establishment of the Florey station on 28 February 2014, the Civic station only monitors selected, key pollutants, including ozone and particles as PM₁₀ and PM_{2.5}.

Monitoring Methods

The ACT monitoring is conducted in accordance with the relevant Australian Standards as shown in Table 2. Data not meeting the requirements of these Standards are identified as invalid and not included in this Report.

Table 2: Methods used for monitoring AAQ NEPM pollutants

Pollutant	Standard	Title	Method Used
Carbon monoxide	AS 3580.7.1-2023	Methods for sampling and analysis of ambient air - Determination of carbon monoxide - Direct-reading instrumental method	Gas filter correlation/ Infrared
Nitrogen dioxide	AS 3580.5.1-2023	Methods for sampling and analysis of ambient air - Determination of oxides of nitrogen - Direct-reading instrumental method	Gas phase chemiluminescence
Photochemical oxidant (ozone)	AS 3580.6.1-2023	Methods for sampling and analysis of ambient air - Determination of ozone - Direct-reading instrumental method	Non-dispersive ultraviolet
PM ₁₀	AS/NZS 3580.9.11-2022	Method for sampling and analysis of ambient air Method – Determination of suspended particles matter – PM ₁₀ beta attenuation monitors	Beta Attenuation Monitor
PM _{2.5}	AS/NZS 3580.9.12:2022	Methods for sampling and analysis of ambient air - Method 9.12: Determination of suspended particulate matter - PM _{2.5} beta attenuation monitors	Beta Attenuation Monitor

NATA Accreditation Status

The ACT Government monitoring network is accredited by NATA for the measurement of all AAQ NEPM pollutants except sulfur dioxide and lead as required under Clause 12 of the AAQ NEPM.

ASSESSMENT OF COMPLIANCE WITH STANDARDS AND GOAL

For the purpose of this Report, air quality is assessed against the AAQ NEPM standards as specified in Schedule 2 of the AAQ NEPM and ACT policy position. The standards against which air quality is assessed are concentrations in parts per million (ppm) or micrograms per cubic metre ($\mu\text{g}/\text{m}^3$) (refer to Table 3, column 3).

The goal of the AAQ NEPM is to achieve the NEPM standards specified in Schedule 2 of the AAQ NEPM.

Table 3: AAQ NEPM standards in 2025

Pollutant	Averaging Period	NEPM Standard
Carbon monoxide	8 hours	9.0 ppm
Nitrogen dioxide	1 hour	0.08 ppm
	1 year	0.015 ppm
Photochemical oxidants (as ozone)	8 hours	0.065 ppm
Sulfur dioxide	1 hour	0.075 ppm
	1 day	0.02 ppm
Lead	1 year	0.50 $\mu\text{g}/\text{m}^3$
Particles as PM ₁₀	1 day	50 $\mu\text{g}/\text{m}^3$
	1 year	25 $\mu\text{g}/\text{m}^3$
Particles as PM _{2.5}	1 day	25 $\mu\text{g}/\text{m}^3$
	1 year	8 $\mu\text{g}/\text{m}^3$

In accordance with its agreed policy position, the ACT assesses its compliance for the annual average for PM₁₀ against a lower standard of 20 $\mu\text{g}/\text{m}^3$ rather than the AAQ NEPM standard of 25 $\mu\text{g}/\text{m}^3$. From 1 January 2025, a new goal was implemented to further reduce PM_{2.5} concentrations to a daily concentration of 20 $\mu\text{g}/\text{m}^3$ and an annual concentration of 7 $\mu\text{g}/\text{m}^3$. The goal will provide a framework for continuous improvement and facilitate a review of the PM_{2.5} standard.

Table 4 to Table 8 summarise compliance with the standards of the AAQ NEPM and ACT policy position. For each pollutant, the data availability (quarterly and annual), the number of days when standards were exceeded, the annual average (where an annual standard exists) and an assessment of compliance, are given for each monitoring station. Although Civic station is not a NEPM performance monitoring station, measured data from this station is included in this Report to better understand ambient air quality in the ACT, especially in the city area.

Air quality is assessed as complying with the AAQ NEPM (i.e. 'MET') if the maximum recorded concentration is no more than the standard specified in Table 3 and data availability was at least 75 percent in each quarter of the year.

Air quality is assessed as not complying with the AAQ NEPM (i.e. '*NOT MET*') if the maximum recorded concentration is more than the standard specified in Table 3.

Air quality is assessed as '*NOT DEMONSTRATED*' (i.e. '*ND*') if there has been insufficient data collected to demonstrate that the standards and goal have been met or not met.

For the purpose of reporting compliance against PM₁₀ and PM_{2.5} daily average standards, monitoring data that has been determined as being directly associated with an exceptional event has been excluded in accordance with the AAQ NEPM.

These categories (i.e. MET, NOT MET and ND) are used in Tables 4 to 8 on the following pages.

Carbon monoxide

During 2025, no exceedances of the carbon monoxide standard were recorded, and compliance was demonstrated at Monash and Florey.

Table 4: 2025 compliance summary for CO
AAQ NEPM standard - 9.0 ppm (8-hour average)

Monitoring station	Data availability rates (% of hours)					Number of exceedances (days)	NEPM goal compliance
	Q1	Q2	Q3	Q4	Annual		
Monash	94.7	95.7	95.8	94.7	95.2	0	MET
Florey	94.4	92.8	95.2	94.5	94.2	0	MET

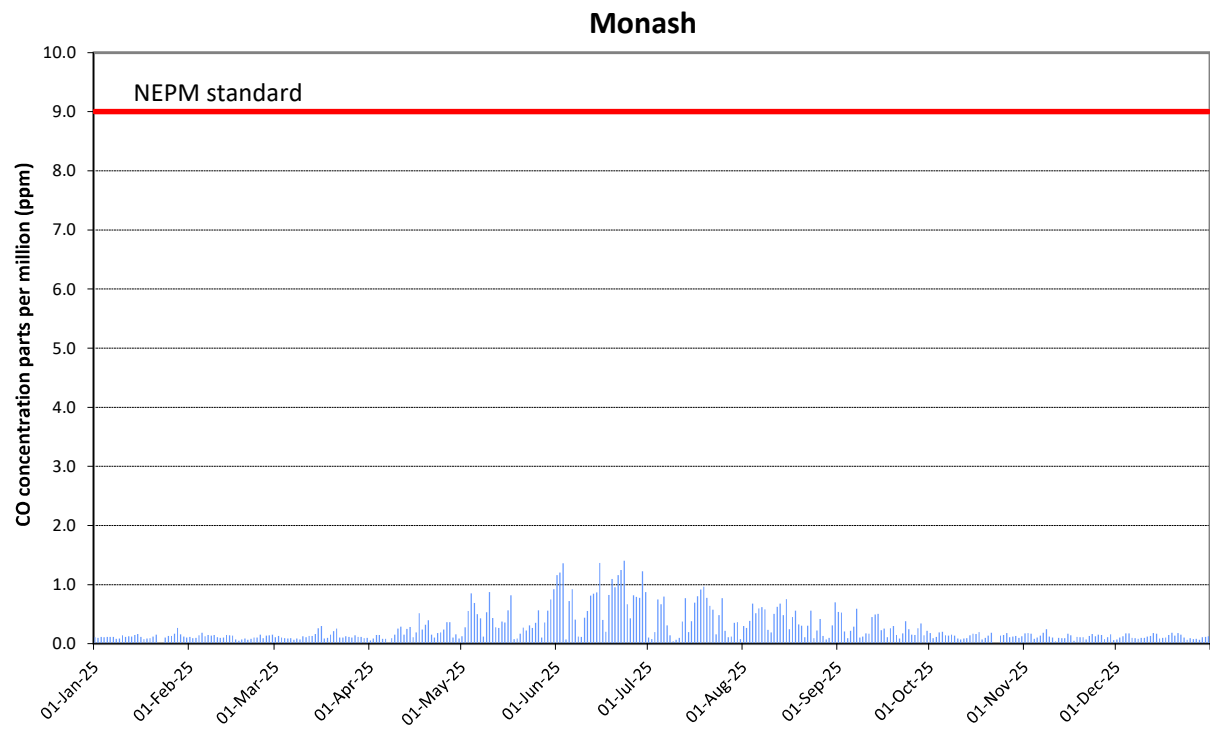


Figure 1: Daily maximum for CO 8-hour average – Monash

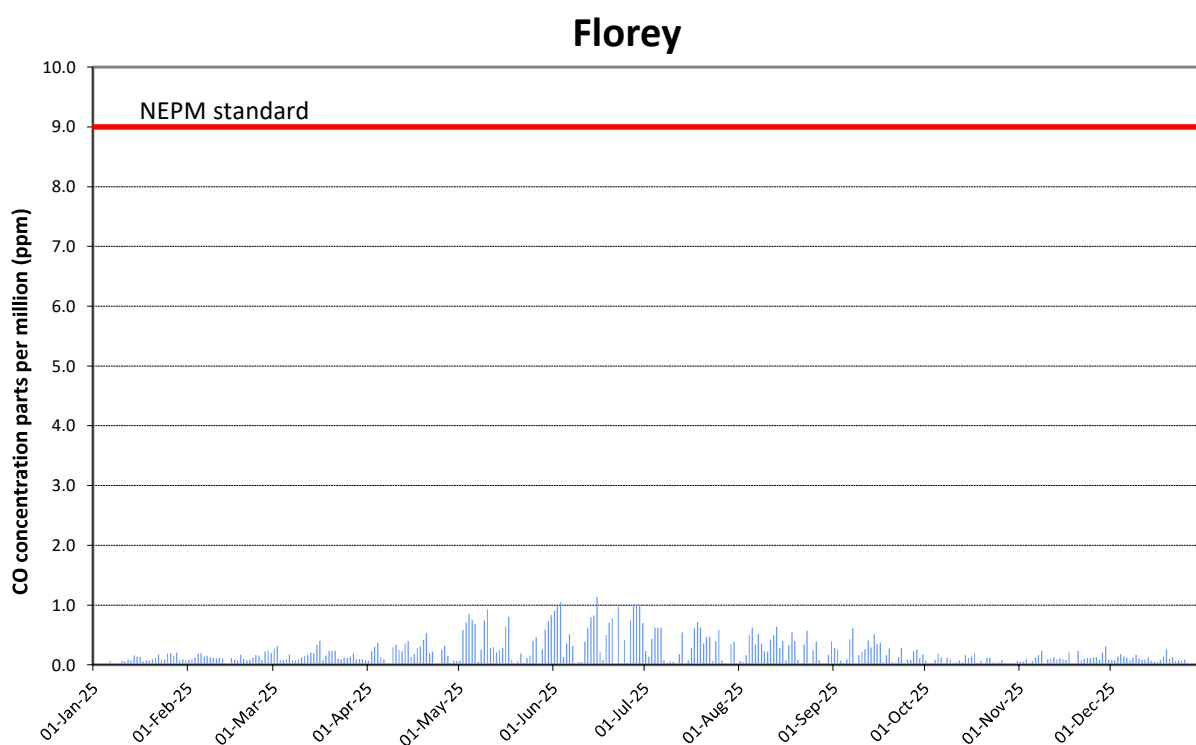


Figure 2: Daily maximum for CO 8-hour average – Florey

Nitrogen dioxide

During 2025, no exceedances of the nitrogen dioxide standards were recorded and compliance was demonstrated at Monash and Florey.

The annual average levels remained low at Monash and Florey.

Table 5: 2025 compliance summary for NO₂

AAQ NEPM standard – 0.08 ppm (1-hour average), 0.015 ppm (1-year average)

Monitoring station	Data availability rates (% of hours)					1 Hour		1 Year	
	Q1	Q2	Q3	Q4	Annual	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Monash	95.8	95.8	95.8	95.8	95.8	0	MET	0.003	MET
Florey	89.8	95.8	95.8	95.8	94.3	0	MET	0.004	MET

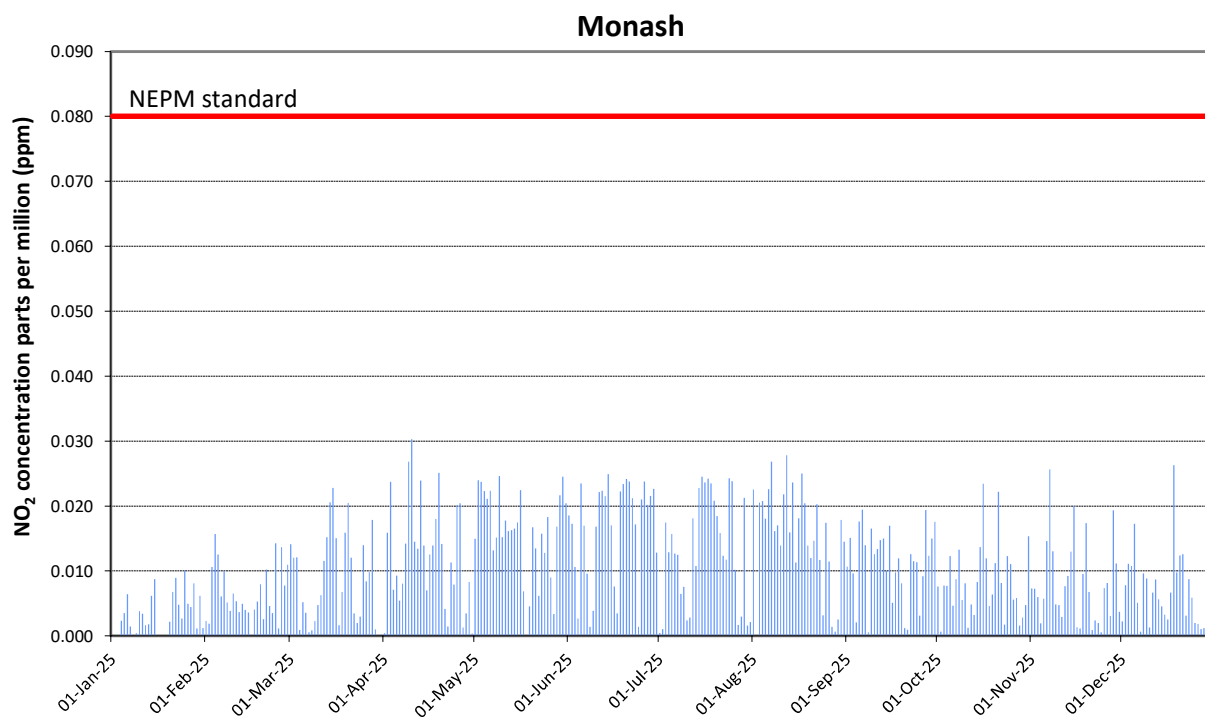


Figure 3: Daily maximum for NO₂ 1-hour average – Monash

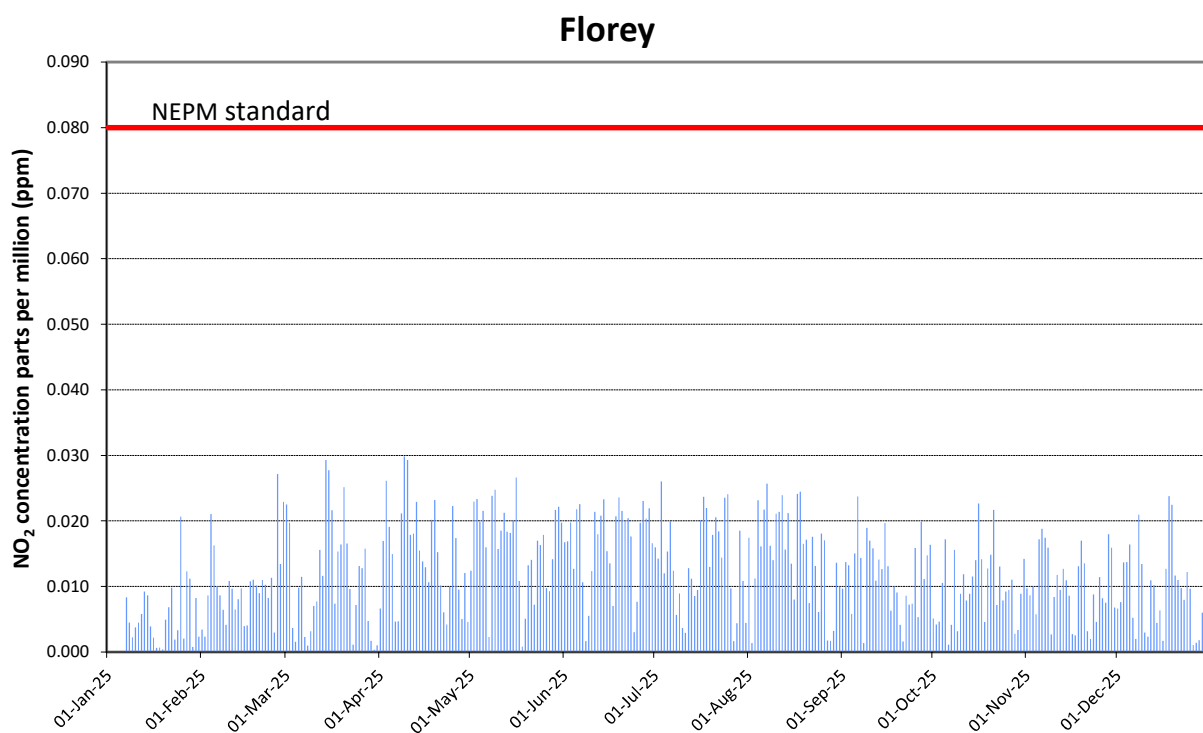


Figure 4: Daily maximum for NO₂ 1-hour average – Florey

Ozone

During 2025, no exceedances of the 8-hour standard for ozone were recorded and compliance was demonstrated at all monitoring stations.

Table 6: 2025 compliance summary for O₃

AAQ NEPM standard – 0.065 ppm (8-hour average)

Monitoring station	Data availability rates (% of hours)					Number of exceedances	NEPM goal compliance
	Q1	Q2	Q3	Q4	Annual		
Monash	95.7	95.8	95.8	94.8	95.5	0	MET
Civic	94.8	95.7	95.1	95.8	95.4	0	MET
Florey	95.6	83.2	95.3	94.2	92.1	0	MET

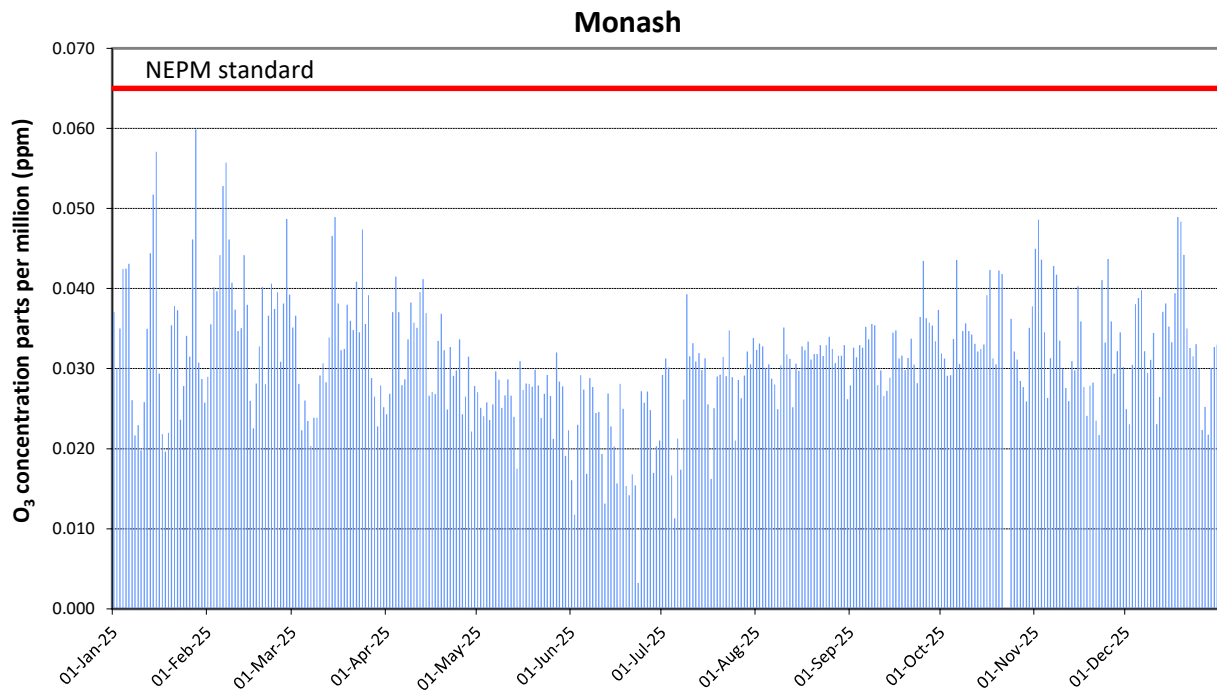


Figure 5: Daily maximum for O₃ 8-hour average – Monash

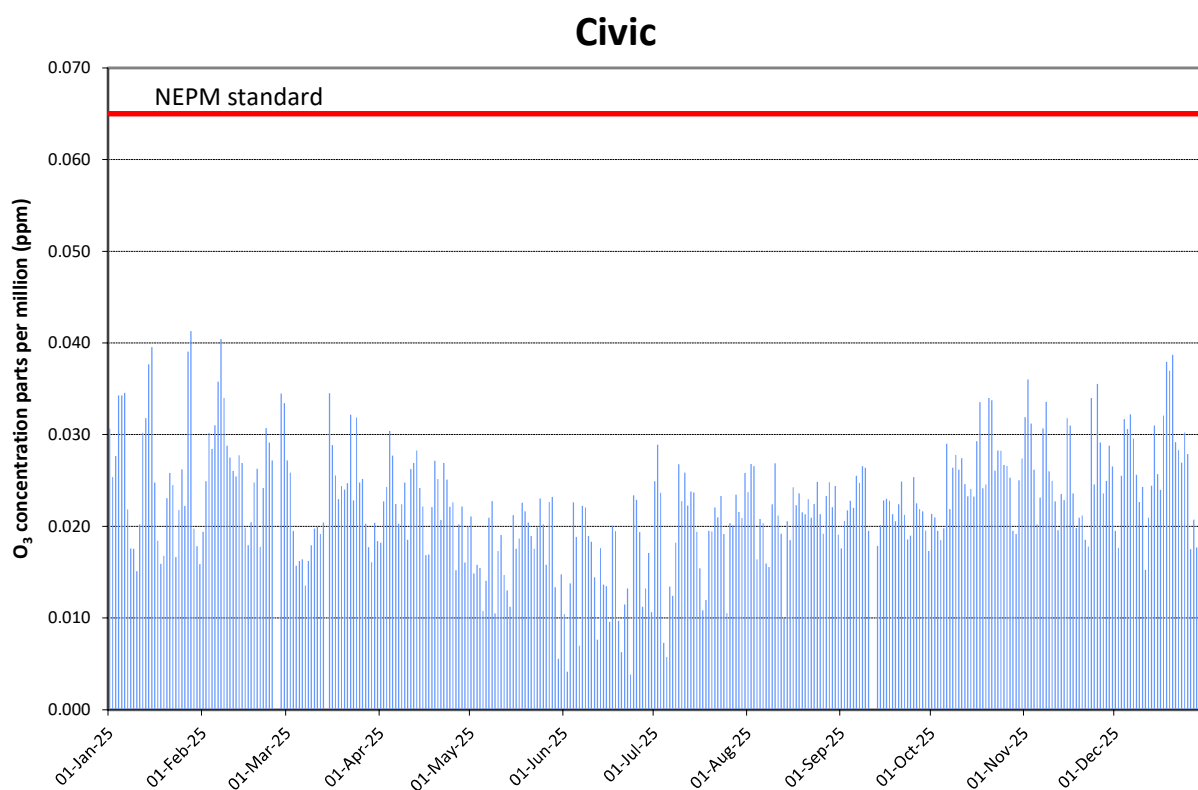


Figure 6: Daily maximum for O₃ 8-hour average – Civic

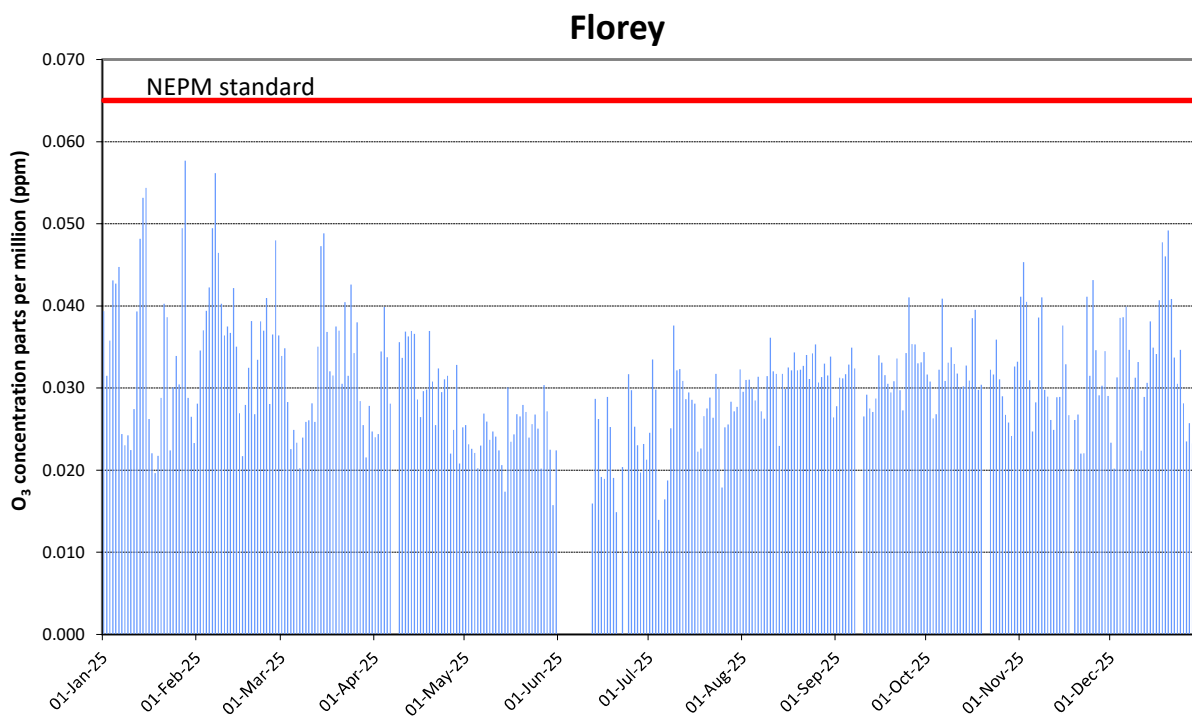


Figure 7: Daily maximum for O₃ 8-hour average – Florey

PM₁₀

During 2025, total of 5 exceedances of the daily PM₁₀ standard were recorded across the three stations, twice at the Civic monitoring station, twice at Florey station and once at Monash station. The maximum exceedance was recorded on 27 May 2025 due to a dust storm at all three stations Civic, Florey and Monash at the concentration of 166.0 µg/m³ 177.1 µg/m³ and 175.0 µg/m³ respectively. Other exceedances were recorded on the 18 October 2025 at Florey station and 19 October 2025 at Civic station at the concentration of 52.8 µg/m³ and 106.9 µg/m³ due to dust and plant matter dispersion associated with high winds.

The exceedances on 27 May, 18 October and 19 October of PM₁₀ were classified as an exceptional event. Hence, compliance against the daily PM₁₀ standard was met at the Civic and Florey. Due to instrument failure, there was insufficient data collected in the first quarter (<75% data availability), therefore compliance was not demonstrated at Monash.

The annual average PM₁₀ levels at all three stations met the ACT policy position of 20 µg/m³.

Table 7: 2025 compliance summary for PM₁₀

AAQ NEPM standard 50 µg/m³ 1-day average, 20 µg/m³ (1-year average)*

Monitoring station	Data availability rates (% of days)					1 Day		1 Year	
	Q1	Q2	Q3	Q4	Annual	Number of exceedances [^]	NEPM goal compliance	Annual average (µg/m ³)	ACT goal compliance
Monash	70.0	92.3	87.0	100	87.4	0 (1 [^])	ND	11.9	MET
Civic	97.8	100	97.8	89.1	96.2	0 (2 [^])	MET	13.9	MET
Florey	94.4	97.8	95.7	92.4	95.1	0 (2 [^])	MET	11.1	MET

* ACT policy position 20 µg/m³ not AAQ NEPM standard of 25 µg/m³.

[^] Exceptional event exceedances.

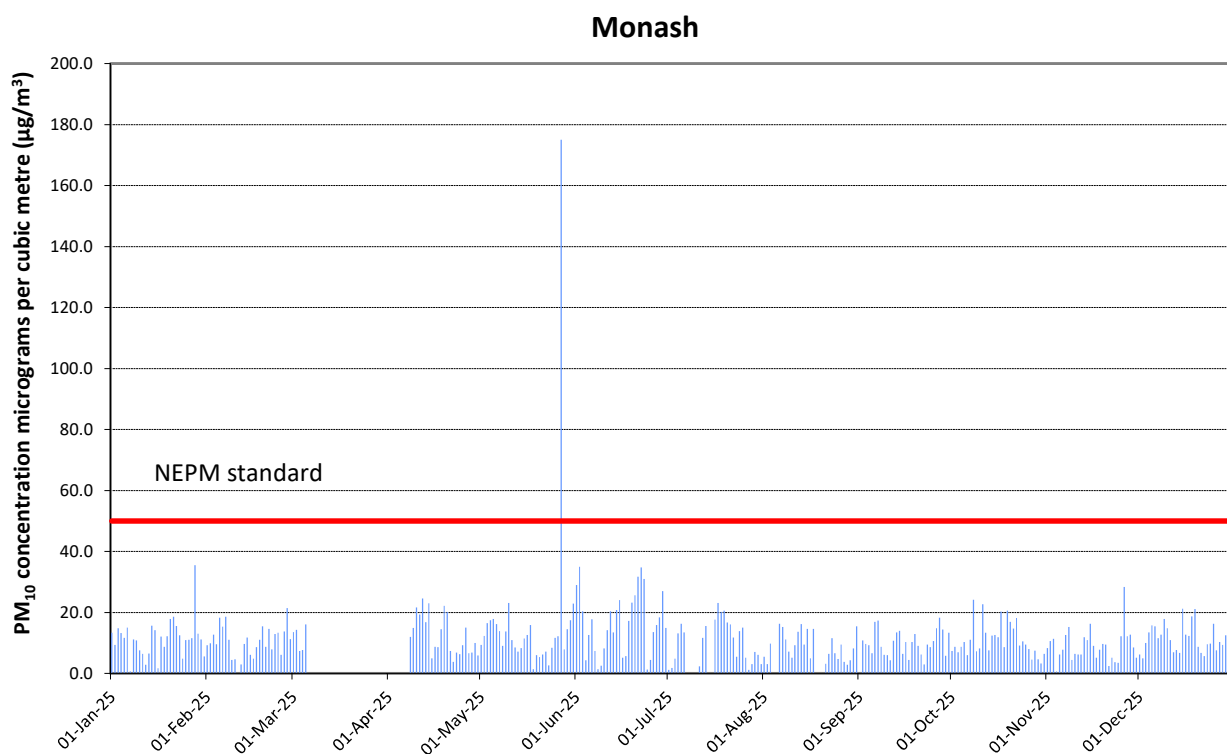


Figure 8: Daily PM₁₀ – Monash

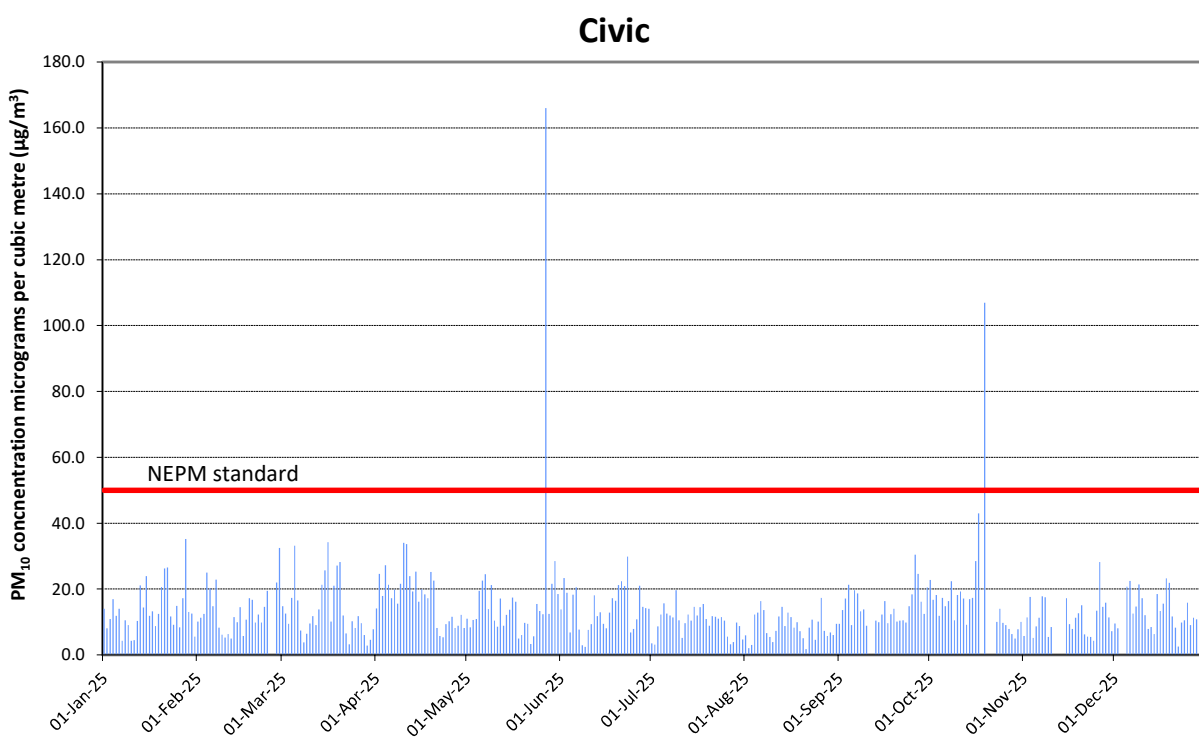


Figure 9: Daily PM₁₀ – Civic

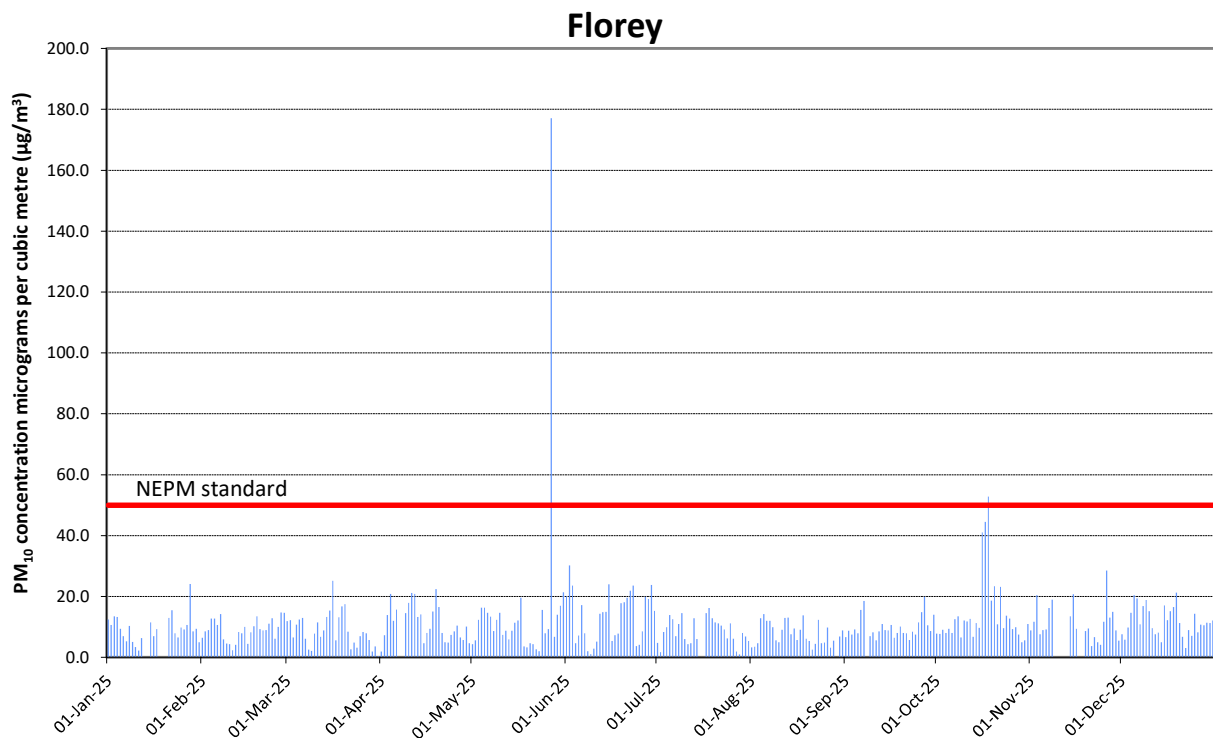


Figure 10: Daily PM₁₀ – Civic

PM_{2.5}

The daily PM_{2.5} standard was exceeded 8 times (one on 27 May being an exceptional event) at the Monash monitoring station in the month of June and was recorded at the concentrations ranging from 25.04 µg/m³ to 36.37 µg/m³. There was one exceedance of daily PM_{2.5} standard recorded at Florey station on 2 June at the concentration of 27.7 µg/m³. Exceedances at Monash and Florey stations occurred in cold winter months and were attributable to smoke from wood heater use. Consequently, compliance against the daily PM_{2.5} standard was not met at Monash and Florey station. No exceedances of daily PM_{2.5} standard were recorded at Civic and compliance against the daily PM_{2.5} standard was met at Civic.

Considering ACT goal of daily PM_{2.5} concentration of 20 µg/m³ there were additional 3 days of exceedances around the same period of AAQ NEPM standards exceedances during May and June months in the range of 20.2 µg/m³ to 24.2 µg/m³. Overall, there were 8 times the measurements of PM_{2.5} were above 20 µg/m³ but below 25 µg/m³ of which 7 times were at Monash and Florey and one time at Civic.

Annual average PM_{2.5} measurements at all stations met the 8 µg/m³ AAQ NEPM standard.

The annual average levels for PM_{2.5} were below the ACT goal of 7 µg/m³ at Civic and Florey, however it was slightly above at 7.3 µg/m³ at Monash.

Table 8: 2025 compliance summary for PM_{2.5}
AAQ NEPM standard – 25 µg/m³ (1-day), 8 µg/m³ (1-year)

Monitoring station	Data availability rates (% of days)					1 Day		1 Year	
	Q1	Q2	Q3	Q4	Annual	Number of exceedances*	NEPM goal compliance	Annual average (µg/m ³)	NEPM goal compliance
Monash	85.6	90.1	96.7	97.8	92.6	8(1 [^])	NOT MET	7.3	MET
Civic	94.4	97.8	95.7	95.7	97.3	0	MET	5.5	MET
Florey	97.8	92.3	98.9	100	95.9	1	NOT MET	6.6	MET

[^] Exceptional event exceedances.

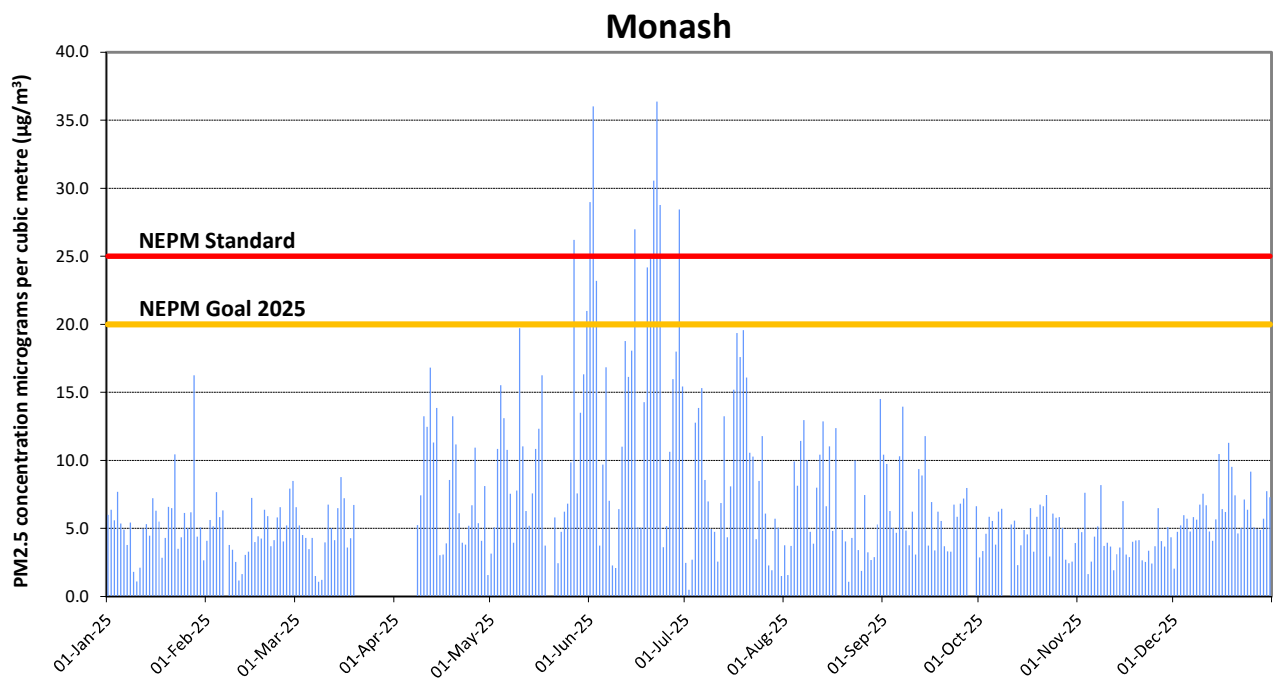


Figure 11: Daily PM_{2.5} – Monash

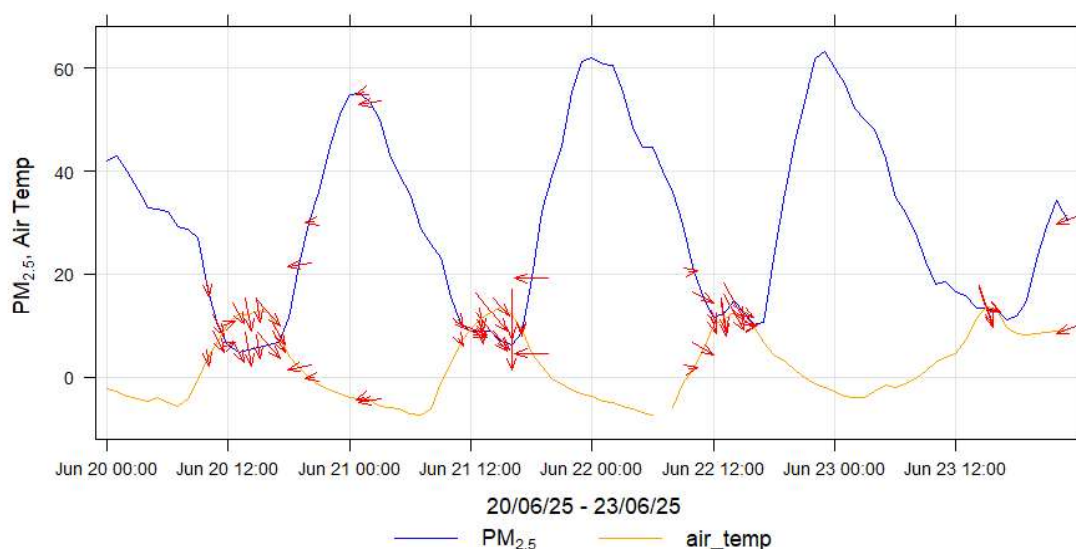


Figure 12: Monash – Hourly PM_{2.5} (µg/m³) from 20 June to 23 June 2025

The above Figure 12 depicts the correlation between the air temperature, wind speed and PM_{2.5} concentration from 20 June to 23 June 2025. Exceedances of the PM_{2.5} standard occurred on each of these days. The red arrow indicates the wind direction, and the length of the arrow indicates the wind speed (longer the arrow greater the wind speed). As can be observed in the graph the wind speed increases typically around mid-day with the rise in temperatures resulting decrease of PM_{2.5} concentrations. The PM_{2.5} concentrations increases with the decrease in temperatures from late evening when the wind speed also decreases to calm conditions.

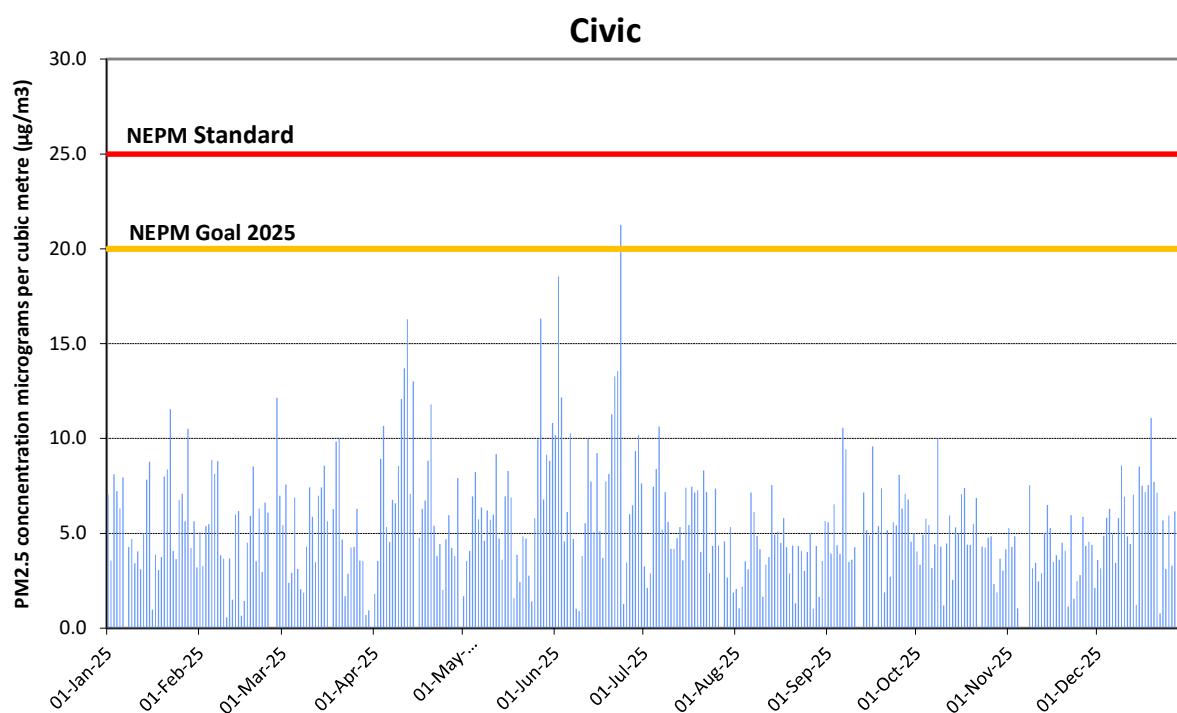


Figure 13: Daily PM_{2.5} – Civic

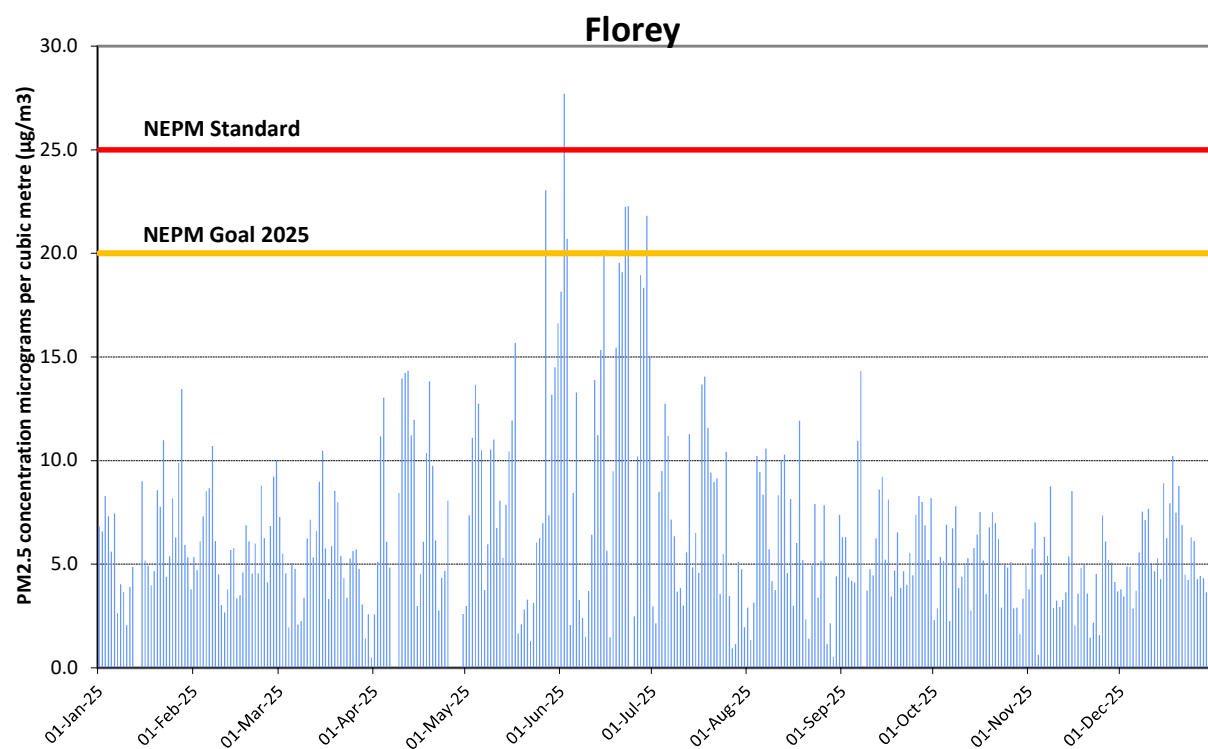


Figure 14: Daily PM_{2.5} – Florey

ANALYSIS OF AIR QUALITY MONITORING

Annual summary statistics contained in Table 9 to Table 13 below assess air quality against the standards and the extent of compliance with the goal. In each case a result of 'below the standard' indicates that compliance is achieved. Instances where the standard has been exceeded are highlighted in bold.

Carbon monoxide

Carbon monoxide levels are well below the AAQ NEPM standard at all monitoring stations. The highest recorded value in the ACT during 2025 was 1.66 ppm at Monash, which is 18.4% of the standard.

Table 9: 2025 summary statistics for daily peak 8-hour CO

AAQ NEPM standard - 9.0 ppm (8-hour average)

Monitoring station	Number of valid days	Highest (ppm)	Highest (date/time)
Monash	361	1.66	22 June, 22:00
Florey	352	1.28	15 June, 02:00

Nitrogen dioxide

Similar to carbon monoxide, nitrogen dioxide levels are well below the AAQ NEPM standard. The highest recorded 1-hour value during 2024 was 0.030 ppm at Monash, which is 37.5% of the standard. The highest recorded annual average in 2025 was 0.003 ppm and 0.004 ppm at Monash and Florey respectively (refer to Table 5). This is 20% and 26.6% of the annual standard 0.015 ppm.

Table 10: 2025 summary statistics for daily peak 1-hour NO₂

AAQ NEPM standard 0.08 ppm (1-hour average)

Monitoring station	Number of valid days	Highest (ppm)	Highest (date/time)
Monash	365	0.030	10 April, 19:00
Florey	359	0.029	09 April, 20:00

Ozone

Ozone levels in 2025 were below the 8-hour standard. The highest recorded value in the ACT during 2025 was 0.060 ppm at Monash, which is 92.3% of the standard.

Table 11: 2025 summary statistics for daily peak 8-hour O₃

AAQ NEPM standard 0.065 ppm (8-hour average)

Monitoring station	Number of valid days	Highest (ppm)	Highest (date)
Monash	363	0.060	28 January
Civic	360	0.041	28 January
Florey	345	0.058	28 January

PM₁₀

The highest daily PM₁₀ level across all three stations was recorded on 27 May 2025 (exceptional event), with the concentrations ranging between 166.0 µg/m³ to 177.1 µg/m³. The highest recorded annual average in 2025 was 13.9 µg/m³ at Civic (refer to Table 7), which is 69.5% of the ACT policy standard of 20µg/m³.

Table 12: 2025 summary statistics for daily PM₁₀

AAQ NEPM daily standard 50 µg/m³

Monitoring station	Number of valid days	Highest (µg/m ³)	Highest (date)
Monash	319	175.0	27 May
Civic	351	166.0	27 May
Florey	347	177.1	27 May

PM_{2.5}

The highest daily PM_{2.5} level was 36.4 µg/m³ which was recorded at Monash on 22 June 2025. The highest recorded annual average in 2024 was 7.3 µg/m³ at Monash (refer to Table 8), which is 91.3% of the standard.

Table 13: 2025 summary statistics for daily PM_{2.5}

AAQ NEPM daily standard 25 µg/m³

Monitoring station	Number of valid days	Highest (µg/m ³)	Highest (date)
Monash	338	36.4	22 June
Civic	350	21.3	23 June
Florey	355	27.7	02 June

ASSESSMENT OF PROGRESS TOWARDS ACHIEVING THE GOAL

Historical monitoring results indicate that the main AAQ NEPM pollutants of concern in the ACT air shed are particulate matter (PM₁₀ and PM_{2.5}). PM_{2.5} increases significantly during winter because of emissions from domestic wood heaters. During warmer months and periods of drier weather exceedances of the PM₁₀ and PM_{2.5} standards have also been attributed to smoke from hazard reduction burns, bushfires and dust storms.

In 2025, the AAQ NEPM standards for carbon monoxide, nitrogen dioxide and ozone were not exceeded during the whole year. However, for particulate matter PM_{2.5} and PM₁₀ exceedances were observed across the three stations including an exceptional events on 27 May, 18 October & 19 October.

The daily PM_{2.5} standard was exceeded at Monash on 27 May due to the exceptional event of a dust storm. There were 8 exceedances at Monash and one at Florey during June. These are attributed to the emissions from domestic wood heaters. Also, prolonged periods of low temperatures with calm wind conditions as per Figure 12, led to a higher number of exceedances than usual at Monash in 2025.

PM₁₀ levels tend to increase during the late spring or summer months of the year, which can be seen in Figure 8 to Figure 10. However, on 27 May there was an exceptional event of a dust storm recorded in ACT with the high wind speeds of more than 50 km/h causing exceedances of daily PM₁₀ standard across all three stations. These exceedances are reported as exceptional events and are not used to assess non-compliance against the NEPM standards. Two exceedances were recorded on 18 October at Florey and 19 October at Civic for PM₁₀ at the concentration of 52.8 µg/m³ and 106.9 µg/m³ respectively. These exceedances were attributed to dust from windswept soil associated with development works and plant matter dispersion and are also classified as an exceptional event.

The ACT Government acknowledges that wood heater emissions have an adverse effect on air quality during winter, and smoke from hazard reduction burns and bush fires and dust storms during summer, and will continue to implement an integrated program to address this including:

- Provide public information on air quality levels in the ACT through the ACT Government air quality web pages, and health advice in the Air Quality Health Advice page²;
- Advice is provided about how to burn better by using wood heaters correctly to improve air quality, save money and keep homes warm during winter³;
- The regulation of firewood merchants to ensure only seasoned wood is sold⁴;
- The regulation of wood heaters sold and installed in the ACT to ensure they meet the current Australian Standards for emissions and efficiency;

² <https://www.act.gov.au/environment/air-quality>

³ <https://www.act.gov.au/housing-planning-and-property/staying-healthy-in-your-home/wood-fire-heating>

⁴ [Environment Protection Regulation 2005](#)

- As part of the Bushfire Smoke and Air Quality Strategy action, the ACT Government was successful in revising the standard for wood heaters (AS4013) to reduce the emission from 1.5g/kg to 1.0g/kg which was published on 20 June 2025 and will be effective 2030.
- The prohibition of wood heaters in new developments where planning studies show that they would have an adverse impact on air quality. The ACT Government has taken this approach for the development of the Molonglo Valley (except Wright)⁵, and previously with the suburbs of Dunlop and East O'Malley;
- Compliance and enforcement activities for wood heater emissions with a focus on correct wood heater operation, including both proactive and reactive inspections⁶;
- Administering the Wood Heater Removal Program to remove and replace old inefficient wood heaters with high efficiency electric alternatives⁷;
- Administering the Sustainable Households Loan Scheme which provided loans of between \$2,000 to 15,000 to buy energy-efficient electric products⁸; and
- Implementing actions under "*Bushfire Smoke and Air Quality Strategy 2021-25*" to guide the ACT Government's approach to prevent, prepare for, respond to, and recover from significant bushfire smoke events and management of the smoke from wood heaters⁹.

⁵<https://files.accesscanberra.act.gov.au/legacy/3224/Molonglo%20Valley%20air%20quality%20assessment.pdf>

⁶ <https://files.accesscanberra.act.gov.au/legacy/3371/Your-guide-to-using-a-wood-heater.pdf>

⁷ <https://www.climatechoices.act.gov.au/policy-programs/wood-heater-removal-program>

⁸ <https://www.climatechoices.act.gov.au/policy-programs/sustainable-household-scheme>

⁹ [Bushfire Smoke and Air Quality Strategy - Open Government Information](#)

APPENDIX A: STATISTICAL SUMMARY AND TRENDS

The following section provides a basic statistical summary, using percentiles, for Monash, Civic and Florey stations and for each standard in the past ten years. While the 8-hour O₃ standard was only established in 2021, the long-term data for this new standard is back-calculated and present below. Daily maximum values are also presented in the following tables.

Carbon monoxide

Table 14: Statistical summary for daily maximum 8-hour CO Monash 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (ppm)	95 th percentile (ppm)	75 th percentile (ppm)	50 th percentile (ppm)
2016	95.8	0	1.7	1.0	0.4	0.2
2017	95.4	0	1.6	1.2	0.6	0.2
2018	92.3	0	1.5	1.2	0.5	0.2
2019	72.1	1	12.4	1.1	0.4	0.1
2020	94.9	2	22.0	1.5	0.6	0.2
2021	88.2	0	1.3	1.0	0.4	0.1
2022	83.7	0	1.3	0.7	0.3	0.2
2023	94.7	0	1.4	0.8	0.4	0.2
2024	94.7	0	1.3	0.8	0.3	0.18
2025	95.2	0	1.4	0.8	0.3	0.15

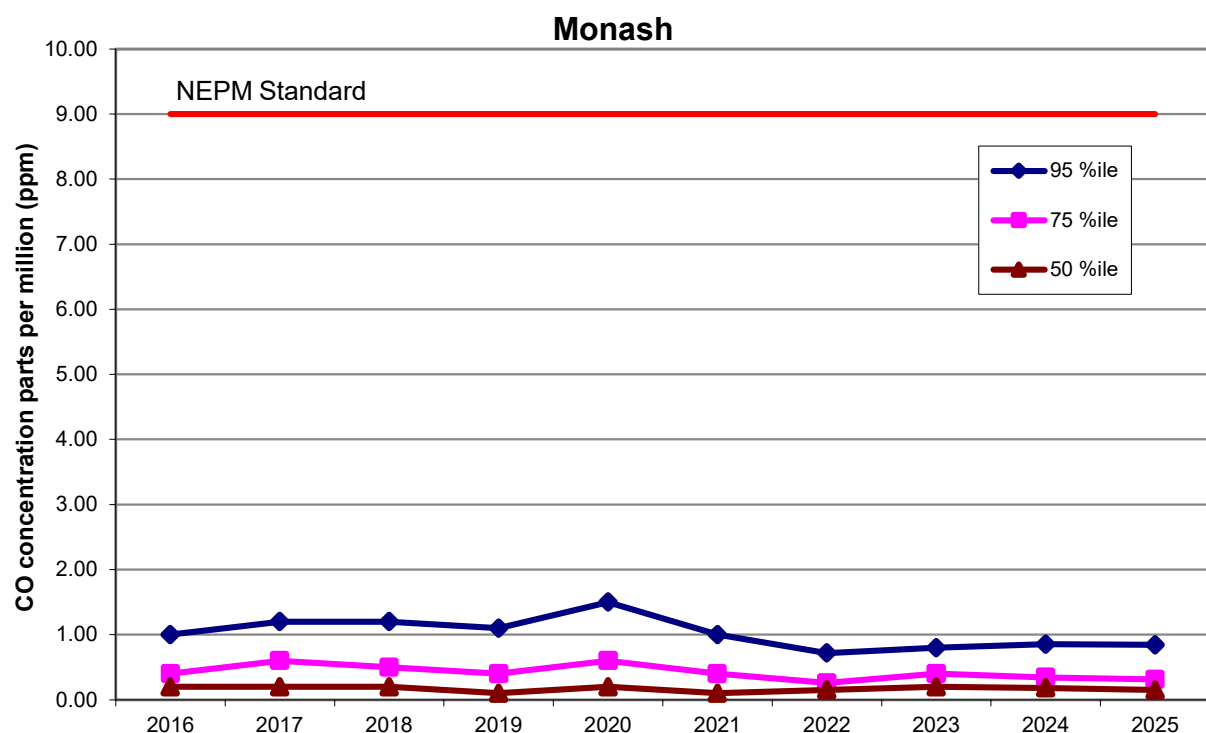


Figure 15: Statistical summary for daily maximum 8-hour CO Monash 2016 – 2025

Table 15: Statistical summary for daily maximum 8-hour CO Florey 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (ppm)	95 th percentile (ppm)	75 th percentile (ppm)	50 th percentile (ppm)
2016	95.5	0	1.9	1.2	0.5	0.3
2017	94.7	0	1.8	1.4	0.5	0.2
2018	94.7	0	1.5	1.1	0.5	0.3
2019	95.3	0	8.6	1.2	0.6	0.3
2020	94.7	2	14.6	1.3	0.6	0.3
2021	95.2	0	1.2	0.9	0.4	0.2
2022	92.9	0	1.4	0.8	0.3	0.2
2023	80.0	0	1.4	0.8	0.3	0.2
2024	90.0	0	1.0	0.7	0.2	0.1
2025	94.2	0	1.1	0.7	0.3	0.1

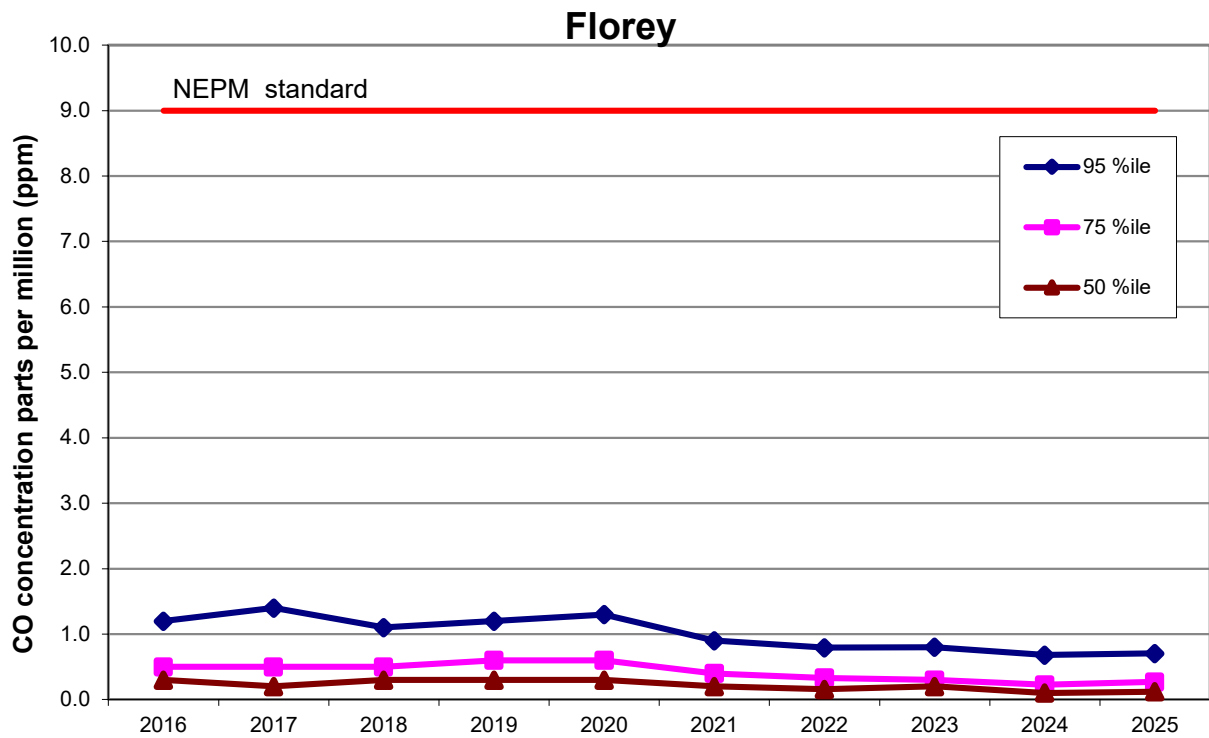


Figure 16: Statistical summary for daily maximum 8-hour CO Florey 2016 – 2025

Nitrogen dioxide

Table 16: Statistical summary for daily maximum 1-hour NO₂ Monash 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (ppm)	Annual average (ppm)	95 th percentile (ppm)	75 th percentile (ppm)	50 th percentile (ppm)
2016	95.6	0	0.036	0.004	0.027	0.019	0.012
2017	95.6	0	0.031	0.004	0.027	0.021	0.013
2018	95.5	0	0.039	0.004	0.028	0.020	0.014
2019	94.9	0	0.084	0.005	0.027	0.021	0.014
2020	95.7	0	0.116	0.004	0.027	0.019	0.011
2021	95.7	0	0.036	0.003	0.024	0.016	0.010
2022	93.8	0	0.030	0.003	0.023	0.015	0.007
2023	98.9	0	0.024	0.005	0.024	0.018	0.011
2024	64.2	0	0.028	0.005	0.023	0.016	0.009
2025	95.8	0	0.030	0.003	0.024	0.016	0.010

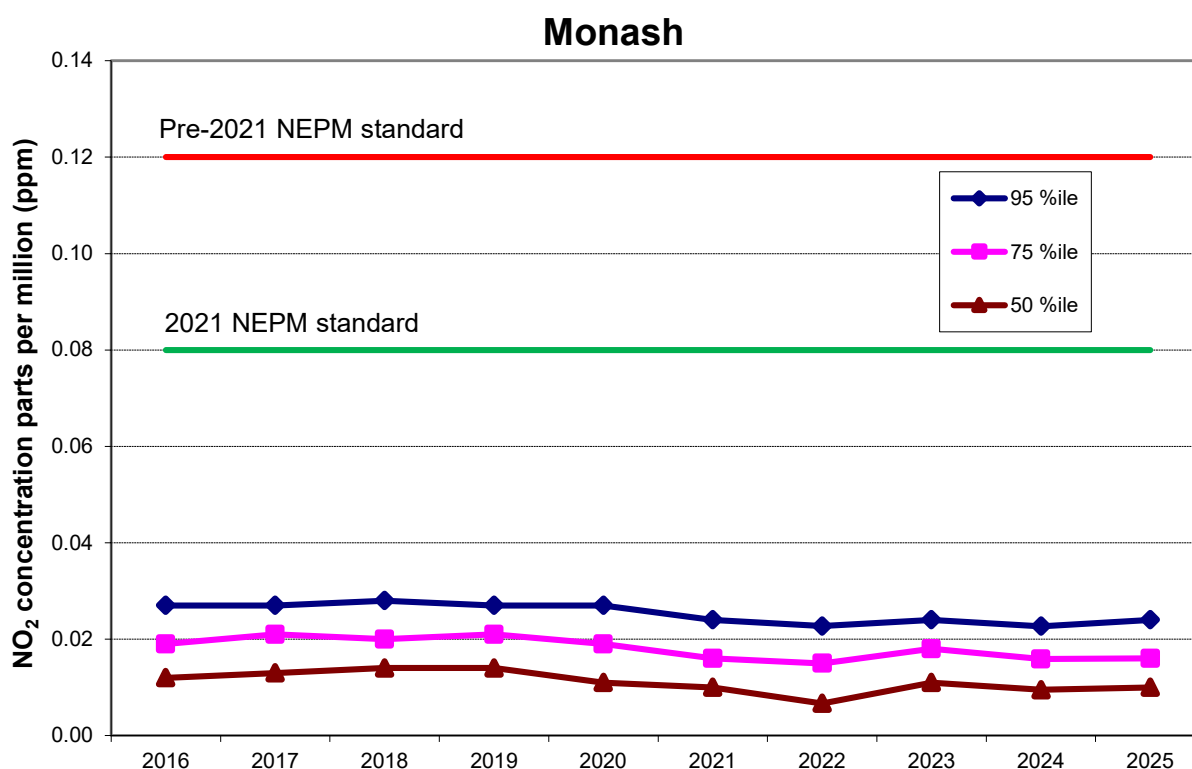


Figure 17: Statistical summary for daily maximum 1-hour NO₂ Monash 2016 – 2025

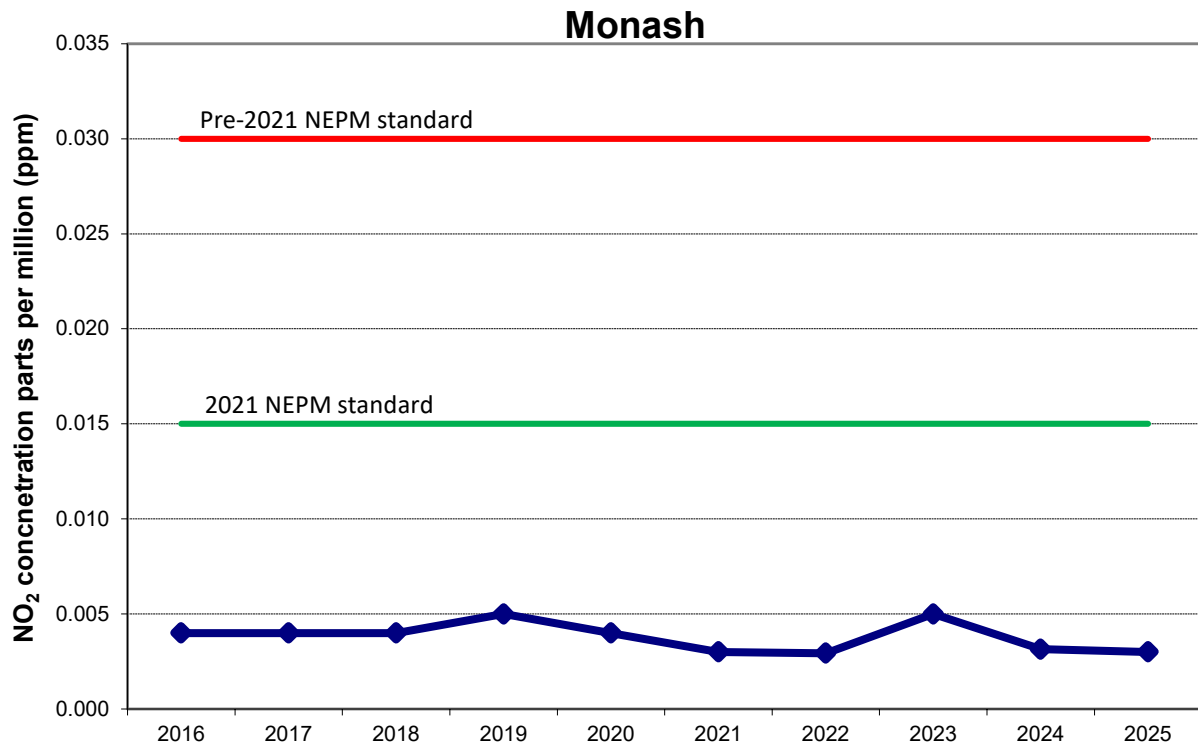


Figure 18: Annual average NO₂ Monash 2016 – 2025

Table 17: Statistical summary for daily maximum 1-hour NO₂ Florey 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (ppm)	Annual average (ppm)	95 th percentile (ppm)	75 th percentile (ppm)	50 th percentile (ppm)
2016	94.7	0	0.034	0.004	0.027	0.019	0.013
2017	93.7	0	0.033	0.005	0.025	0.020	0.015
2018	93.3	0	0.039	0.005	0.028	0.022	0.015
2019	92.4	0	0.062	0.005	0.027	0.020	0.014
2020	94.1	2	0.171	0.004	0.024	0.017	0.011
2021	91.6	0	0.034	0.004	0.020	0.013	0.009
2022	93.7	0	0.026	0.004	0.021	0.014	0.009
2023	98.6	0	0.030	0.004	0.023	0.016	0.011
2024	88.9	0	0.026	0.005	0.021	0.017	0.012
2025	94.3	0	0.030	0.004	0.024	0.017	0.011

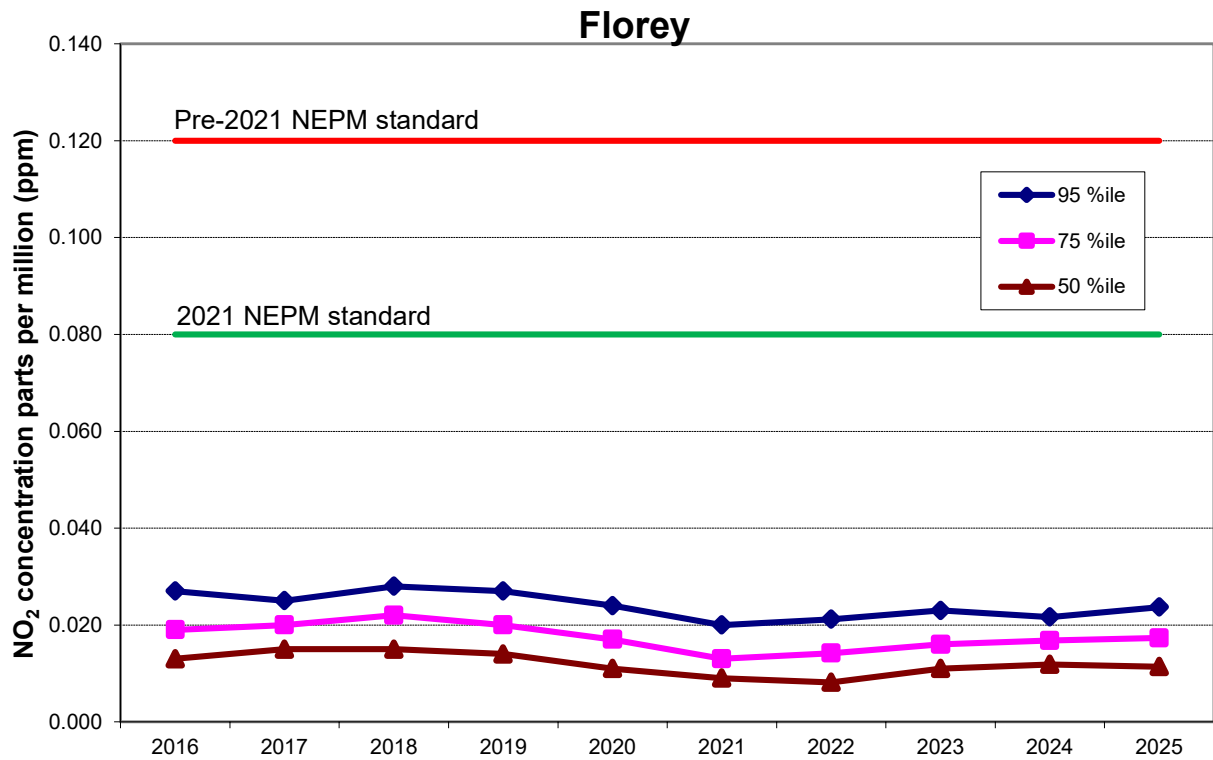


Figure 19: Statistical summary for daily maximum 1-hour NO₂ Florey 2016 – 2025

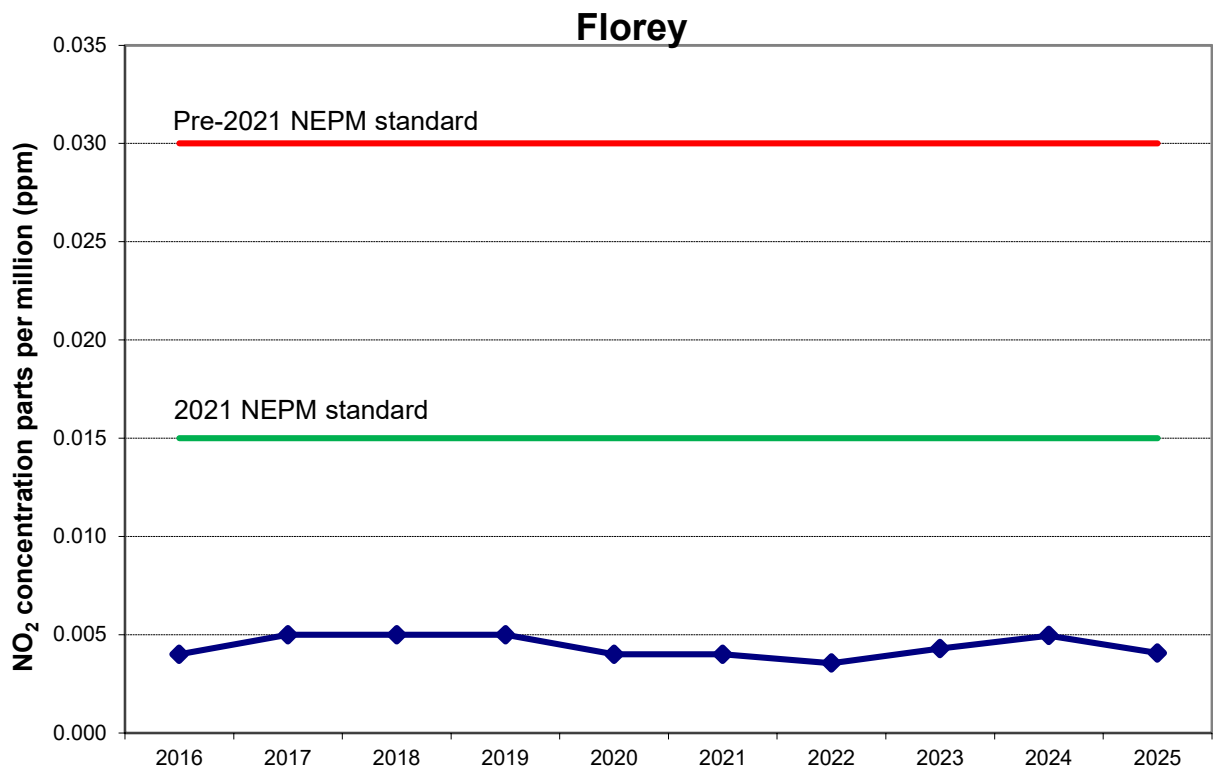


Figure 20: Annual average NO₂ Florey 2016 – 2025

Ozone

Table 18: Statistical summary for daily maximum 8-hour O₃ Monash 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (ppm)	95 th percentile (ppm)	75 th percentile (ppm)	50 th percentile (ppm)
2016	95.2	0	0.049	0.031	0.022	0.017
2017	95.5	0	0.052	0.036	0.027	0.020
2018	95.8	0	0.053	0.036	0.028	0.022
2019	95.8	10	0.107	0.042	0.029	0.022
2020	95.8	6	0.093	0.036	0.026	0.020
2021	95.7	0	0.042	0.030	0.023	0.017
2022	92.8	0	0.042	0.035	0.030	0.026
2023	95.2	0	0.052	0.040	0.033	0.027
2024	93.1	0	0.053	0.038	0.032	0.028
2025	95.5	0	0.060	0.044	0.035	0.031

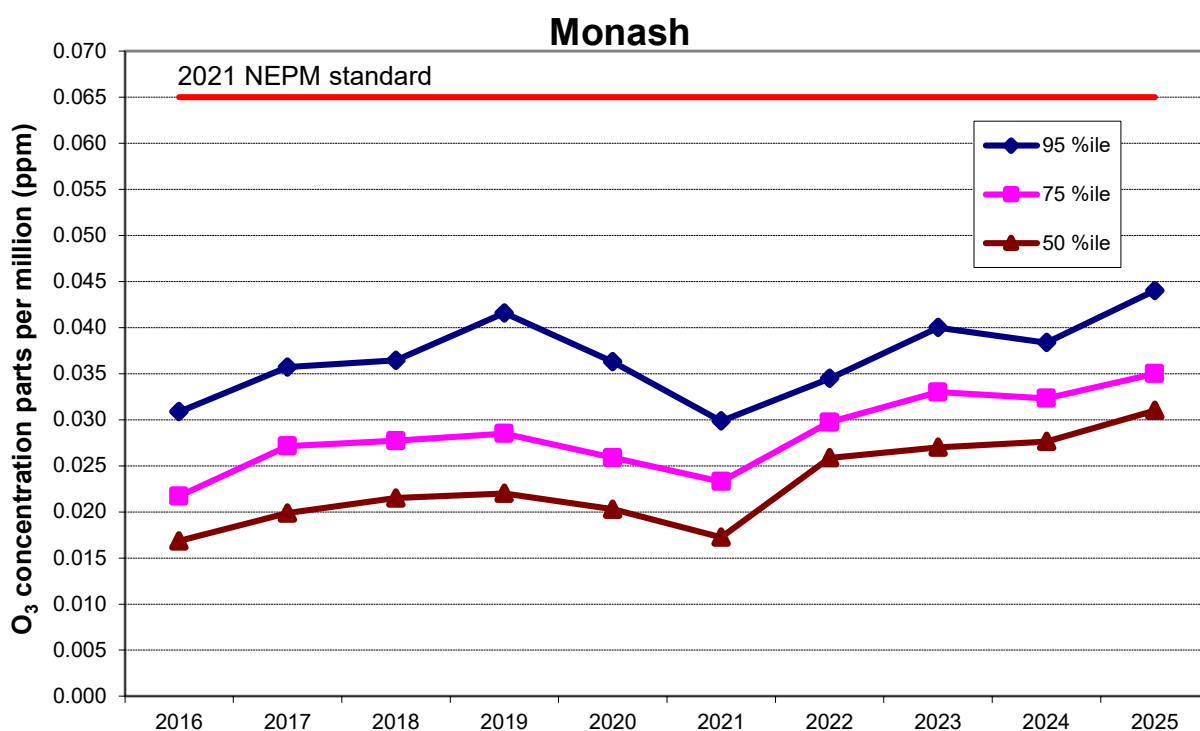


Figure 21: Statistical summary for daily maximum 8-hour O₃ Monash 2016 – 2025

Table 19: Statistical summary for daily maximum 8-hour O₃ Civic 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (ppm)	95 th percentile (ppm)	75 th percentile (ppm)	50 th percentile (ppm)
2016	95.8	0	0.042	0.027	0.020	0.015
2017	95.8	0	0.046	0.032	0.023	0.017
2018	95.2	0	0.050	0.032	0.024	0.018
2019	95.8	4	0.088	0.039	0.026	0.020
2020	95.8	3	0.076	0.032	0.023	0.018
2021	95.5	0	0.041	0.028	0.022	0.017
2022	95.3	0	0.037	0.030	0.025	0.022
2023	94.2	0	0.046	0.036	0.027	0.022
2024	95.8	0	0.042	0.034	0.028	0.024
2025	95.4	0	0.041	0.034	0.026	0.022

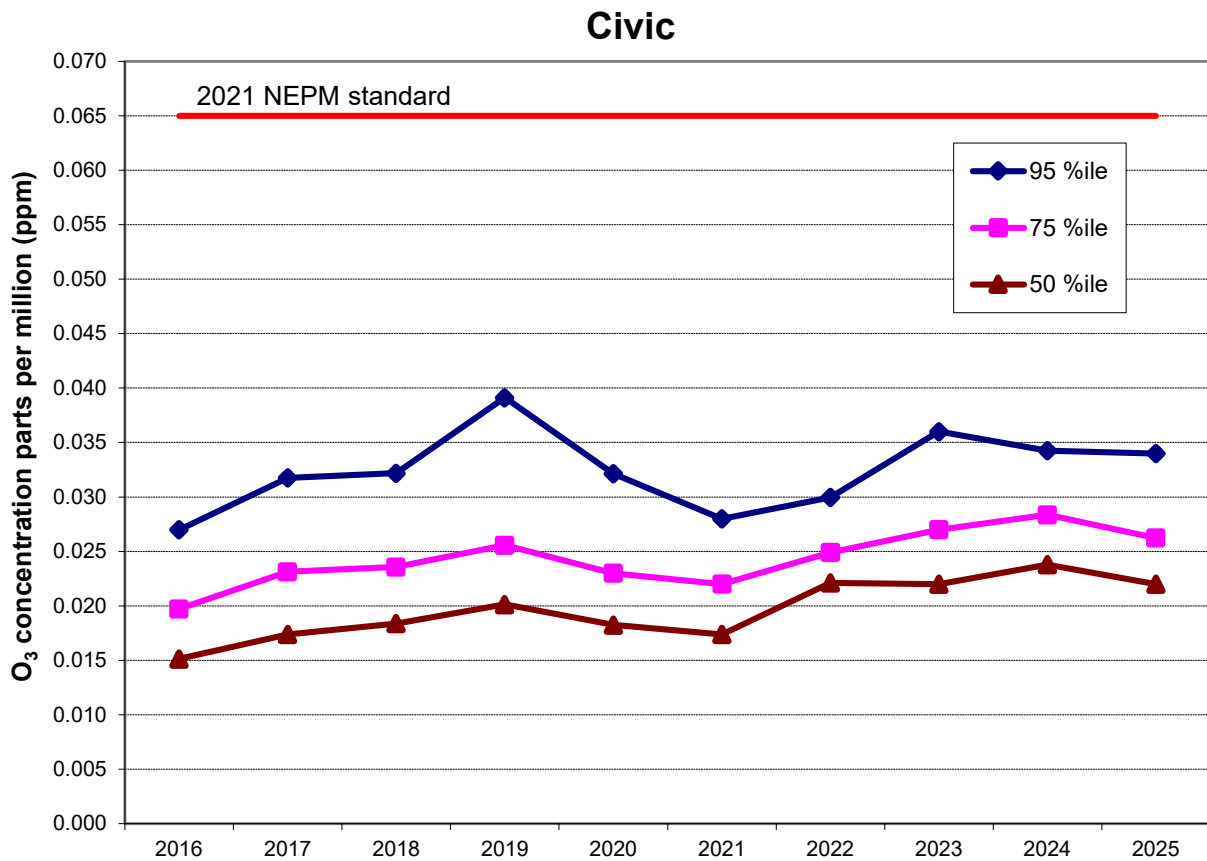


Figure 22: Statistical summary for daily maximum 8-hour O₃ Civic 2016 – 2025

Table 20: Statistical summary for daily maximum 8-hour O₃ Florey 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (ppm)	95 th percentile (ppm)	75 th percentile (ppm)	50 th percentile (ppm)
2016	95.8	0	0.046	0.029	0.022	0.016
2017	95.5	0	0.052	0.036	0.026	0.020
2018	95.2	0	0.054	0.036	0.027	0.021
2019	95.3	10	0.099	0.042	0.027	0.021
2020	92.0	6	0.089	0.037	0.026	0.020
2021	95.8	0	0.047	0.030	0.023	0.018
2022	95.4	0	0.042	0.033	0.028	0.024
2023	95.2	0	0.047	0.037	0.030	0.025
2024	94.4	0	0.049	0.041	0.033	0.029
2025	92.1	0	0.058	0.043	0.034	0.030

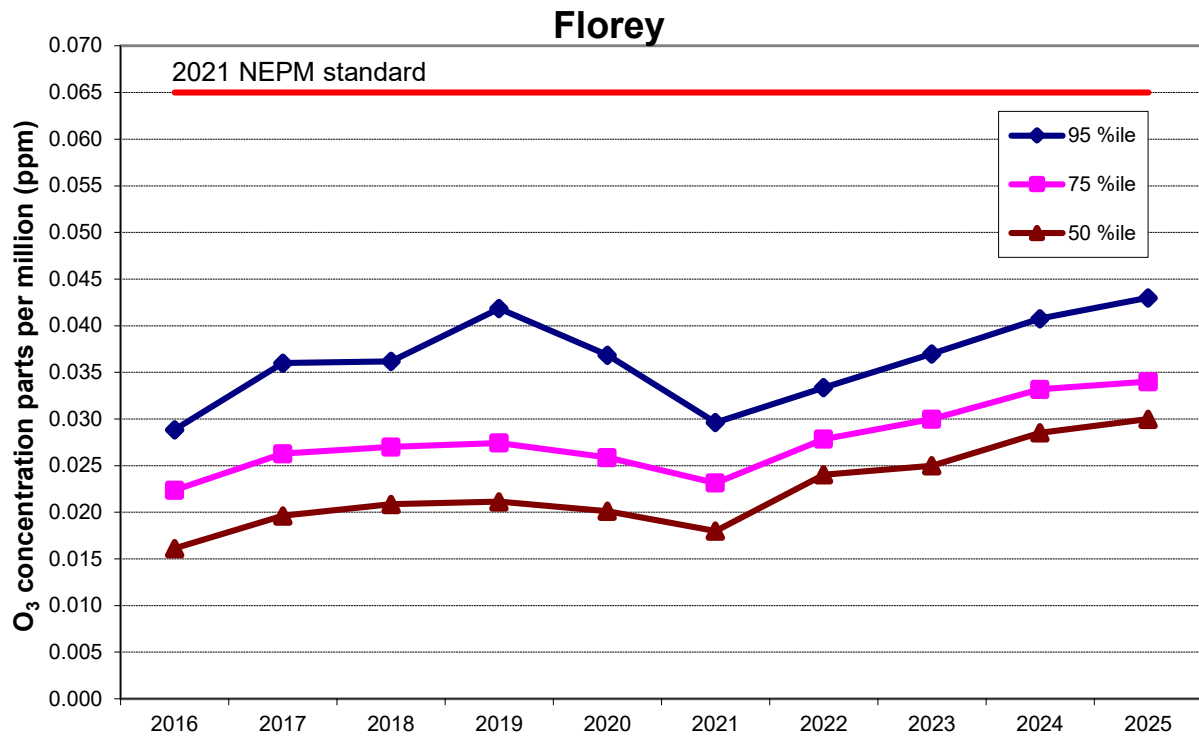


Figure 23: Statistical summary for daily maximum 8-hour O₃ Florey 2016 – 2025

PM₁₀

Table 21: Statistical summary for daily PM₁₀ Monash 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (µg/m ³)	Annual average (µg/m ³)	95 th percentile (µg/m ³)	75 th percentile (µg/m ³)	50 th percentile (µg/m ³)
2016	99.5	0	31.9	9.7	21.5	12.7	9.0
2017	98.9	0	28.3	9.8	20.5	12.3	9.0
2018	99.2	4	139.2	11.8	23.0	14.8	10.4
2019	98.4	22	385.7	19.1	61.1	17.8	11.4
2020	99.2	21	1046.1	22.4	54.3	17.8	10.4
2021	99.5	0	37.3	10.3	22.9	13.7	9.1
2022	96.7	0	25.0	7.5	15.4	9.8	6.9
2023	89.0	0	29.0	10.4	20.8	13.7	9.3
2024	92.3	0	28.4	10.7	20.4	14.2	10.1
2025	87.4	1	175.0	11.9	23.1	14.9	10.8

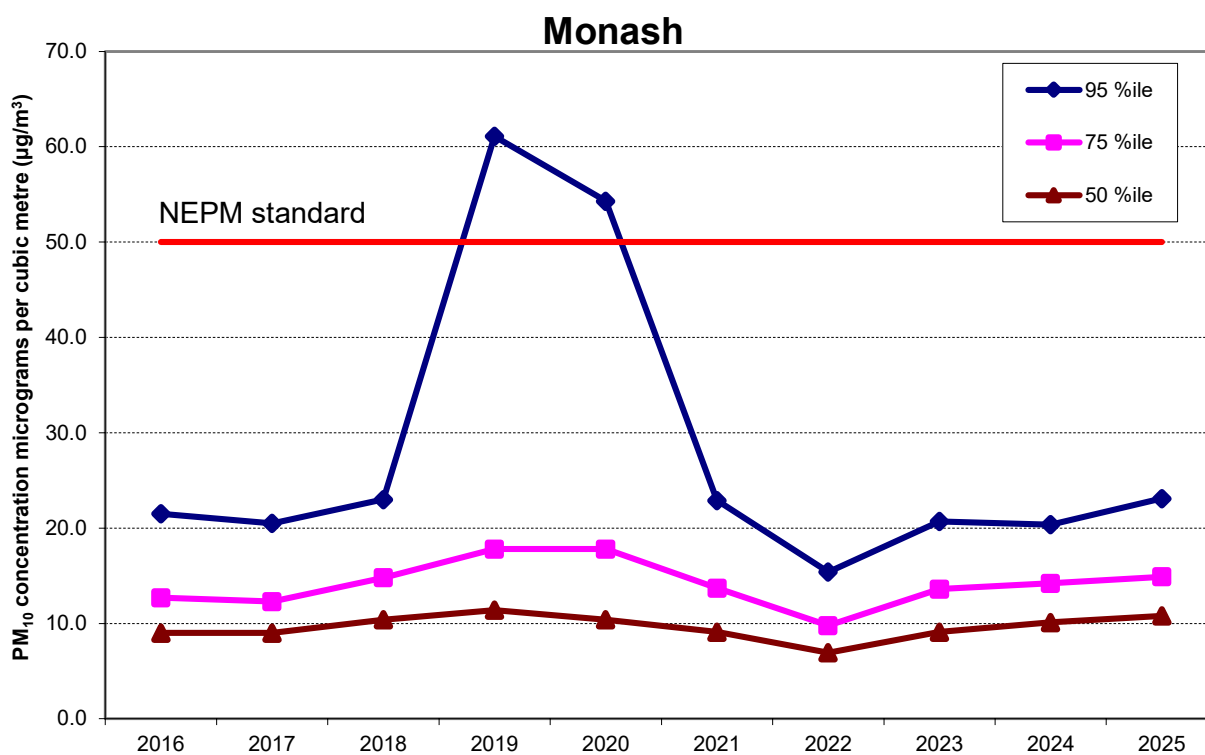


Figure 24: Statistical summary for daily PM₁₀ Monash 2016 – 2025

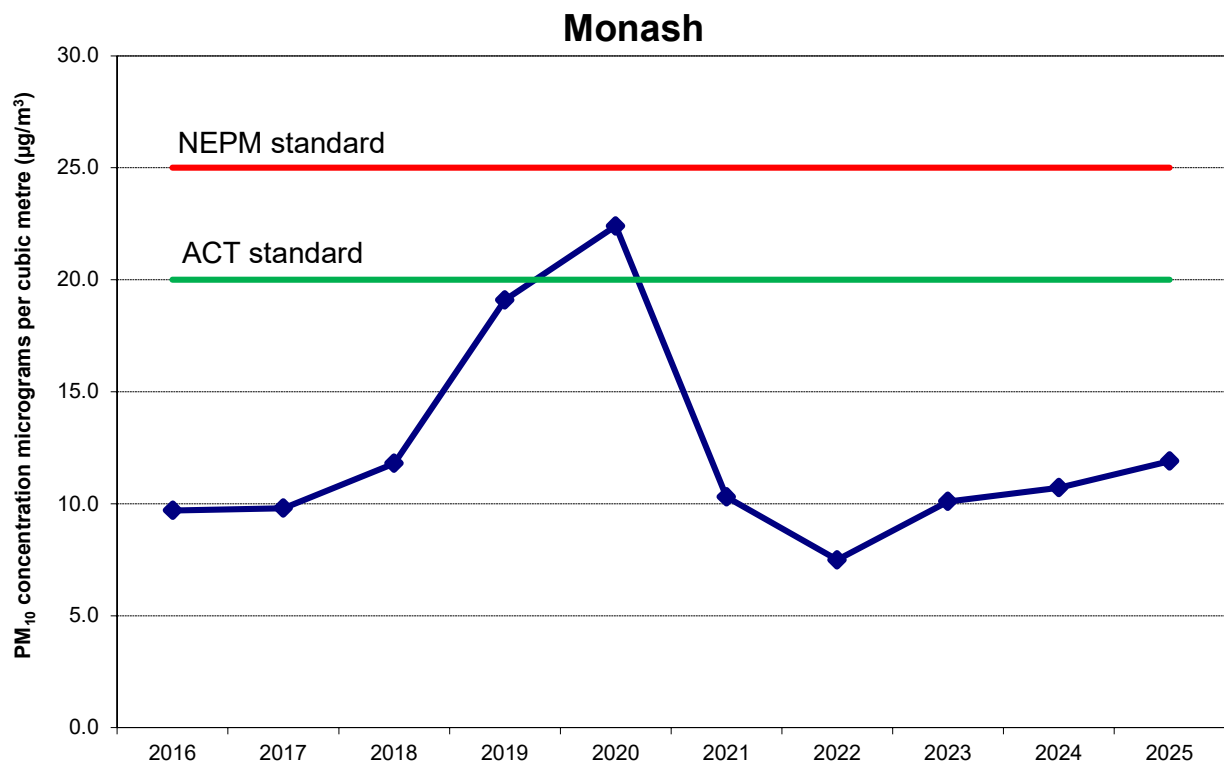


Figure 25: Annual average PM₁₀ Monash 2016 – 2025

Table 22: Statistical summary for daily PM₁₀ Civic 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (µg/m³)	Annual average (µg/m³)	95 th percentile (µg/m³)	75 th percentile (µg/m³)	50 th percentile (µg/m³)
2016	100	0	36.6	10.7	20.6	14.3	9.7
2017	83.6	1	53.0	9.68	10.8	7.1	5.2
2018	97.8	1	179.8	13.5	24.1	16.1	11.3
2019	97.3	29	390.2	22.9	82.5	19.5	12.7
2020	98.4	24	994.9	21.7	56.7	15.2	10.0
2021	93.7	0	28.6	8.7	15.6	11.5	8.1
2022	98.4	0	17.6	6.6	11.1	8.5	6.1
2023	88.8	0	39.5	9.7	18.4	11.6	8.9
2024	96.7	1	59.3	15.4	34.1	19.8	13.7
2025	96.2	2	166.0	13.9	26.5	17.2	12.0

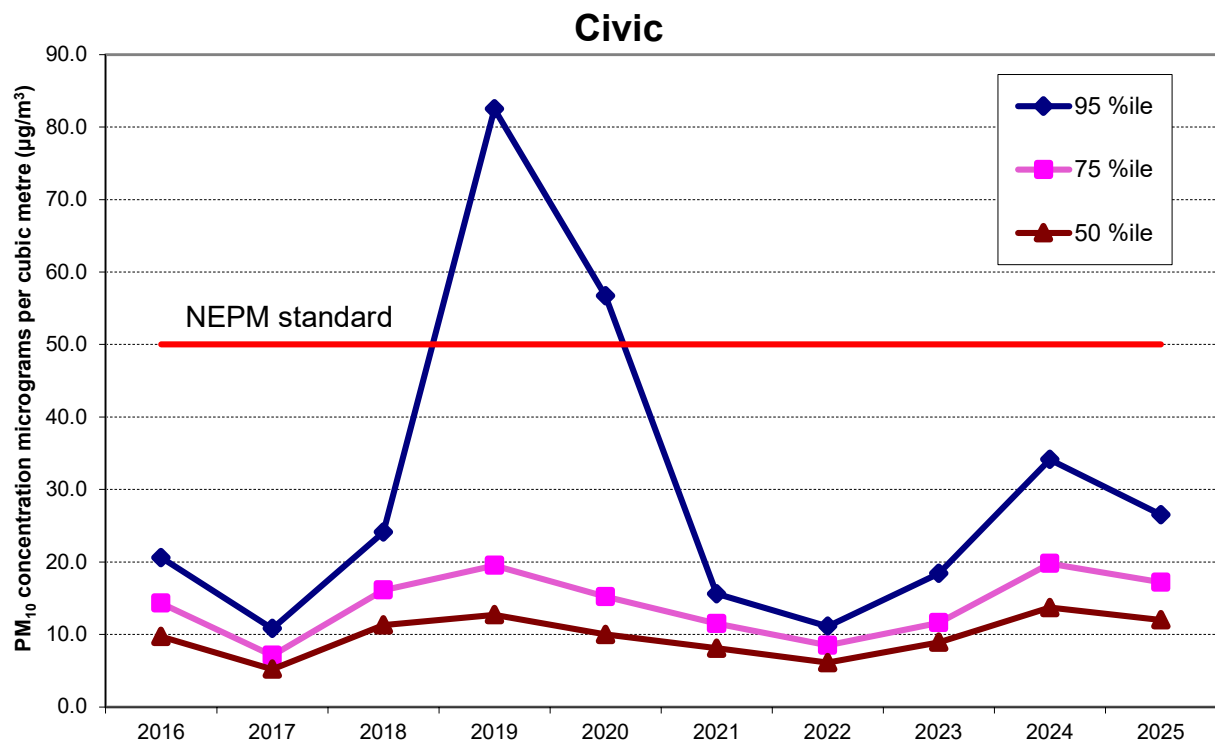


Figure 26: Statistical summary for daily PM₁₀ Civic 2016 – 2025

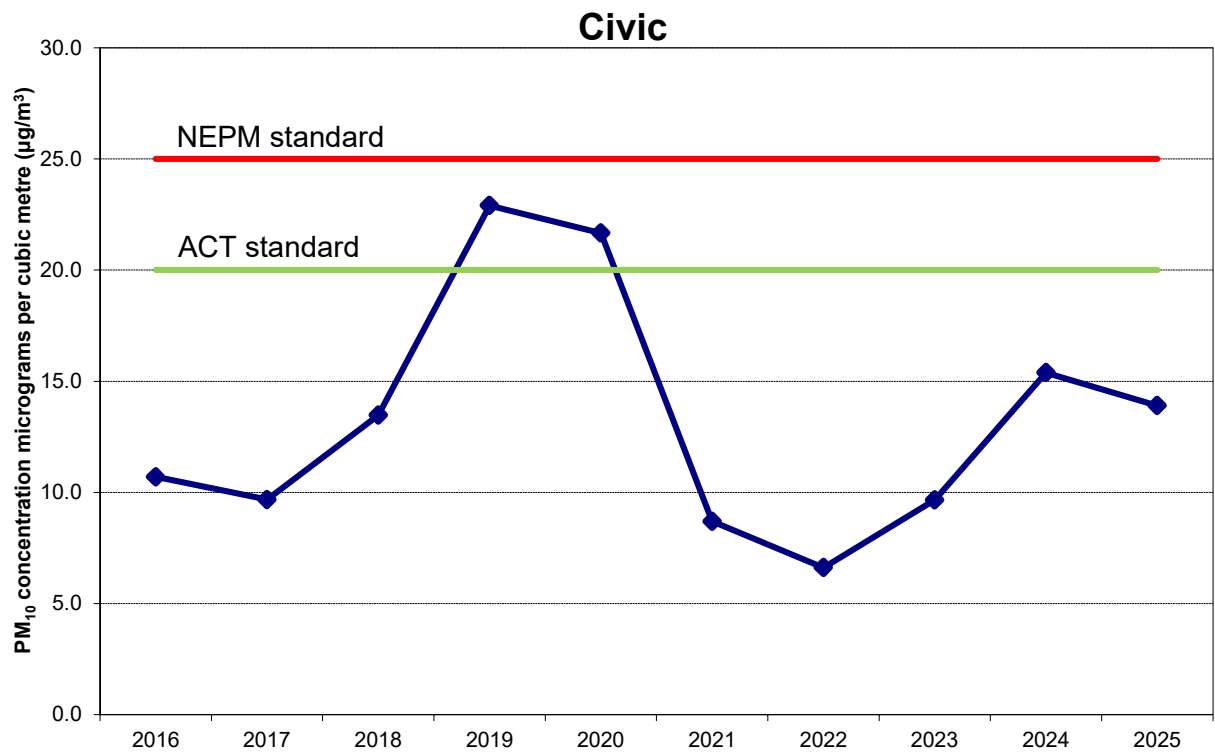


Figure 27: Annual average PM₁₀ Civic 2016 – 2025

Table 23: Statistical summary for daily PM₁₀ Florey 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (µg/m ³)	Annual average (µg/m ³)	95 th percentile (µg/m ³)	75 th percentile (µg/m ³)	50 th percentile (µg/m ³)
2016	98.9	0	28.8	10.1	20.6	13.1	9.2
2017	98.4	0	28.1	9.8	21.8	12.8	8.5
2018	89.9	3	158.6	12.0	23.8	15.3	10.1
2019	98.1	28	379.7	23.8	96.8	20.6	13.4
2020	99.5	21	1075.5	22.8	57.5	17.9	10.9
2021	99.5	0	37.9	9.6	19.6	12.7	8.5
2022	98.6	0	25.3	7.5	15.0	9.5	6.9
2023	89.5	0	23.7	9.9	18.1	12.7	9.0
2024	94.8	1	53.7	11.0	19.2	14.3	10.3
2025	95.1	2	177.1	11.1	21.2	13.4	9.3

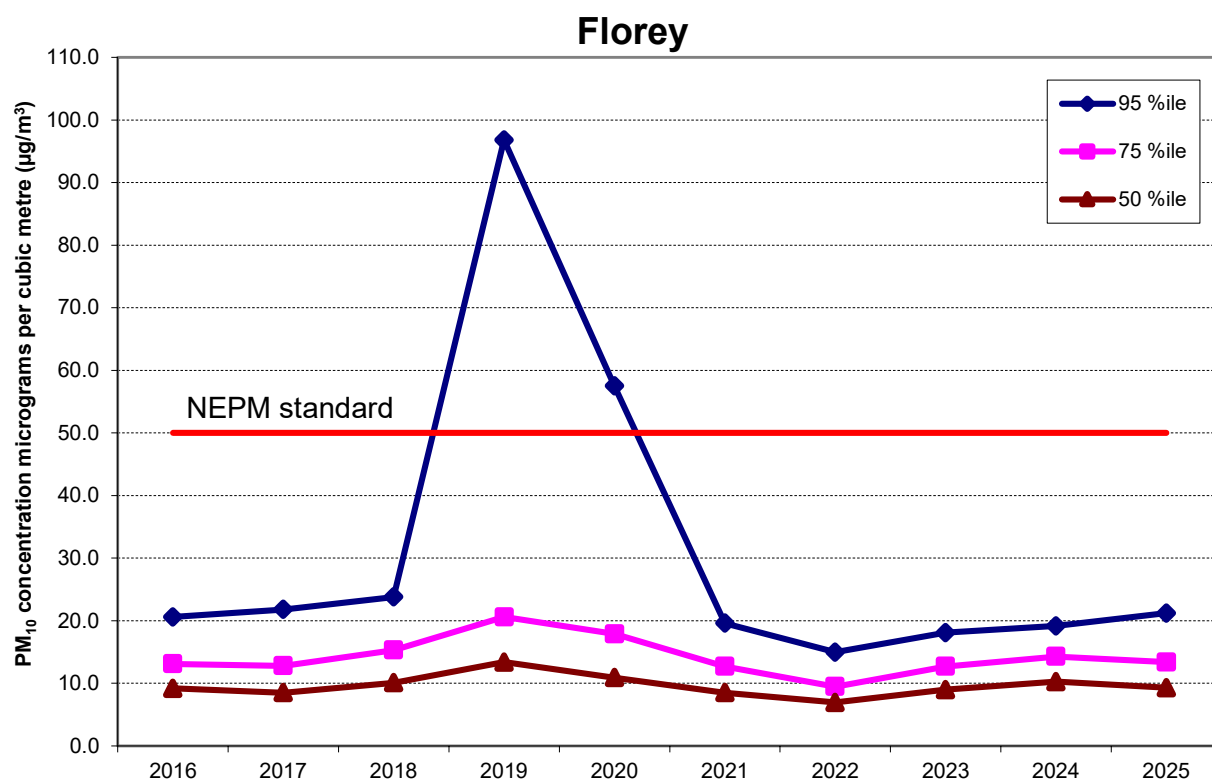


Figure 28: Statistical summary for daily PM₁₀ Florey 2016 – 2025

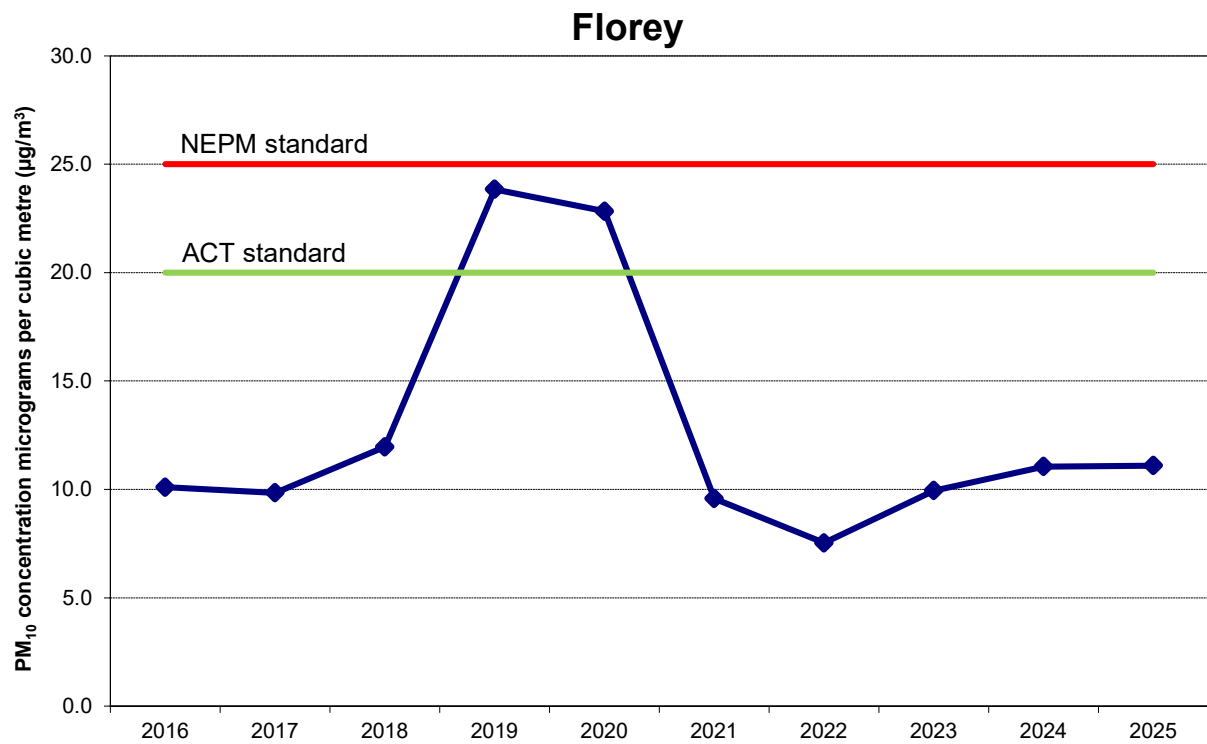


Figure 29: Annual average PM₁₀ Florey 2016 – 2025

PM_{2.5}

Table 24: Statistical summary for daily PM_{2.5} Monash 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (µg/m ³)	Annual average (µg/m ³)	95 th percentile (µg/m ³)	75 th percentile (µg/m ³)	50 th percentile (µg/m ³)
2016	98.1	8	32.7	7.4	20.7	8.2	5.4
2017	98.6	12	35.2	7.7	22.5	9.3	5.3
2018	99.2	2	32.0	6.8	19.2	8.6	5.3
2019	98.9	28	307.9	14.1	42.7	12.5	7.2
2020	98.6	37	1146.5	17.9	38.4	11.3	5.7
2021	98.6	5	27.9	6.8	19.2	8.1	4.9
2022	92.6	0	22.8	5.3	12.7	6.6	4.6
2023	98.1	1	27.2	6.8	17.4	8.3	5.4
2024	98.4	1	26.4	6.7	16.6	8.1	5.3
2025	92.6	9	36.4	7.3	18.0	8.1	5.7

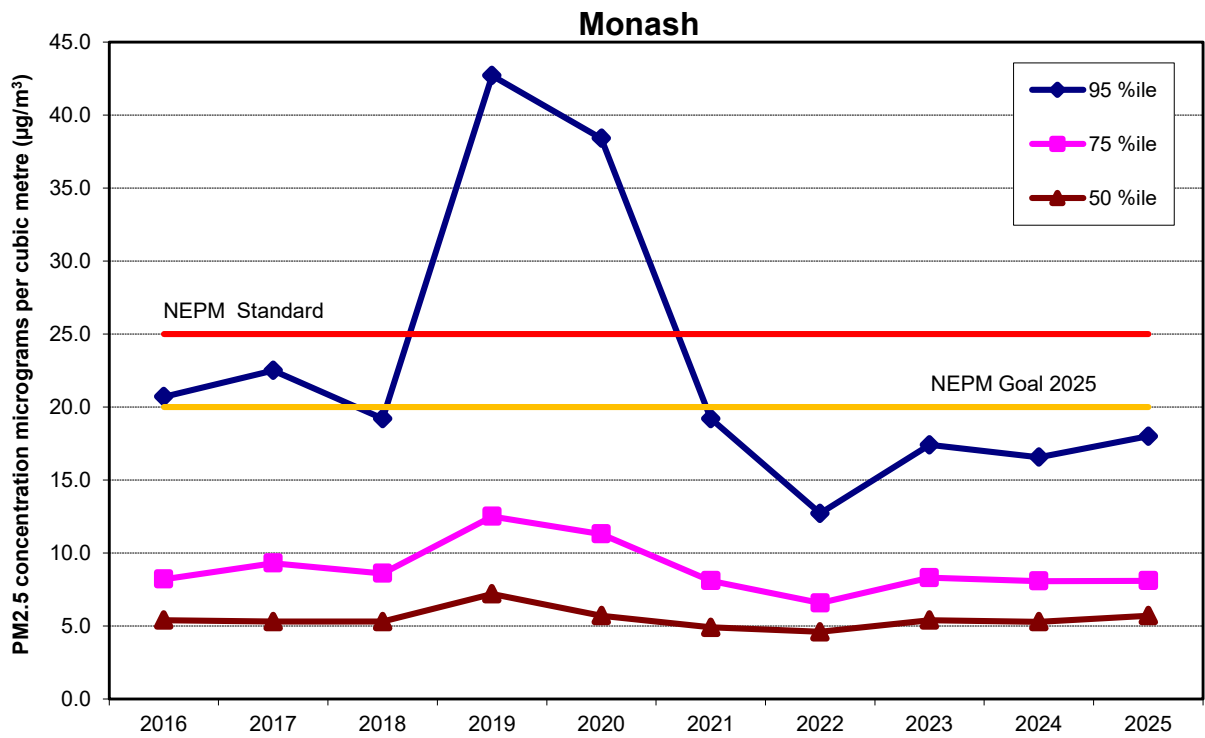


Figure 30: Statistical summary for daily PM_{2.5} Monash 2016 – 2025

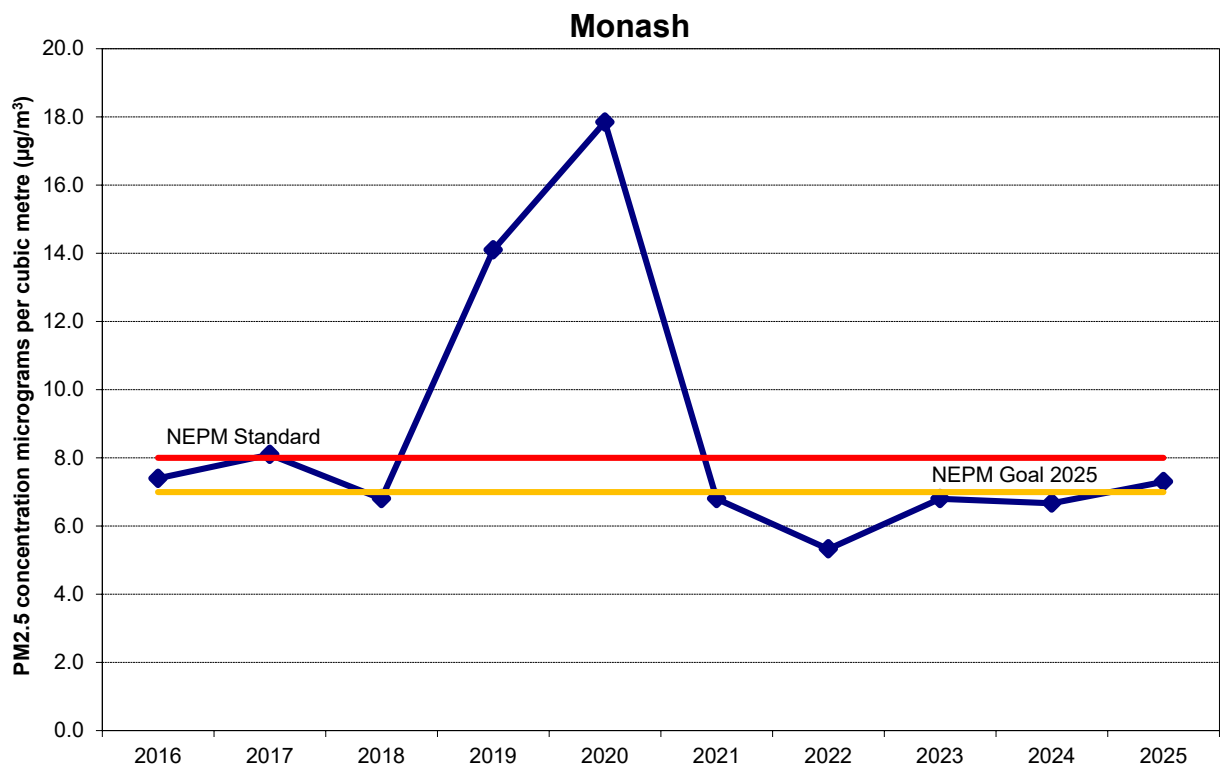


Figure 31: Annual average PM_{2.5} Monash 2016 – 2025

Table 25: Statistical summary for daily PM_{2.5} Civic 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (µg/m ³)	Annual average (µg/m ³)	95 th percentile (µg/m ³)	75 th percentile (µg/m ³)	50 th percentile (µg/m ³)
2016	98.6	0	22.1	5.5	11.0	7.1	4.8
2017	94.2	1	53.8	5.9	10.8	7.1	5.2
2018	98.6	1	36.1	6.5	12.1	8.1	6.1
2019	96.4	29	390.2	22.9	82.5	19.5	12.7
2020	99.2	18	872.6	12.9	24.8	7.6	5.1
2021	96.7	0	21.8	5.0	9.5	6.6	4.6
2022	96.4	0	10.1	4.1	7.5	5.3	3.8
2023	98.1	0	11.6	5.4	9.4	7.0	5.1
2024	97.8	0	14.9	6.3	11.0	7.9	6.2
2025	97.3	0	21.3	5.5	10.6	7.1	5.0

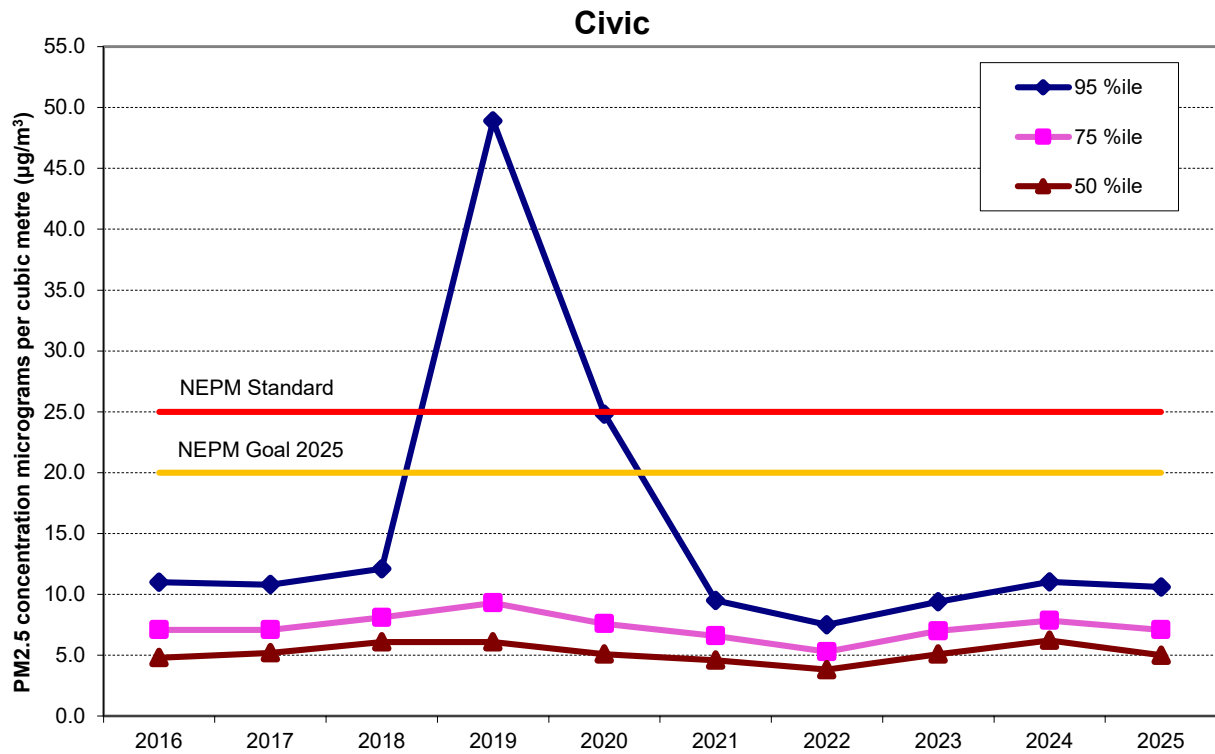


Figure 32: Statistical summary for daily PM_{2.5} Civic 2016 – 2025

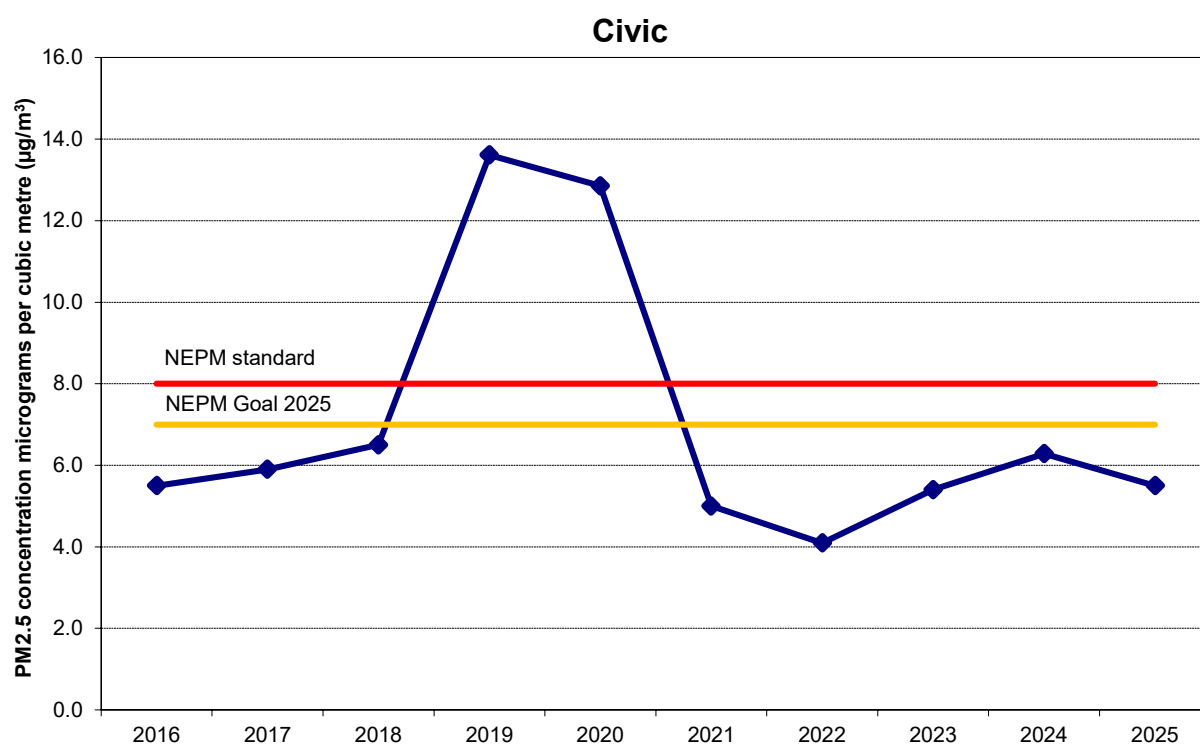


Figure 33: Annual average PM_{2.5} Civic 2016 – 2025

Table 26: Statistical summary for daily PM_{2.5} Florey 2016 – 2025

Year	Data Availability (%)	No. of Exceedances (days)	Max conc. (µg/m ³)	Annual average (µg/m ³)	95 th percentile (µg/m ³)	75 th percentile (µg/m ³)	50 th percentile (µg/m ³)
2016	98.6	1	27.2	7.3	17.4	8.6	5.8
2017	94.2	0	23.8	7.2	17.9	8.7	5.6
2018	97.3	2	26.4	7.4	17.0	8.7	5.9
2019	98.4	29	319.6	14.8	46.9	12.3	7.2
2020	97.3	25	983.4	16.9	28.8	12.2	5.9
2021	98.4	3	28.2	6.2	16.0	7.6	4.9
2022	96.7	0	23.2	5.0	12.3	6.3	4.4
2023	80.3	0	21.5	6.4	14.8	8.3	5.3
2024	72.4	0	23.9	7.4	16.2	9.4	6.3
2025	95.9	1	27.7	6.6	14.4	8.2	5.6

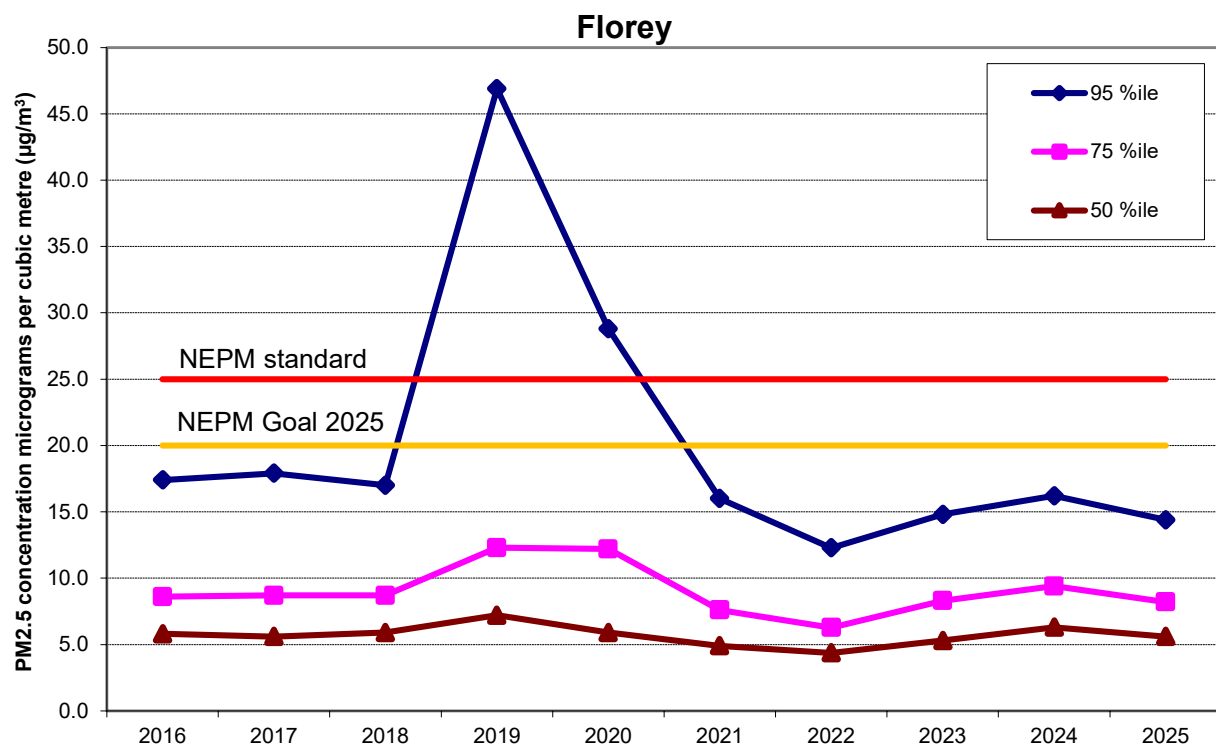


Figure 34: Statistical summary for daily PM_{2.5} Florey 2016 – 2025

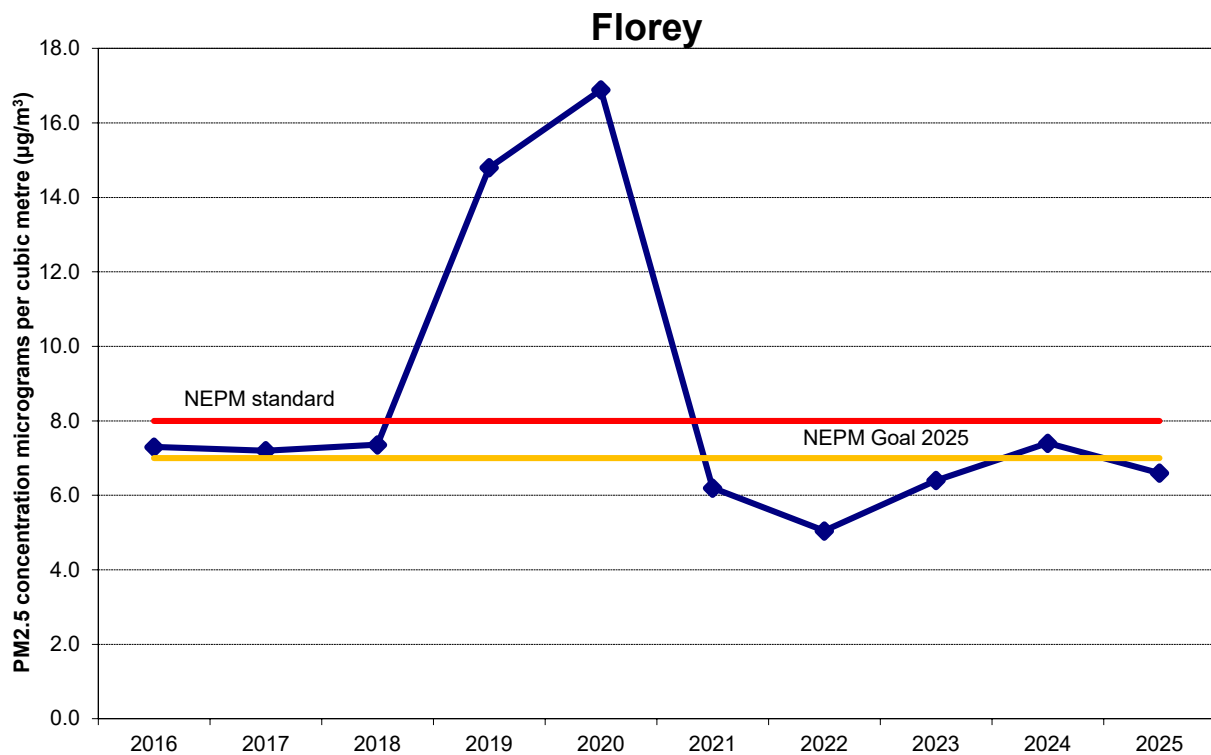


Figure 35: Annual average PM_{2.5} Florey 2016 – 2025

Figure 36: Monash – 2025 Ambient Air Quality Category (AQC)

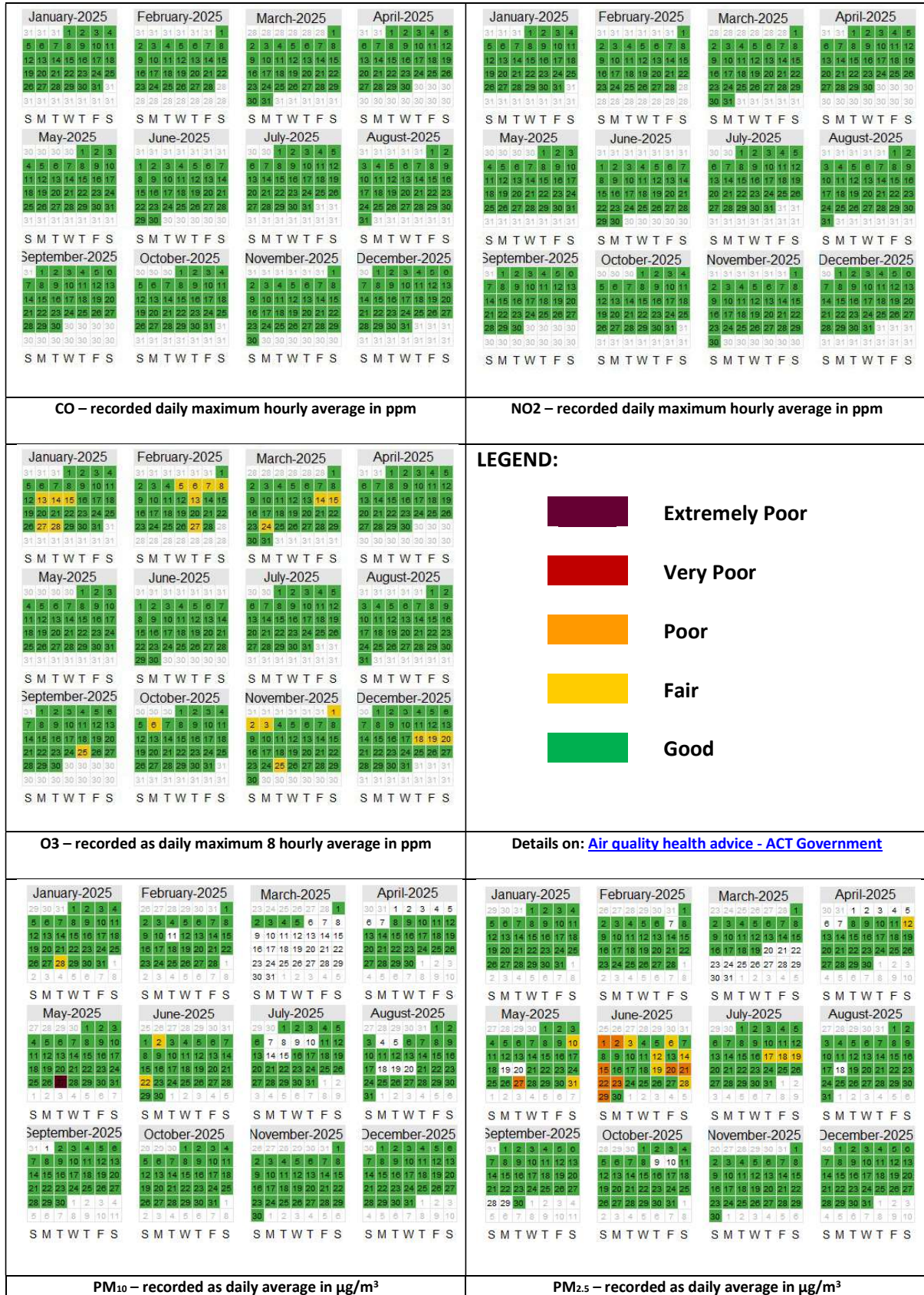


Figure 37: Civic – 2025 Ambient Air Quality Category (AQC)



Figure 38: Florey – 2025 Ambient Air Quality Category (AQC)

