



Update on Air Quality Monitoring in Dublin City 2019

Martin Fitzpatrick
Principal Environmental Health Officer
Air Quality Monitoring and Noise Control Unit
Dublin City Council

Air Quality and Noise Control in Practice in Dublin

Key Tasks

- Air Quality Monitoring
- Enforcement of Air and Noise legislation
- Research
- Expertise

The National Ambient Air Quality Monitoring Programme ('AAMP')
Announced by the EPA November 2017

Air Quality Monitoring and Noise Control Unit
Dublin City Council

What the new programme delivers

A greatly expanded national monitoring network with 68 automatic monitoring stations, supplemented by mobile trailers and local monitoring sites in three tiers

Tier 1 – A core network of CAFE directive monitoring stations upgraded to provide additional automatic real-time PM information

Tier 2 – A greatly expanded Air Quality Index for Health (AQIH) network. This will consist of the existing CAFE network, the existing automatic EMEP network and a further **38** sites

Tier 3 –Local air quality monitoring. To be progressed at an initial **15** sites

Air Quality Monitoring Station update 2019

Location	Nitrogen dioxide (NO2)	PM10		PM2.5	
		Real Time	Gravimetric	Real Time	Gravimetric
WINETAVERN ST.	✓		✓		
BALLYFERMOT	✓	✓		✓	
RATHMINES**	✓	✓	✓	✓	
DAVITT RD.	✓	✓		✓	
PHOENIX PARK		✓	✓	✓	
ST. ANNES PARK **		✓		✓	
MARINO		✓		✓	
FINGLAS		✓		✓	✓
ST. JOHNS RD.	✓	✓		✓	
RINGSEND	✓	✓		✓	
TALLAGHT			✓		
BLANCHARDSTOWN	✓		✓		
DUN LAOGHAIRE	✓		✓		
PEARSE ST. **	Under commission				

2017

Nitrogen dioxide (NO₂)

EU annual mean limit value and WHO annual air quality guideline value are both 40 µg/m³.

EU hourly value - not more than 18 occurrences of the hourly value to be above 200 µg/m³

Concentrations at all monitoring sites **were below** the EU annual limit value **and** WHO annual air quality guideline value.

There were also no exceedances of the EU NO₂ hourly limit value.
There was one hourly average above the hourly WHO air quality guideline (200 µg/m³) in 2017 (at the monitoring station in Blanchardstown)

2017

PM10

EU mean limit value $40 \mu\text{g}/\text{m}^3$, WHO Guideline $20 \mu\text{g}/\text{m}^3$

EU Daily limit value - $50 \mu\text{g}/\text{m}^3$ not to be exceeded more than 35 times in a calendar year

WHO Annual Guideline $20 \mu\text{g}/\text{m}^3$

WHO Hourly guideline $50 \mu\text{g}/\text{m}^3$ 24-hour mean

Concentrations at all monitoring sites **were below** the EU annual limit value.

There were also **no exceedances** of the EU daily limit value.

Concentrations **were also below** the annual WHO air quality guideline value.

However, some sites were above the daily WHO air quality guideline value.

2017

Particulates (Pm2.5)

EU annual limit value of 20 $\mu\text{g}/\text{m}^3$, WHO Guideline 10 $\mu\text{g}/\text{m}^3$

WHO 24-hour mean 25 $\mu\text{g}/\text{m}^3$

Concentrations at all monitoring sites **were below** the EU annual limit value **and** the annual WHO air quality guideline value .

All monitoring stations had exceedances of the daily WHO air quality guideline value.

Dublin Air Quality Overview
2018
Nitrogen dioxide
Provisional data

NO ₂ results for Dublin 2018		
Site	Annual mean (µg/m ³)	No. of times NO ₂ hourly level >200µg/m ³
Winetavern St	29	0
Davitt Rd	25*	0
Coleraine St.	30*	0
Ballyfermot	17	0
Dun Laoghaire	25	0
Blanchardstown	25	0

*not full year

EU annual mean limit value and WHO annual air quality guideline value are both 40 µg/m³.

The hourly limit for NO₂ is 200 ug/m³. The limit is deemed breached if more than 18 exceedances occur during the year.

Particulates (Pm₁₀) Provisional data 2018

PM ₁₀ results for Dublin City 2018		
Site	2018 Annual Mean µg/m ³	No. of days >50µg/m ³
Phoenix Park	11	0
Rathmines	15	1
Winetavern Street	14	2
Ballyfermot	16	0

EU mean limit value 40 µg/m³, WHO Guideline 20 µg/m³

The daily limit for PM₁₀ is 50 ug/m³. The limit is deemed breached if more than 35 exceedances occur during the year.

Particulates (Pm2.5) Provisional data 2018

PM _{2.5} results for Dublin City 2018	
Site	2018 Annual Mean $\mu\text{g}/\text{m}^3$
Marino	6
Finglas	8

EU annual limit value of $20 \mu\text{g}/\text{m}^3$. WHO Guideline $10 \mu\text{g}/\text{m}^3$

Enforcement Activities 2018

Reactive

Noise complaint cases : 556 (89% resolved on rolling year basis)

Main sources of noise complaints are construction and music entertainment industries

Air pollution complaint cases: 149 (92% resolved on rolling year basis)

Main sources of air pollution complaints are construction dust and food business odours

Proactive

- Permits for dry cleaning and car spraying operators
- Solid fuel regulations
- Acoustic management at major outdoor events
- Planning referrals

1065 inspections carried out in 2018

RMCEI evaluation of enforcement activities rated as "exceptional" by EPA

Preliminary work by EPA with assistance from Dublin City Council

Nitrogen dioxide indicative study commenced 2016 –
consolidated into wider study in Q1 2017
Continued to end 2018

Purpose

Identify potential “hot spots” where additional permanent real time monitoring would be merited

26 monitoring points in 6 areas of the city:

Heuston Station (4) **

Bus Aras (4)**

Ringsend (4)

North Wall (4)

Pearse St. (4)**

Grand Canal (4)

Rathmines (2)



Particulate Monitoring—replace most existing analysers with real time analysers

Air Quality Monitoring and Noise Control Unit

Dublin City Council

Priorities for 2019

- New air monitoring station in North City Centre – Custom House Quay area
- Improving dissemination of air quality data to the public:

National platform (national working group established)

Data can currently be viewed in real time at

<http://www.epa.ie/air/quality/data/>

Local/regional platforms

Air Implementation Pilot

12 Cities across Europe (Antwerp, Berlin, Dublin, Madrid, Malmö, Milan, Paris, Ploiesti, Plovdiv, Prague, Vienna and Vilnius)

Sharing expertise and developing improved strategies for;

Assessment of Air Quality

Air Quality Management

Dissemination of Air Quality information to the Public

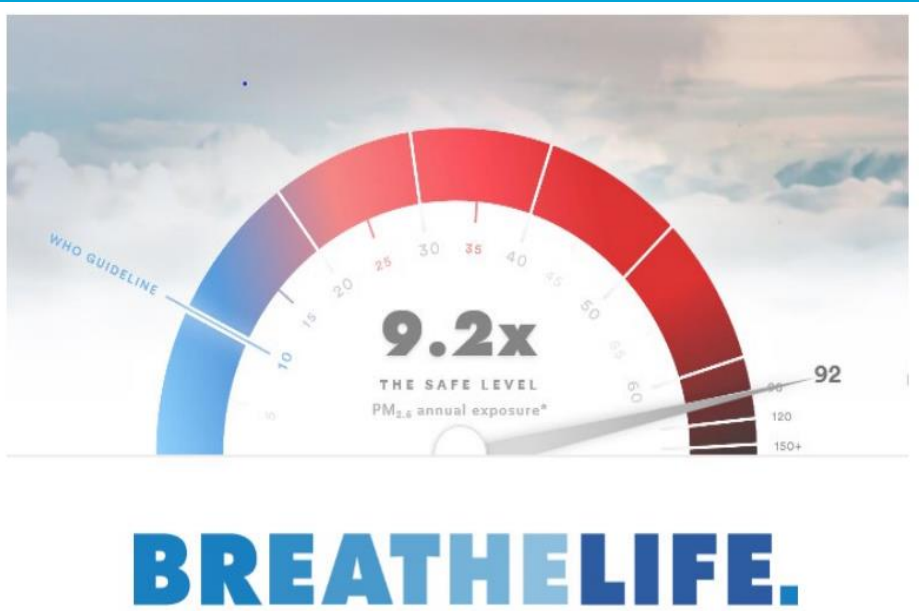
Completed 2013

Updated 2018

Update due for publication in 2019



**Mobilise 500 cities by 2020
to commit to reaching WHO Air Quality Guidelines
by 2030**



Voluntary commitments

<http://breathelife2030.org/>

**Air Quality Monitoring and Noise Control Unit
Dublin City Council**