

**Air Quality Monitoring
and Noise Control Unit**

Annual Report 2004

**Air Quality Monitoring and Noise Control Unit
Dublin City Council
Block 3, Floor 1
Civics Offices
Wood Quay
Dublin 8**

**An tAonad Monatóireachta ar Aercháilíocht agus Rialaithe
Torainn**

Tuarascáil Bhliantúil 2004

**An tAonad Monatóireachta ar Aercháilíocht agus Rialaithe
Torainn**
Comhairle Cathrach Bhaile Átha Cliath
Bloc 3, Urlár 1
Oifigí na Cathrach
An Ché Adhmaid
Baile Átha Cliath 8

Executive Summary

This Annual Report deals with the activities of the Air Quality Monitoring and Noise Control Unit of Dublin City Council during 2004. These activities include:

1. Enforcement of air pollution control legislation
2. Monitoring of environmental noise and enforcement of noise control legislation
3. Air pollution monitoring
4. Research and provision of expertise on an ongoing basis to other services and departments in Dublin City Council

The areas of enforcement of air pollution and noise control legislation continued to be a major challenge during 2004. Complaints for air pollution increased by 20% from 2003, and noise complaints reached an all time high at 688 for the year. This is the greatest number of complaints ever dealt with by the Unit.

Air quality during 2004 has been generally good. Levels of benzene, lead, sulphur dioxide, black smoke and carbon monoxide have been satisfactory. Levels of nitrogen dioxide continued to reduce and levels of particulates (PM_{10}) were down on 2003. Compliance with impending mandatory levels will be a major challenge in the years ahead.

Achoimre Fheidhmeach

Tá cur síos sa Tuarascáil Bhliantúil seo ar ghníomhaíochtaí an Aonaid Monatóireachta ar Aercháilíocht agus Rialaithe Torainn de Chomhairle Cathrach Bhaile Átha Cliath le linn 2004, lena n-áirítear na nithe seo a leanas:

5. Reachtaíocht a fhorghníomhú i dtaobh truailliú aeir a rialú
6. Monatóireacht ar thorann timpeallachta agus reachtaíocht a fhorghníomhú i dtaobh torann a rialú
7. Monatóireacht ar thruailliú aeir
8. Taighde a dhéanamh agus saineolas a sholáthar ar bhonn leanúnach do sheirbhísí agus do ranna eile de chuid Chomhairle Cathrach Bhaile Átha Cliath

Ba mhór an dúshlán orainn iad fós na réimsí le linn 2004 a bhain le reachtaíocht a fhorghníomhú i dtaobh truailliú aeir agus torann a rialú. Bhí méadú 20% ar na gearáin faoi thruailliú aeir ó 2003, agus is é 688 an líon is airde gearáin de dheasca torainn don bliain. Is é seo an líon is airde gearáin ab éigean don Aonad déileáil leo riamh.

Go ginearálta, bhí an aercháilíocht le linn 2004 go maith. Bhí na leibhéal bheinséine, luaidhe, dé-ocsaíd sulfair, deataigh dhuibh agus aonocsaíd charbóin sásúil. Laghdaigh na leibhéal dé-ocsaíd nítrigine go leanúnach agus bhí leibhéal den ábhar cáithníneach (PM_{10}) anuas i gcomparáid le 2003. Is mór an dúshlán orainn é sna blianta amach romhainn cloí le leibhéal shainordaitheacha a chuirfear i bhfeidhm go luath.

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Staff List – 2004

Martin Fitzpatrick	Principal Environmental Health Officer
Paul Rutherford	Senior Environmental Health Officer
Sarah Middleton	Senior Environmental Health Officer
Tracey Healy	Environmental Health Officer
Gerry Osborne	Environmental Health Officer
Anne Marie McCartan	Environmental Health Officer
Mark Whelan	Environmental Health Officer
Paddy Douglas	Technical Support Officer

Liosta Foirne – 2004

Martin Fitzpatrick	Príomhoifigeach Sláinte Comhshaoil
Paul Rutherford	Oifigeach Sinsearach Sláinte Comhshaoil
Sarah Middleton	Oifigeach Sinsearach Sláinte Comhshaoil
Tracey Healy	Oifigeach Sláinte Comhshaoil
Gerry Osborne	Oifigeach Sláinte Comhshaoil
Anne Marie McCartan	Oifigeach Sláinte Comhshaoil
Mark Whelan	Oifigeach Sláinte Comhshaoil
Paddy Douglas	Oifigeach Tacaíochta Teicniúla

Significant developments in 2004

PEOPLE project

The PEOPLE (Population Exposure to Air Pollutants in Europe) Project was a one-day snapshot of the exposure of 150 volunteers to benzene in the City. It was supported by particulate monitoring at a number of indoor and outdoor sites around the city. The Project is discussed in greater detail later on in the report.

Audit

The Unit continues to be accredited to ISO 9001:2000, following another successful audit of its Quality Management System. The National Standards Authority of Ireland (NSAI) completed the audit in May 2004. It included for the first time all of the City Council's monitoring sites. Particular praise was given for the content of the Unit's training records, and recording of Key Performance Indicators (KPI) as recommended in previous NSAI audits.

Increase in the number of complaints

2004 was a record year for complaints made to the Air Monitoring and Noise Control Unit. A total of 991 complaints were recorded by the EHO's in the Unit, an increase of over 200 complaints on 2003. The majority of complaints were made to the Noise Control section, with 688 recorded. This figure includes over a hundred complaints about domestic noise nuisance, indicative of one of the problems associated with city living.

Forbairtí tábhachtacha le linn 2004

Tionscadal PEOPLE

Bhí Tionscadal *PEOPLE* (*Population Exposure to Air Pollutants in Europe* nó i nGaeilge ‘Risíocht an Phobail le Truailleán Aeir san Eoraip’) mar a bheadh sciobphictiúr aon lae ann a tógadh de risíocht 150 deonach le beinséin a bhí sa Chathair. Lena chois sin, rinneadh monatóireacht ar ábhar cáithnínearach i roinnt láithreán laistigh agus lasmuigh timpeall na cathrach. Pléifear an Tionscadal ar bhonn mionsonraithe níos faide anonn sa tuarascáil.

Iniúchadh

D'éirigh go maith leis an Aonad arís nó leanann sé de bheith creidiúnaithe de réir ISO 9001:2000 nuair a rinneadh iniúchadh eile ar an gCóras Bainistíochta ar Cháilíocht. Chuir An tÚdarás um Chaighdeán Náisiúnta na hÉireann (NSAI) an t-iniúchadh i gcrích i mBealtaine 2004. Cuireadh gach uile láithreán monatóireachta de chuid na Comhairle Cathrach san áireamh den chéad uair riamh. Tugadh moladh ar leith don ábhar a bhí le feiceáil i dtaifid oiliúna an Aonaid agus tugadh moladh don Aonad chomh maith siocair gur taifeadadh Príomhtháscairí Feidhmíochta (KPI) de réir mar a ordaíodh in iniúchtaí eile roimhe seo de chuid an NSAI.

Méadú ar an líon gearán

Rinneadh líon gearán thar barr in 2004 leis an Aonad Monatóireachta ar Aercháilíocht agus Rialaithe Torainn. Thaifead na hOifigigh **Sláinte Comhshaoil** leis an Aonad líon iomlán de 991 gearán, méadú 200 gearán ó 2003. Rinneadh an chuid is mó de na gearáin leis an Rannóg Rialaithe Torainn. B'ionann sin agus 688 gearán a taifeadadh ar fad. Tá os cionn céad gearán faoi núis de dheasca torann tí san áireamh san fhigiúr seo, rud a léiríonn ceann de na fadhbanna a bhaineann le bheith i do chónaí i gcathair.

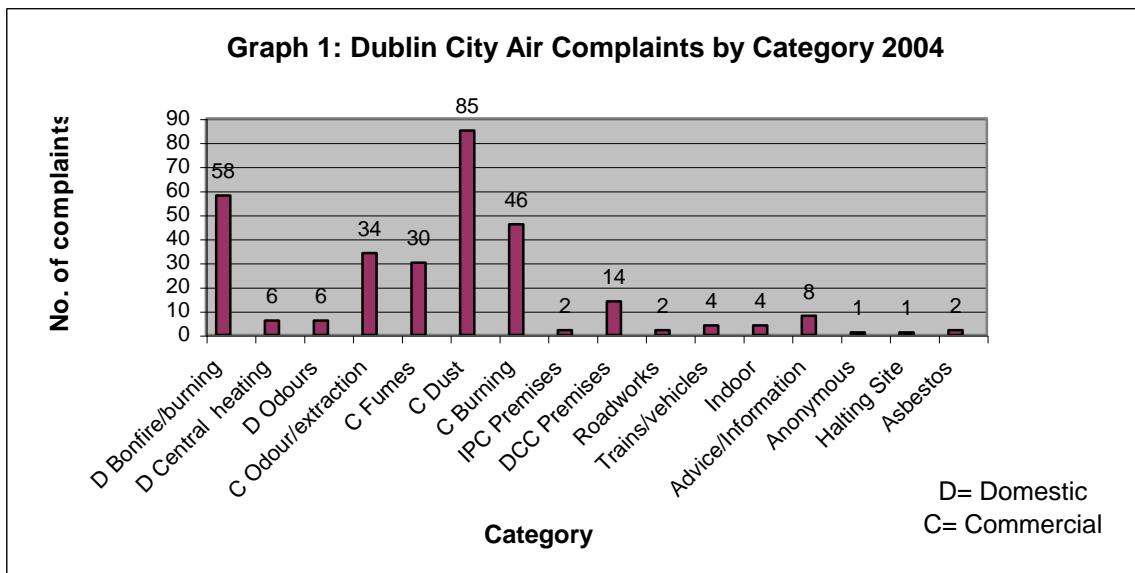
Air and Noise Pollution Control

The Air Monitoring and Noise Control Unit operate from Dublin City Council's Civic Offices, Wood Quay, Dublin 8 and operates a number of external sites around the city. The Unit enforces legislation under both the Air Pollution Act 1987 and the Environmental Protection Agency Act 1992, and regulations made under these Acts. The investigation of complaints made by members of the public takes up a great deal of the Environmental Health Officers' (EHOs) time and includes overtime calls to prove nuisance in some cases. There was a record number of complaints made to the Unit in 2004, comprising of 303 air pollution complaints and 688 noise complaints. This is an increase of over 200 on the year before. The categories of complaint and subsequent discussion of the results are included in the next section.

Air Pollution complaints

The EHOs in the Unit investigate complaints from the public about numerous types of emissions around the city. This varies from backyard burning to emissions from factories and paint spray booths. Section 24 of the Air Pollution Act 1987 states that the occupier of any premises, other than a domestic dwelling shall use the best practicable means to limit and, if possible, to prevent an emission from such premises. It goes on to state that the occupier of any premises shall not cause or permit an emission in such a quantity, or in such a manner, as to be a nuisance. The officers respond to complaints by making site visits and establishing if nuisance exists. Should the property owners fail to take steps to comply, a Notice is served giving at least 14 days for compliance. Failure to comply with the terms of the Notice can lead to court proceedings but in the majority of cases, the nuisance can be resolved informally after the initial site visit.

In 2004 the Unit dealt with 303 complaints, an increase of 20% on 2003.



The overall number of commercial dust complaints increased greatly on 2003 and reflects the developing nature of the City.

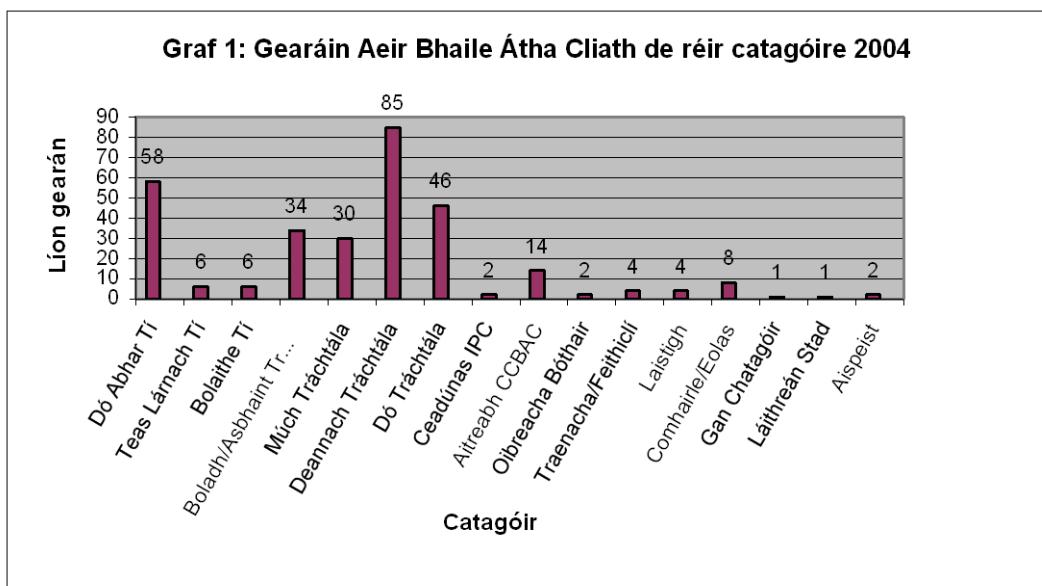
Truailliú Aeir a Rialú agus Truailliú de dheasca Torainn a Rialú

Bíonn an tAonad Monatóireachta ar Aercháilíocht agus Rialaithe Torainn ag obair in Oifigí Chomhairle Cathrach Bhaile Átha Cliath, An Ché Adhmaid, Baile Átha Cliath 8 agus é i gceannas cúpla láithreán seachtrach timpeall na cathrach. Cuireann an tAonad reachtaíocht i bhfeidhm faoin Acht um Thruailliú Aeir, 1987 agus faoin Acht Gníomhaireachta um Chaomhnú Comhshaoil, 1992 araon, agus faoi rialacháin a rinneadh sna hAchtanna seo. Tá cuid mhór ama i gceist nuair a dhéanann Oifigeach Sláinte Comhshaoil (EHO) gearán an phobail a imscrúdú agus bíonn cuairteanna ragoibre san áireamh chun nús a chruthú i gcásanna áirithe. Rinneadh líon gearán thar barr in 2004 leis an Aonad, lena n-áiríodh 303 gearán de dheasca truailliú aeir agus 688 gearán de dheasca torainn. Is ionann an figiúr seo agus méadú níos mó ná 200 gearán i gcomparáid leis an bhliain roimhe. Tá na catagóirí gearán agus an plé a dhéantar ar na tortaí le fáil sa chéad mhír eile.

Gearán faoi Thruailliú Aeir

Imscrúdaíonn na hOifigigh Folláine Chomhshaoil leis an Aonad gearán ón bpobal faoina lán cineálacha astaíochta timpeall na cathrach. Tá dó ábhair i gcúl tí, astaíochtaí as monarchana agus as bothanna spréphéinteála i gceist anseo. Deirtear in Alt 24 den Acht um Thruailliú Aeir, 1987 nach mó d'áititheoir aon átribh, seachas teaghais phríobháideach, leas a bhaint as an dóigh is fearr is féidir le hastaíocht ón áitreabh sin a theorannú agus, más féidir, a chosc. Deirtear lena chois sin nach gcuirfidh áititheoir aon átribh faoi deara ná ní cheadóidh sé nó sí astaíochta a theacht as an áitreabh sin i gcainníocht a d'fhágfadh nó ar shlí a d'fhágfadh gur nús í. Is amhlaíd a fhreagraíonn na hoifigigh gearán trí chuaireanna a dhéanamh ar an láthair agus trína bhunú an bhfuil ábhar núise ann. Má theipeann ar na húinéirí átribh bearta a chur i gcrích chun ceanglais an Actica a chomhlíonadh, seirbheálfar Fógra ina dtugtar tréimhse nach lú ná 14 lá chun iad a chomhlíonadh. Féadfar imeachtaí cúirte a thionscnamh má theipeann ar na húinéirí átribh téarmaí an Fógra a chomhlíonadh ach i bhformhór na gcásanna, is féidir an nús a réiteach ar bhonn neamhfhoirmiúil tar éis an chéad chuairt a thabhairt ar an láthair.

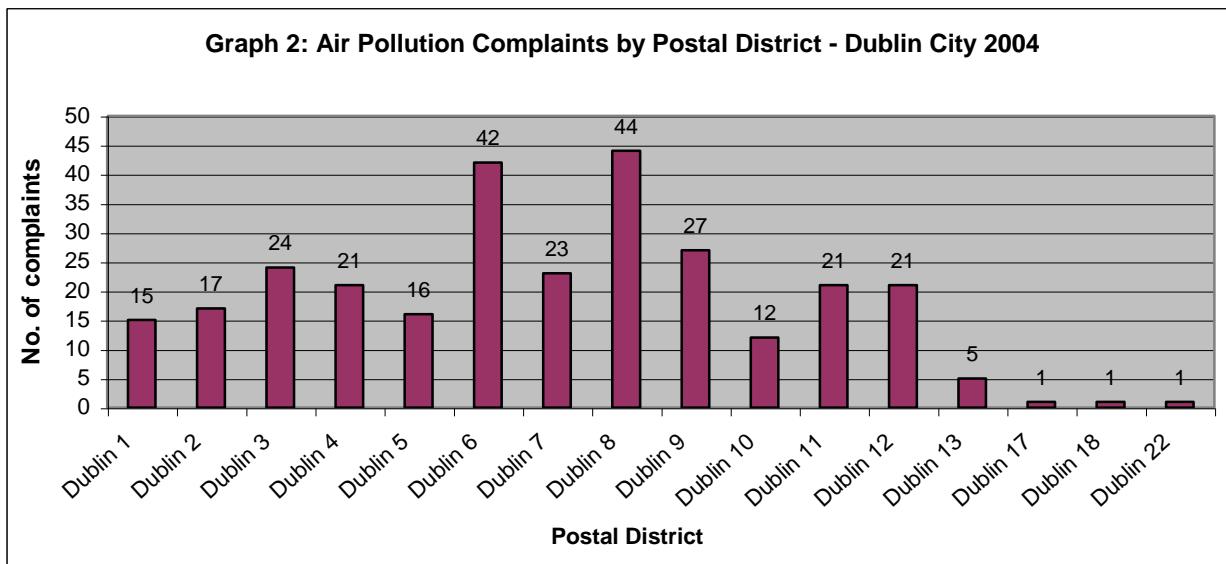
In 2004, phléigh an tAonad le 303 gearán, sin méadú 20% ó 2003.



Garden fires accounted for almost a fifth of the total number of calls made to the Unit. The increase in number coincided with the introduction of bin charges in the city, which may have led to a number of people burning rubbish in their gardens.

Other categories, which contributed greatly to the overall number, are complaints about odours, fumes and burning from commercial premises.

The graph below indicates the source of the complaints in Dublin. The city centre postal districts that traditionally provided the greatest number of complaints did not do so in 2004. The districts of Dublin 6 and 12 were extremely busy for complaints throughout the year.



Complaint investigation

When a complaint comes into the Unit, it is assigned to the responsible Environmental Health Officer (EHO) for that district. The EHO will advise the complainant to keep a record of how often they are affected by the emission. In the case of backyard bonfires, a warning letter to those responsible for causing the fire is sent. This will normally have the effect of stopping the burning and no further action will be required.

On most other occasions, the EHO will call to the premises or property causing the nuisance and assess whether they are taking best practicable means. If the EHO establishes that best practice is not being taken, a Notice is served under Section 26 of the Air Pollution Act 1987 outlining the steps that must be taken by the occupier to make necessary improvements and resolve the problem. The EHO must give the occupier at least 14 days to comply with the terms of the Notice. If the occupier requires extra time in order to fulfil the terms of the Notice, this can be arranged with the EHO. In the majority of cases, improvements are made and the case can be closed. On some occasions, there may be the need to initiate legal proceedings but most cases can be resolved informally. Although 6 Notices were served in 2004, there were no prosecutions brought under the Air Pollution Act 1987.

Mhéadaigh an líon foriomlán de ghearáin de dheasca deannaigh ó fhoinsí tráchtála ó 2003, rud a chuireann in iúl a oiread forbartha atá ar siúl sa Chathair.

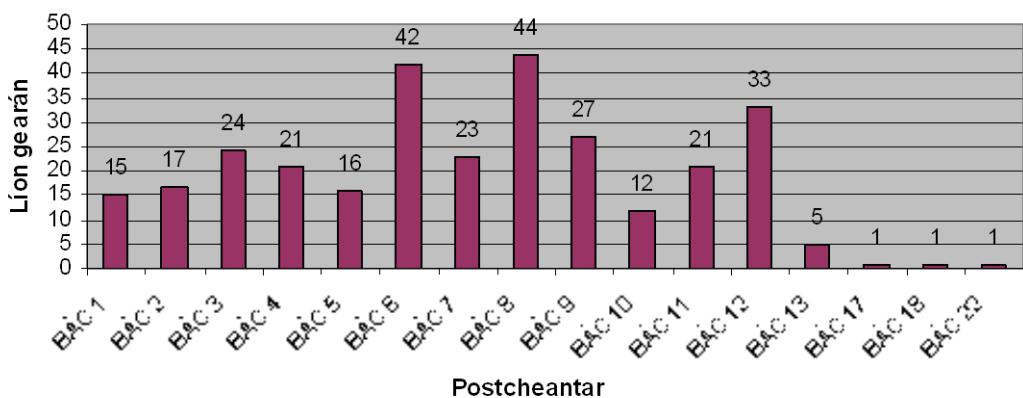
Tinte garraí is cúis leis an gcúigiú cuid, beagnach, den líon iomlán glaonna a rinneadh ar an Aonad. Tharla an méadú seo i gcomhthráth leis an uair a tugadh muirir araidí isteach sa chathair, rud a d'fhéadfadh bheith ina chúis le líon daoine bheith ag dó bruscair sna garraithe acu.

Is gearán de dheasca bolaithe, múchanna agus dó ábhair ó áitribh thráchtála iad na catagóirí eile a chuir go mór leis an líon foriomlán.

Léiríonn an graf thíos cá háit i mBaile Átha Cliath a ndearnadh na gearáin.

Ní raibh postcheantair lár na cathrach ina ndearnadh an líon is mó gearán roimhe seo ar bharr an liosta in 2004. Bhí ceantair Bhaile Átha Cliath 6 agus 12 fíorghnóthach ar fud na bliana i dtaca le gearán de.

Graf 2: Gearán Aeir de réir Postcheantair – Cathair Bhaile Átha Cliath 2004



Gearán a imscrúdú

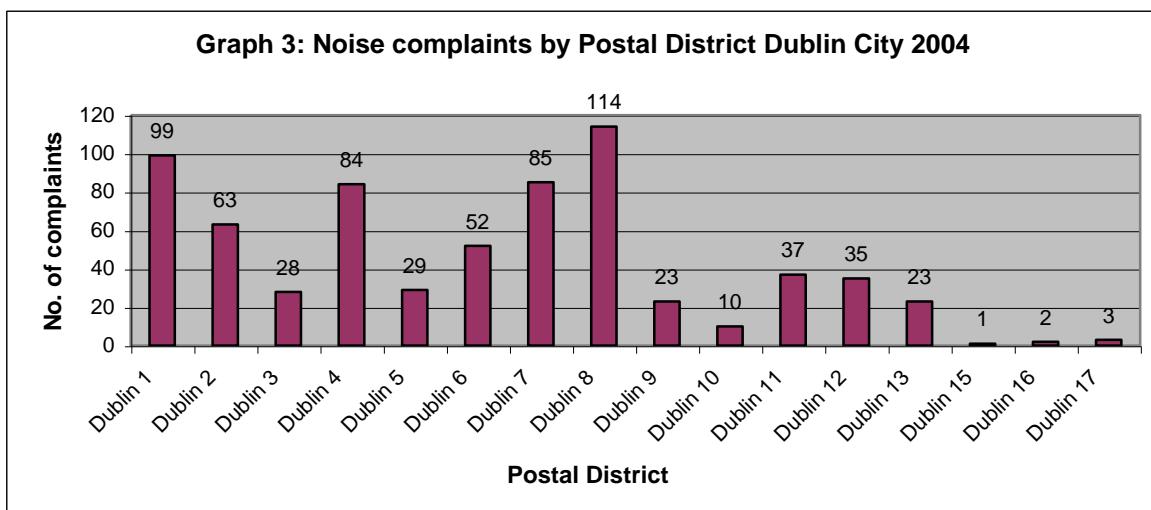
Nuar a dhéantar gearán leis an Aonad, sannfar é don Oifigeach Sláinte Comhshaoil atá freagrach as an gceantar sin ina ndearnadh an gearán. Comhairleoidh an tOifigeach Sláinte Comhshaoil don ghearánaí taifead a choinneáil maidir le chomh minic agus a chuireann an astaíocht isteach orthu. I gcás tinte cnámh culchlóis, curfear litir foláirimh amach chuig an té atá freagrach as an tine a lasadh. De ghnáth, is leor an litir seo chun stop a chur leis an dó agus ní bheidh aon ghníomh eile riachtanach.

I gcuid mhór de na hócáidí eile, tabharfaidh an tOifigeach Sláinte Comhshaoil (EHO) cuairt ar na háitribh nó ar an áitreabh is cúis leis an núis chun a mheasúnú an bhfuil siad ag baint leasa as an dóigh is fearr is féidir. Má bhunaíonn an EHO nach bhfuil an cleachtas is fearr i bhfeidhm, seirbheálfar Fógra faoi Alt 26 den Acht um Thruailliú Aeir, 1987 ina dtabharfar na bearta atá le cur i gcrích ag an átitheoir chun an feabhsúchán riachtanach a dhéanamh agus an fhadhb a réiteach. Caithfidh an EHO tréimhse nach lú ná 14 lá a thabhairt don átitheoir chun cloí le téarmaí an Fhógra. Má tá am breise de dhíth ar an átitheoir chun téarmaí an Fhógra a chomhlíonadh, is féidir sln a shocrú leis an EHO. I bhformhór na gcásanna, déantar an feabhsúchán agus tá deireadh leis an gcás. Ar ócайдí eile, b'fhéidir go mbeadh sé riachtanach imeachtaí dlí a thionscnamh ach is féidir mórchuid na gcásanna a réiteach ar bhonn neamhfhoirmiúil. Ní dhearnadh aon ionchúiseamh faoin Acht um Thruailliú Aeir, 1987 in ainneoin gur seirbheáladh 6 Fhógra in 2004.

Noise Complaints

EHOs investigate complaints made in relation to commercial and industrial premises that give rise to noise nuisance and affect members of the public. The EHOs must establish nuisance under the Environmental Protection Agency Act 1992 (EPA Act 1992). In order to do so, the EHO must witness the nuisance and take noise readings directly, or alternatively install a noise meter plus a Digital Audio Tape (DAT) in the complainant's home. The complainant is obliged to keep a record of how often the noise is affecting their enjoyment of their property, and this may be produced in court as evidence.

Graph 3 indicates the number of complaints made by district in Dublin in 2004.

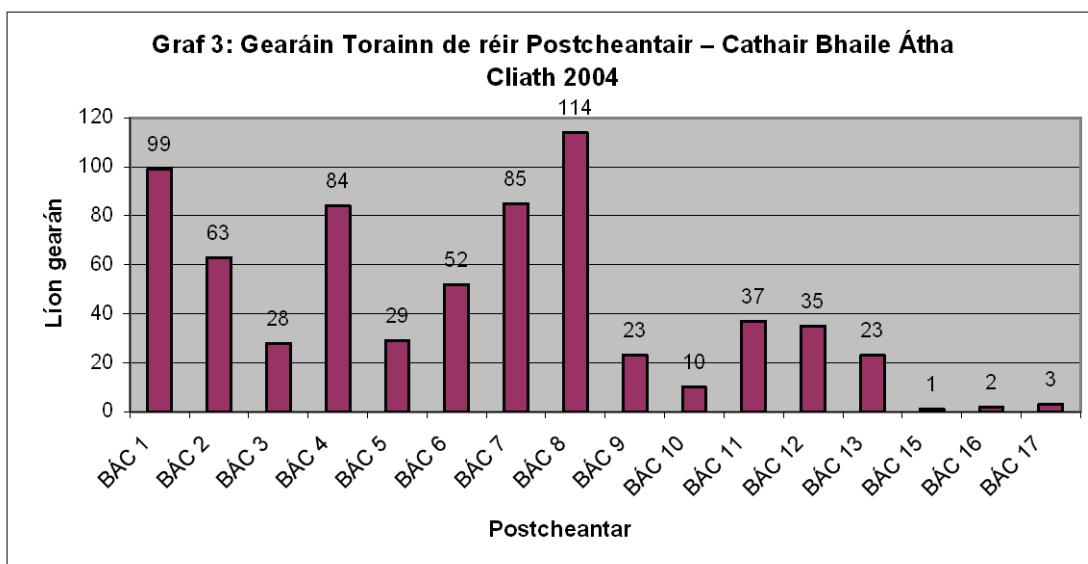


There were 688 complaints recorded in 2004. This is an increase of over 21% on the year before. As was the case in 2003, the majority of complaints arose in Dublin 1 and Dublin 8. Most of the other districts followed the same pattern as 2003.

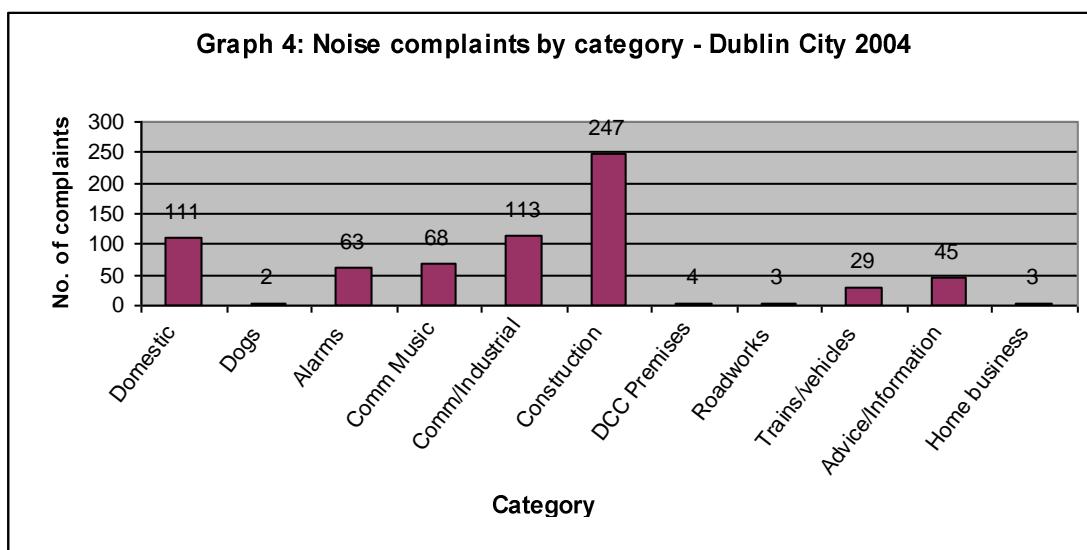
Gearán de dheasca Torainn

Is amhlaidh a imscrúdaíonn Oifigigh Folláine Chomhshaoil gearán faoi áitribh thráchtála agus thionscláiocha atá ag cur as do bhaill an phobail de dheasca torainn. Caithfidh Oifigigh FC nús a shuí faoin Acht Gníomhaireachta um Chaomhnú Comhshaoil, 1992 (an tAcht EPA, 1992). Chun na críche sin, caithfidh an EHO an nús a fhanú agus dírléimh thorainn a thaifeadadh, nó de rogha air sin, torannmhéadar mar aon le Clostéip Dhigiteach (DAT) a shuiteáil i dteach an ghearánaí. Tá sé d'oibleagáid ar an ngearánaí taifead a choinneáil maidir le cé chomh minic agus atá an torann ag cur as do theachtadh na maoine acu, agus d'fhéadfáí an taifead seo a thabhairt ina fhianaise i láthair cúirte.

Léiríonn Graf 3 an líon gearán de réir Postcheantair i mBaile Átha Cliath in 2004.



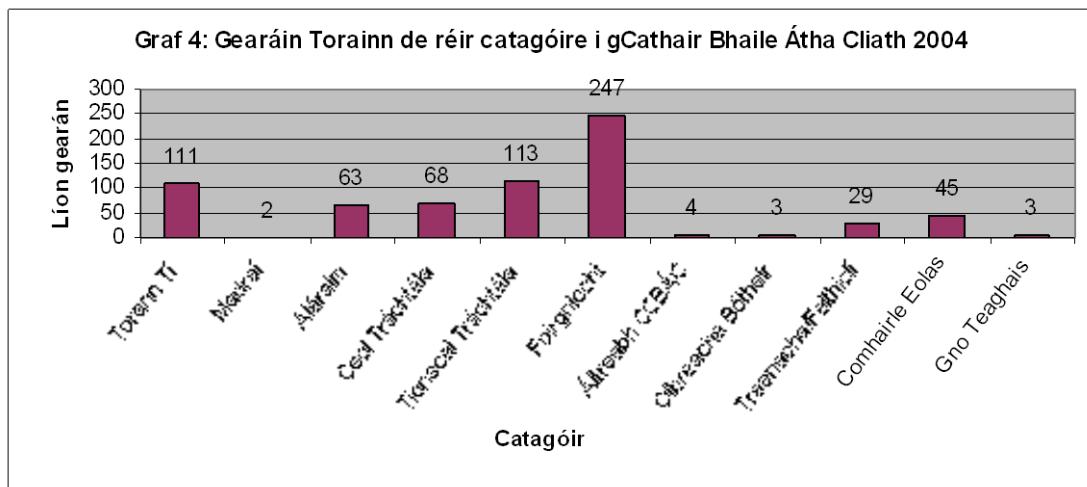
Taifeadadh 688 gearán in 2004. Seo méadú níos mó ná 21% le cois an figiúir sa bhliain roimhe. Mar ab fhíor in 2003, rinneadh an mhórchuid de na gearán faoi áitribh i mBaile Átha Cliath 1 agus i mBaile Átha Cliath 8. I dtaca le formhór na gceantar eile de, is ionann na figiúirí in 2004 agus in 2003 a bheag nó a mhór.



As can be seen from Graph 4, 247 complaints were made about noise from construction sites around the city. This represents 36% of the total number, and is also consistent with records in 2003. The Unit recommends compliance with the British Standard for Noise Control on Construction Sites (BS 5228). This code identifies best practice to minimise noise nuisance from construction activities. The majority of complaints centred on the operation of sites outside the hours recommended by the Planning Department. In the case of health and safety, or traffic control reasons, the Unit would seek that all contractors notify local businesses and residents in the area prior to such work taking place. Other aspects of construction noise include the use of generators and other machinery on site.

Domestic noise nuisance accounted for 111 complaints to the Unit, or 16% of the total. The EHOs have a limited function in dealing with domestic noise complaints and provide very much an advisory role to those having difficulty with their neighbours. Information is sent to complainants detailing how to take their complaint to the District Court. Common complaints include noise from loud music, DIY and various types of animals. Section 108 of the Environmental Protection Agency Act 1992 allows for cases of this type to be heard in the District Court.

An increasing number of complaints were made to the Unit about intruder alarms, accounting for 9% of the total number of complaints, an increase of 2% on 2003. Noise from such alarms is often intermittent and it can be difficult to prove nuisance. However, a warning letter is issued to the occupiers of the house to remind them of the terms of the voluntary code of practice ISEN 50131. The external audible alarm should have a maximum duration of 30 minutes and a minimum duration of 15 minutes from activation of the system. There should also be 2 nominated key holders who can access the property within 60 minutes of activation.

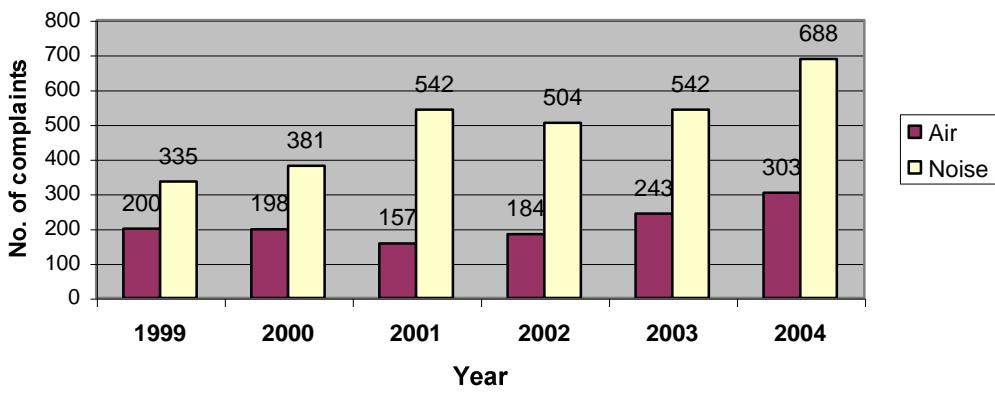


De réir mar atá le feiceáil i nGraf 4, rinneadh 247 gearán de dheasca torainn ó láithreáin foirgníochta timpeall na cathrach. Is ionann seo agus 36% den líon iomlán, agus tá an líon seo ar comhréir le líon 2003. Molann an tAonad gur cóir cloí leis an gCaighdeán Briotanach um Rialú Torainn ar Láithreáin Foirgníochta (BS 5228). Sainaithnítear sa chód seo an cleachtas is fearr chun an núis de dheasca torainn ó ghníomhaíochtaí foirgníochta a laghdú. Bhain an chuid is mó de na gearáin le láithreáin bheith ag feidhmiú lasmuigh de na huaireanta atá molta ag an Roinn Pleanála. Mar gheall ar chúrsáí sláinte agus sábháilteachta, nó ar chuíseanna a bhaineann le rialú tráchta, iarrann an tAonad ar gach conraitheoir dul i dteagmháil le gnólachtaí agus cónaitheoirí áitiúla sula gcuirfear aon obair den chineál sin ar siúl. Gineadóirí agus innealra eile ar an láithreán is cúis le cineálacha eile torainn de dheasca foirgníochta.

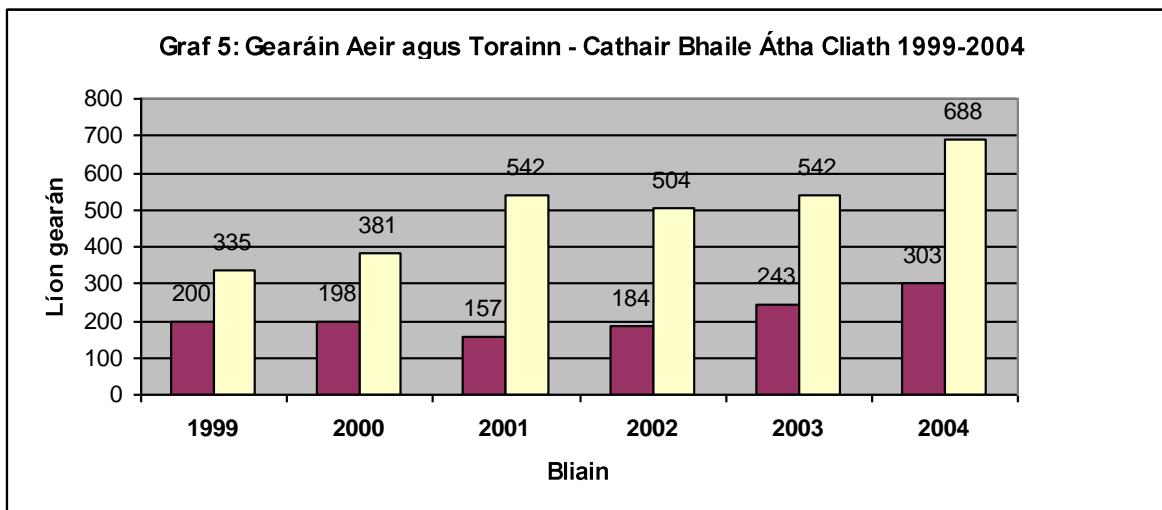
Mar gheall ar an núis de dheasca torann tí, rinneadh 111 gearán leis an Aonad, rud ab ionann agus 16% den líon iomlán. Tá ról teoranta feidhme ag na hOifigigh Sláinte Comhshaoil maidir le déileáil le gearán de dheasca torann tí agus is é rud go bhfeidhmíonn siad ar bhonn comhairleach dóibh siúd a bhfuil deacrachtá acu lena gcomharsana. Cuirtear faisnéis i dtaobh an gearán a thabhairt ar aghaidh ag an gCúirt Dúiche amach chuig gearánaigh. Is iad seo na gearáin is coitianta a dhéantar: torann ó cheol ard, obair 'Déan Féin É' agus ainmhithe difriúla. Ceadaítear faoi Alt 108 den Acht Gníomhaireachta um Chaomhnú Comhshaoil, 1992 go n-éistfeart le cásanna den chineál seo sa Chúirt Dúiche.

Mhéadaigh an líon gearán a rinneadh leis an Aonad faoi aláraim ionróirí, rud ab ionann agus 9% den líon iomlán gearán, sin méadú 2% ó 2003. Is minic a bhíonn torann uaineach le cloisteáil ó aláraim den chineál sin agus d'fhéadfadh sé bheith deacair an núis a chruthú. Ina ainneoin sin, cuirtear litir foláirimh amach chuig áititheoirí an tí a chuireann téarmaí chód cleachtais deonach ISEN 50131 i gcuimhne dóibh. Ba chóir go mairfeadh an t-aláram inchloiste seachtrach 30 nóiméad ar a fhad agus 15 nóiméad ar a laghad ón uair a dhéantar an córas a ghníomhachtú. Ba chóir go mbeadh beirt eochairsealbhóirí ainmnithe le fáil atá in inmhe dul isteach san áitreabh faoi cheann 60 nóiméad ó ghníomhachtú an aláraim.

Graph 5: Air and Noise complaints - Dublin City 1999-2004



Overall, the number of complaints made in 2004 to the Air Monitoring and Noise Control Unit totalled 991. This is a massive increase of over 200 complaints on 2003 and almost a doubling of the figure from 1999. A total of 55 Section 107 Notices were served in 2004.



As an iomlán, is é 991 an líon iomlán gearán a rinneadh leis an Aonad Monatóireachta ar Aercháilíocht agus Rialaithe Torainn in 2004. Is ionann seo agus a rá gur tharla méadú mór 200 gearán ó 2003 agus is beag nach bhfuil a dhá oiread gearán ann ó 1999. Rinneadh 55 Fógra Alt 107 ar fad a sheirbheáil in 2004.

Prosecutions in 2004

The Air Quality Monitoring and Noise Control Unit was involved in a number of successful prosecutions in 2004, with all 4 of the cases relating to noise nuisance.

Fines

In total, the amount of fines in relation to the noise cases amounted to €2,950. Costs of €5,600 were also awarded.

In the case of noise prosecutions, there were a number of orders made by the courts under Section 108 of the Environmental Protection Agency Act 1992, resulting in the resolution of the complaints. Predominantly, this related to the licensed premises and the level of amplified music emanating from them.

Prosecution categories:

The prosecutions are broken down as follows:

Noise Control	2 cases against licensed premises 2 cases against building contractors
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The Unit wishes to acknowledge the continued support of both the administrative staff in Dublin City Council and the solicitors involved in the presentation of all the cases.

Ionchúisimh in 2004

Bhí an tAonad Monatóireachta ar Aercháilíocht agus Rialaithe Torainn páirteach i líon ionchúiseamh a ghnóthú in 2004 ina raibh na 4 chás ar fad ag baint leis an núis de dheasca torainn.

Fíneálacha

San iomlán, bhí an méid fíneálacha i ndáil leis na cásanna torainn €2,950. Dámhadh costais €5,600 freisin.

Maidir le hionchúisimh thorainn, bhí líon orduithe a rinne na cúirteanna faoi Alt 108 den Acht Gníomhaireachta um Chaomhnú Comhshaoil, 1992, arbh é an toradh a bhí orthu gur réitíodh na gearáin. Den chuid is mó, bhain na horduithe seo leis na háitribh cheadúnaithe agus le chomh hard agus a bhí an ceol aimplithe le cloisteáil astu.

Catagóirí ionchúiseamh:

Déantar miondealú ar na hionchúisimh mar seo a leanas:

Rialú Torainn	2 chúis in aghaidh áitreabh ceadúnaithe 2 chúis in aghaidh conraitheoirí tógála
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Ba mhian leis an Aonad a bhúiochas a ghabháil le foireann riarcháin Chomhairle Cathrach Bhaile Átha Cliath agus leis na dlíodóirí a bhí páirteach sna cásanna uile a thabhairt i láthair cúirte.

Outdoor Events 2004

Outdoor events, especially during the summer months have contributed to the social life of the city for many years. 2004 was not as busy as other years for outdoor events in Dublin. The Noise Control Unit carried out monitoring at the venues listed in Table 1 both during the sound tests and over the duration of the events.

Table 1: Outdoor events 2004		
Date	Location	Event
June 4th/5th/6th	Dublin Castle	Heineken Green Energy
June 6th	RDS	Britney Spears
June 12th	Phoenix Park	Red Hot Chilli Peppers
July 17th	RDS	Simon & Garfunkel
September 4th	Phoenix Park	O2 in the Park

Members of the Unit attend meetings at the pre-planning stage, and liaise with promoters and organisers of the events. A notice is served under Section 107 of the Environmental Protection Agency Act 1992 prior to all events. A schedule requesting compliance with the UK Noise Council Code of Practice for Concerts 1995 is attached, detailing permissible hours of operation and maximum noise levels during those hours.

Traditionally, a noise level of 75dB(A) is set for outdoor concerts. When there are more than 3 concerts in the year at a particular venue, the maximum permissible level is lowered to 67dB(A) in accordance with the UK Code of Practice.

The Unit also gave guidance to the companies operating ice rinks during the festive period in relation to plant noise.

There were no prosecutions for breaches of the legislation in 2004.

Imeachtaí Amuigh faoin Spéir in 2004

Is mór a chuir imeachtaí lasmuigh, go háirithe imeachtaí le linn an tsamhraidh, le saol sóisialta na cathrach le blianta beaga anuas. Ní raibh sé chomh gnóthach in 2004 agus a bhí i mblianta eile i dtaca le himeachtaí lasmuigh i mBaile Átha Cliath. Rinne an tAonad Rialaithe Torainn monatóireacht ar na hionaid atá i dTábla 1 le linn na dtástálacha fuaimé agus le linn na tréimhse araon a mhair na himeachtaí.

Tábla 1: Imeachtaí Amuigh faoin Spéir 2004

Dáta	Ionad	Ócайд
4/5/6 Meitheamh	Caisleán Bhaile Átha Cliath	Heineken Green Energy
6 Meitheamh	RDS	Britney Spears
12 Meitheamh	Páirc an Fhionnuisce	Red Hot Chilli Peppers
17 Iúil	RDS	Simon & Garfunkel
4 Meán Fómhair	Páirc an Fhionnuisce	O2 sa Pháirc

Is é rud go bhfreastalaíonn baill an Aonaid ar chruinnithe le linn na himeachtaí a phleanáil roimh ré, agus go dtéann siad i dteaghmáil le tionscnóirí agus le heagraithe na n-imeachtaí. Déantar fógra faoi Alt 107 den Acht Gníomhaireachta um Chaomhnú Comhshaoil, 1992 roimh gach uile ócайд. Tá sceideal iniata leis an bhfógra ina n-iarrtar go gcomhlíonfar Cód Cleachtais Chomhairle Torainn na RA (Ríocht Aontaithe) do Cheolchoirmearcha, 1995 agus ina sonraítear uaireanta incheadaithe tionóil agus uasleibhéal torainn le linn na n-uaireanta sin.

Go hiondúil, leagtar leibhéal torainn do cheolchoirmearcha amuigh ag 75dB(A). Sa chás sin ina mbeidh níos mó ná 3 cheolchoirm in aghaidh na bliana in aon ionad ar leith, déantar an t-uasleibhéal incheadaithe a ísliú go 67dB(A) de réir Chód Cleachtais na RA.

Thug an tAonad treoir mar gheall ar thorann innealra chomh maith do na cuideachtaí úd a bhí ag reáchtáil oighear-rinceanna le linn féile na Nollag.

Níor gnóthaíodh aon ionchúiseamh i leith an reachtaíocht a shárú in 2004.

Fuel Regulations

The Air Monitoring and Noise Control Unit enforce legislation relating to the sale of fuel in Dublin City. The Air Pollution Act 1987 (Marketing, Sale and Distribution of Fuel) Regulations 1990, 2000 were introduced originally in order to combat the smog problem in the city back in the late 1980s. Since their introduction, the quality of air has dramatically improved. The legislation is traditionally enforced during the winter heating season when sales of fuel are at their highest. However, the increased use of natural gas as a fuel source has had an impact on the number of properties burning solid fuel in the city.

The Unit carried out 181 inspections in 2004-05. As can be seen from the figures below in Table 2, the number of fuel depots operating in the city area has dramatically dropped in the last five years. More garage forecourts are selling briquettes and smokeless fuels too. Some fuel sampling was carried out but did not result in a prosecution.

Table 2: Fuel Regulations Inspections October 2000 - March 2005					
	2000-01	2001-02	2002-03	2003-04	2004-05
Fuel Depots	15	9	17	21	4
Vehicles	48	6	30	24	17
Shops/Garages	116	61	94	119	160
Total	179	76	141	164	181

Rialachán Breosla

Cuireann an tAonad Monatóireachta ar Aercháilíocht agus Rialaithe Torainn reachtaíocht i bhfeidhm i dtaobh breosla a dhíol i gCathair Bhaile Átha Cliath. Tugadh an tAcht um Thruailliu Aeir, 1987 Rialachán (Margú, Díol, agus Imdháileadh Breoslá) 1990, 2000 isteach ó thús chun dul i ngleic leis an toitcheo a bhíodh ar fud na cathrach go mall sna 1980í. Ó cuireadh i bhfeidhm iad, is amhlaidh a tháinig feabhas suntasach ar an aercháilíocht. Is iondúil a dhéantar an reachtaíocht a fhorghníomhú le linn an pobal iad féin a théamh don gheimhreadh nuair is airde díolacháin bhreosla. Ina ainneoin sin, is amhlaidh is mó den phobal a úsáideann gás nádúrtha mar bhreosla, rud a chuaigh i bhfeidhm ar an lón áitreabh ina ndóitear an breosla soladach sa chathair.

Rinne an tAonad 181 cigireacht in 2004-05. De réir mar atá le feiceáil ó na figiúirí thíos i dTábla 2, laghdaíodh an lón iostaí breosla a bhíodh ag feidhmiú laistigh de limistéar na cathrach ar bhonn suntasach le cúig bliana anuas. Táthar ag díol brícíní agus breoslá éadóite chomh maith ina lán réamhchúirteanna garáistí. Tógadh roinnt samplaí breosla ach níor gnóthaíodh aon ionchúiseamh dá bharr.

**Tábla 2: Cigireachtaí de réir Rialachán Breosla
Deireadh Fómhair 2000 - Márt 2005**

	2000-01	2001-02	2002-03	2003-04	2004-05
Iostaí Breosla	15	9	17	21	4
Feithiclí	48	6	30	24	17
Siopaí/Garáistí	116	61	94	119	160
Iomlán	179	76	141	164	181

Air Quality Monitoring

There is an extensive network of air monitoring sites around Dublin City operated and maintained by the Air Monitoring Unit. The site locations were originally determined by legal siting requirements and knowledge of particular areas that demand on-going monitoring. Several multi pollutant sites have been operating over the last number of years in Winetavern Street, Coleraine Street and Ballyfermot. These sites give a good overall picture of air quality in sensitive areas of the city.

The Air Quality Standards Regulations 2002 set out the limit values for all of the pollutants monitored by the Council. This includes sulphur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), benzene (C_6H_6), particulates and lead (Pb).

The analysers producing the sulphur dioxide, nitrogen dioxide, carbon monoxide and benzene run continuously. They require monthly internal calibration checks and six-monthly external maintenance and calibration checks. The Unit carries out its own laboratory work on the particulate filters. However, an external laboratory carries out lead analysis.

The entire air monitoring system is incorporated into the Quality Management System.

Sites

There were 3 multi-pollutant sites in Dublin City in 2004, plus a number of other individual sites being operated by the EHOs in the Unit.

Multi-pollutant sites

Winetavern Street – PM_{10} , BTX, NO_2 , CO, SO_2 , Lead

Coleraine Street – PM_{10} , NO_2 , CO, SO_2 , Lead

Ballyfermot – PM_{10} , NO_2 , SO_2

PM_{10} Sites

Marino

Rathmines

Phoenix Park

College Street (until August 2005)

Lead

Kilbarrack

Branch Road

College Street (until August 2005)

Black Smoke and SO_2 Monitoring

Ringsend

Crumlin

Finglas

Cabra

Monatóireacht ar Aercháilíocht

Coinníonn agus feidhmíonn an tAonad Monatóireachta ar Aercháilíocht a lán láithreán timpeall Chathair Bhaile Átha Cliath chun monatóireacht a dhéanamh ar an aer. Ó thus, socraíodh cá mbeadh suímh na láithreán de bharr na gceanglas dlíthiúil maidir leis na láithreáin seo a shuí agus de bharr eolais ar limistéir ar leith ina bhfuil gá le monatóireacht leanúnach. Tá roinnt láithreán iltruailleán ag feidhmiú le blianta beaga anuas i Sráid an Fhíona, Sráid Chúil Raithin agus i mBaile Formaid. Tugann na láithreáin seo léargas foriomlán ar aercháilíocht i limistéir íogaire na cathrach.

Leagann Rialacháin Chaighdeáin na hAercháilíochta, 2002 amach na luachanna teorann le gach uile thrualeán a ndéanann an Chomhairle monatóireacht orthu, lena n-áirítear dé-ocsaíd sulfair (SO_2), dé-ocsaíd nítrigine (NO_2), aonocsaíd charbóin (CO), beinséin (C_6H_6), ábhar cáithnínéach agus luaidhe (Pb).

Bíonn na hanailíseoirí a thairgeann dé-ocsaíd sulfair, dé-ocsaíd nítrigine, aonocsaíd charbóin agus beinséin ag feidhmiú ar bhonn leanúnach. Bíonn seiceála calabraithe inmheánacha de dhíth orthu gach mí agus bíonn seiceála cothabhála agus calabraithe seachtracha de dhíth orthu gach sé mhí. Déanann an tAonad a chuid oibre féin sa tsaotharlann ar scagairí an ábhair cháithnínígh. Is saotharlann sheachtrach í, áfach, a dhéanann an anailís ar luaidhe. Tá an córas iomlán aermhonatóireachta ag feidhmiú ina dhlúthchuid den Chóras Bainistíochta ar Cháilíocht.

Láithreán

Bhí trí láithreán iltruailleán i gCathair Bhaile Átha Cliath in 2004 mar aon le líon láithreán eile aonair a bhí á bhfeidhmiú ag na hOifigigh **Sláinte Comhshaoil** san Aonad.

Láithreán iltruailleán

Sráid an Fhíona – PM_{10} , BTX, NO_2 , CO, SO_2 , Luaidhe

Sráid Chúil Raithin – PM_{10} , NO_2 , CO, SO_2 , Luaidhe

Baile Formaid – PM_{10} , NO_2 , SO_2

Láithreán PM_{10}

Marino

Ráth Maonais

Páirc an Fhionnuisce

Sráid an Choláiste (go dtí Lúnasa 2005)

Luaidhe

Cill Bharróg

An Craobh-bhóthar

Sráid an Choláiste (go dtí Lúnasa 2005)

Monatóireacht ar Dheatach Dubh agus SO_2

An Rinn

Cromghlinn

Fionnghlas

An Chabhrach

Continuous Sulphur Dioxide (SO₂)

Exposure and health effects

There are a number of health effects associated with exposure to high levels of SO₂. They include breathing problems, worsening respiratory and cardiovascular disease and impacting on people with asthma or chronic lung disease. SO₂ causes its irritant effects by stimulating nerves in the lining of the nose and throat and the lung's airways.

SO₂ also damages trees and crops, and is one of the main precursors of acid rain. This in turn contributes to the acidification of lakes and streams and also impacts on corrosion of buildings.

The limit values for SO₂ are set out in Schedule 1 of the Air Quality Standards Regulations 2002. They are as follows:

Table 3: Limit values for SO₂

	Averaging Period	Limit Value	Margin of tolerance
Hourly limit value for the protection of human health	1 hour	350µg/m ³ not to be exceeded more than 24 times a calendar year	90µg/m ³ from the date of entry into force of these Regulations, reducing on 1 January 2003 and every 12 months thereafter by 30µg/m ³ to reach 0µg/m ³ by 1 January 2005
Daily limit value for the protection of human health	24 hours	125µg/m ³ not be exceeded more than 3 times a calendar year	None
Limit value for the protection of ecosystems	Calendar year and winter (1 Oct-31 Mar)	20µg/m ³	None

Dé-ocsaíd Sulfair Leanúnach (SO_2)

Risíocht agus iarmhairtí ar shláinte

Tá roinnt iarmhairtí ar shláinte de bharr risíochta le hardleibhéal dé-ocsaíd sulfair, lena n-áirítear fadhbanna análaithe, galar riospráide agus cardashoithíoch a théann i bhfeadánacht iontu siúd a bhfuil asma nó galar ainsealach scamhóg orthu. Imríonn SO_2 a tionchar greannach trí néaróga a ghríosú i líneáil na sróine agus na scornáí agus in aerchonairí na scamhóg.

Is amhlaidh a dhéanann SO_2 dochar do chrainn agus do bharra freisin, agus is ceann de na réamhtheachtaithe is mó í as a bhfoirmítear an bháisteach aigéadach. Dá bharr, is amhlaidh is mó a dhéantar lochanna agus sruthanna a aigéadú agus téann sé i bhfeidhm ar chreimeadh foirgneamh chomh maith.

Ta na luachanna teorann do SO_2 leagtha amach i Sceideal 1 de na Rialacháin Chaighdeáin Aercháilfoctha, 2002. Seo iad a leanas:

Tábla 3: Luachanna teorann do SO_2

	Tréimhse Mheánaithe	Luach Teorann	Corrlach Lamháltais
Luach teorann in aghaidh na huaire chun sláinte an duine a chosaint	1 uair	Gan dul thar $350\mu\text{g}/\text{m}^3$ níos mó ná 24 uaire in aghaidh na bliana féilire	$90\mu\text{g}/\text{m}^3$ ó thosach feidhme na Rialachán seo ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin faoi $30\mu\text{g}/\text{m}^3$ go mbainfear an sprioc $0\mu\text{g}/\text{m}^3$ faoi 1 Eanáir 2005
Luach teorann in aghaidh an lae chun sláinte an duine a chosaint	24 huaire	Gan dul thar $125\mu\text{g}/\text{m}^3$ níos mó ná 3 huaire in aghaidh na bliana féilire	Dada
Luach teorann chun éiceachóráis a chosaint	Bliain Féilire agus geimhreadh (1 DF- 31 Már.)	$20\mu\text{g}/\text{m}^3$	Dada

Results and discussion

The levels of SO₂ around Dublin are monitored at three sites around the city – Ballyfermot, Winetavern Street and Coleraine Street. The results from these sites are outlined in Table 4. The levels of SO₂ in the city are extremely low in the city. In some cases, they are barely above the detection level. This is well within the legislative requirements.

Table 4: Monitoring results for SO₂ – Dublin 2004

Site:	Annual daily mean µg/m³	Hourly mean µg/m³	Daily maximum µg/m³	Hourly maximum µg/m³
Coleraine St	4.1	4.1	39.2	113.5
Winetavern St	3.2	3.3	20.2	53.1
Ballyfermot	3.2	3.3	89.0	190.8

Torthaí agus anailís

Déantar monatóireacht ar leibhéal SO₂ timpeall Bhaile Átha Cliath ag trí láithreán ar fud na cathrach – Baile Formaid, Sráid an Fhíona agus Sráid Chúl Raithin. Léiríonn Tábla 4 na torthaí ó na láithreáin seo. Tá leibhéal SO₂ sa chathair go han-íseal ar fad. I gcásanna áirithe, is ar éigean a éiríonn siad thar an leibhéal aimsithe. Is maith a chomhlíontar na ceanglais dhlíthiúla dá bharr.

Tábla 4: Tortaí monatóireachta do SO₂ – Baile Átha Cliath 2004

Láithreán:	Meán bliantúil in aghaidh an lae µg/m ³	Meán in aghaidh na huaire µg/m ³	Uasluach in aghaidh an lae µg/m ³	Uasluach in aghaidh na huaire µg/m ³
Sráid Chúil Raithin	4.1	4.1	39.2	113.5
Sráid an Fhíona	3.2	3.3	20.2	53.1
Baile Formaid	3.2	3.3	89.0	190.8

Nitrogen Dioxide (NO₂)

Exposure and health effects

Nitrogen dioxide (NO₂) is a gas produced from the burning of fossil fuels in vehicles, industrial plants, electricity power plants and other commercial and residential sources. Indoors, NO₂ can arise due to inadequately vented gas stoves, pilot lights and gas heaters. It is also present in tobacco smoke. Exposure to NO₂ irritates the lungs and can lower resistance to respiratory infection, especially for those already susceptible e.g. asthma and bronchitis sufferers.

NO₂ also plays a major role in atmospheric reactions that produce ground-level ozone, a major component of smog. This is formed when volatile organic compounds and nitrogen oxides (NO_x) react in the presence of sunlight.

NO_x help form acid rain. Acid rain causes deterioration of cars, buildings and historical monuments and causes lakes and streams to become acidic.

Results and discussion

The limit values for NO₂ are set out below. There are 3 sites around the city monitoring NO₂; Ballyfermot, Coleraine Street and Winetavern Street. The 2 city centre sites are located adjacent to busy traffic routes while Ballyfermot is located quite a distance from the main road network. As can be seen from the results, the requirements of the Air Quality Standards Regulations 2002 were met.

Table 5: Limit values for Nitrogen Dioxide

	Averaging period	Limit value	Margin of tolerance
Hourly limit value for the protection of human health	1 hour	200 µg/m ³ not to be exceeded more than 18 times in a calendar year	40% from the date of entry into force of these Regulations, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010
Annual limit value for the protection of human health	Calendar year	40 µg/m ³	40% from the date of entry into force of these Regulations, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010

Dé-ocsaíd Nítrigine (NO_2)

Risíocht agus larmhairtí ar shláinte

Is gás í an dé-ocsaíd nítrigine (NO_2) a thairgtear ó bhreoslaí iontaiseacha a dhó i bhfeithicí, i ngléasra tionsclaíoch, i ngléasra cumhachta leictrí agus in áitribh eile thráchtala agus chónaithe. Laistigh, d'fhéadfaí NO_2 teacht chun cinn mar gheall ar sornóga gáis nach bhfuil go leor aeir ag teacht tríothu, ar threoirshoilse agus ar théitheoirí gáis. Tá sí le fáil freisin ó thoit tobac. De dheasca risíochta le NO_2 , d'fhéadfaí na scamhóga a għreannu agus friotaíocht a íslíu ar ionfhabhtú riospráide, go háirthe iontu siúd atá so-ghabbálach cheana féin m.sh. a bhfuil asma agus broincíteas orthu.

Is amhlaidh a imrionn NO_2 príomhról freisin in imoibriúchán atmaisféarach a thairgeann ózón ar leibhéal na talún, rud atá ina chuidí mór de thoitcheo. Foirmítear seo i ndiaidh comhdhúile orgánacha so-ghalaithe agus ocsaídí nítrigine (NO_x) imoibriú faoi sholas na gréine.

Foirmítear báisteach aigéadach de bharr NO_x . Is í an bháisteach aigéadach is cúis le gluaisteáin, foirgnimh agus séadchomharthaí náisiúnta bheith á gcreimeadh, agus is í is cúis le lochanna agus sruthanna éirí aigéadach.

Torthaí agus anailís

Tá na luachanna teorann do NO_2 leagtha amach thíos. Tá 3 láithreán timpeall na cathrach a dhéanann monatóireacht ar NO_2 : Baile Formaid, Sráid Chúil Raithin agus Sráid an Fhíona. Tá an dá láithreán atá i lár na cathrach suite in aice le bealaí tráchta gnóthacha agus tá láithreán Bhaile Formaid suite fada go leor ó lónra na bpriomhbhóithre. De réir mar atá le feiceáil ó na torthaí, rinneadh ceanglais Rialacháin Chaighdeáin na hAercháilíochta, 2002 a chomhlíonadh.

Tábla 5: Luachanna Teorann do Dhé-ocsaíd Nítrigine

	Tréimhse Mheánaithe	Luach Teorann	Corrlach lamháltais
Luach teorann in aghaidh na huaire chun sláinte an duine a chosaint	1 uair	Gan dul thar 200 $\mu\text{g}/\text{m}^3$ níos mó ná 18 n-uaire in aghaidh na bliana féilire	40% ó thosach feidhme na Rialachán seo, á laghdú ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin i gcéatadán bhliantúla chomhionanna go mbainfear an sprioc 0% amach faoi 1 Eanáir 2010
Luach teorann in aghaidh na bliana chun sláinte an duine a chosaint	Bliain féilire	40 $\mu\text{g}/\text{m}^3$	40% ó thosach feidhme na Rialachán seo, á laghdú ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin i gcéatadán bhliantúla chomhionanna go mbainfear an sprioc 0% amach faoi 1 Eanáir 2010

Table 6: NO₂ results for Dublin City 2004

Station:	Annual mean µg/m ³	Maximum hourly µg/m ³	No. of times NO ₂ hourly level >200µg/m ³
Coleraine St	32	170	0
Winetavern St	30	151	0
Ballyfermot	23	138	0

Coleraine St had the highest annual mean in 2004, but this is still lower than that of 2003 for the site.

Winetavern Street recorded an annual mean of 30µg/m³, lower than the level of 38µg/m³ recorded in the previous year.

The site at Ballyfermot experienced a number of problems with the analyser and only half of the annual data was available for use.

There was no exceedance at any of the sites of the 200µg/m³ hourly limit set by the Air Quality Standard Regulations 2002.

Table 7: 2002-04 NO₂ comparison 2002-04

Site	Annual Mean 2002 ug/m ³	Annual Mean 2003 ug/m ³	Annual Mean 2004 ug/m ³
Coleraine St	38	37	32
Winetavern St	35	38	30
Ballyfermot	no data	26	23

Tábla 6: Torthaí NO₂ do Chathair Bhaile Átha Cliath 2004

Stáisiún:	Meán bliantúil µg/m ³	Uasluach in aghaidh na huaire µg/m ³	Líon uaireanta a bhí leibhéal NO ₂ in aghaidh na huaire >200µg/m ³
Sráid Chúil Raithin	32	170	0
Sráid an Fhíona	30	151	0
Baile Formaid	23	138	0

Taifeadadh an meán bliantúil is airde i Sráid Chúil Raithin in 2004, ach tá an figiúr seo níos ísle ná a chomhfhigiúr 2003 don láithreán.

Taifeadadh meán bliantúil 30µg/m³ i Sráid an Fhíona, rud a bhí níos ísle ná leibhéal 38µg/m³ a taifeadadh sa bhliaín roimhe sin.

Bhí fadhbanna leis an anailíseoir i láithreán Bhaile Formaid, agus níorbh fhéidir ach leath na sonraí bliantúla a úsáid dá bharr sin.

Ní dheachthas in aon láithreán thar luach teorann in aghaidh na huaire 200µg/m³ atá leagtha síos ag Rialachán Chaighdeáin na hAercháilíochta, 2002.

Tábla 7: Comparáid NO₂ 2002-04

Láithreán	Meán Bliantúil 2002 ug/m ³	Meán Bliantúil 2003 ug/m ³	Meán Bliantúil 2004 ug/m ³
Sráid Chúil Raithin	38	37	32
Sráid an Fhíona	35	38	30
Baile Formaid	Sonraí ar bith	26	23

Carbon Monoxide (CO)

Exposure and health effects

Carbon Monoxide (CO) is colourless, odourless gas produced during the incomplete combustion of fuel. Sources of CO include space heaters, gas boilers and stoves, generators and tobacco smoke. Problems can arise as a result of improper installation, maintenance, or inadequate ventilation.

CO interferes with the distribution of oxygen in the blood to the rest of the body. Depending on the amount inhaled, this gas can impede coordination, worsen cardiovascular conditions, and produce fatigue, headache, disorientation, nausea, and dizziness. The symptoms are sometimes confused with the flu or food poisoning. Very high levels can cause death. CO poisoning may occur sooner in those most susceptible i.e. young children, elderly people, those with lung or heart disease or those who already have elevated CO blood levels, such as smokers.

The limit value for CO is **10mg/m³** measured as an 8-hour rolling average as per the Air Quality Standards Regulations 2002.

Table 8: Limit value for Carbon Monoxide

	Averaging period	Limit value	Margin of tolerance
Limit value for the protection of human health	Maximum daily 8-hour mean	10 mg/m ³	6 mg/m ³ from the date of entry into force of these Regulations, reducing on 1 January 2003 and every 12 months thereafter by 2 mg/m ³ to reach 0 mg/m ³ by 1 January 2005

Results and discussion

CO is monitored at both Coleraine St and Winetavern St in the city. The 8-hour rolling mean of 0.9mg/m³ for Coleraine St was an increase on the figure for 2003 (0.6mg/m³). Winetavern St also increased slightly from 0.2mg/m³ in 2003 to 0.3mg/m³ in 2004. Both figures are well below the legislative requirements for CO.

Table 9: Results for carbon monoxide 2003 & 2004

Site	Annual mean 2003 (mg/m³) 8-hr rolling mean	Annual mean 2004 (mg/m³) 8-hr rolling mean
Winetavern St	0.2	0.3
Coleraine St	0.6	0.9

Aonocsaíd Charbóin (CO)

Risíocht agus larmhairtí ar shláinte

Is gás gan dath gan bholadh í an Aonocsaíd Charbóin (CO) a ghíntear le linn dó neamhiomlán breosla. Is foinsí CO iad téitheoirí seomraí, coirí agus sornóga gáis, gineadóirí agus toit tobac. D'fhéadfaí fadhbanna teacht aníos de bharr nár suiteáladh agus nár cothaíodh an coire srl. i gceart, nó de bharr dióbháil aerála.

Coisceann CO cumas na fola ocsaigin a iompar ar fud an choirp. Ag brath ar an méid a rinneadh a analú isteach, is féidir leis an ngás seo cur isteach ar chomhordú, is féidir le galair chardashoithíocha dul i ndonacht dá bharr, agus is féidir le CO turse, tinneas cinn, mearbhall, masmas agus meadhrán a chur ar dhuine. Is minic a shíltéar go hearráideach gurb ionann na hairíonna seo agus an fliú a bheith ar dhuine nó nimhiú bia. Is féidir le duine bás a fháil ó leibhéal an-arda CO. D'fhéadfaí nimhiú CO a fheiceáil níos luaithe iontu siúd is so-ghabhálaí .i. leanaí óga, daoine scothaosta, iad siúd a bhfuil galar scamhóg nó croí orthu nó iad siúd a bhfuil fuil-leibhéal ardaithe CO acu cheana féin amhail caiteoirí tobac.

Is ionann an luach teorann do CO agus **10mg/m³** a dhéantar ina mheán rollach 8 n-uaire a thomhas de réir Rialachán Chaighdeáin na hAercháilíochta, 2002.

Tábla 8: Luach teorann d'Aonocsaíd Charbóin

	Tréimhse mheánaithe	Luach teorann	Corrlach Lamháltais
Luach teorann chun sláinte an duine a chosaint	Uasluach meáin laethúil 8 n-uaire	10 mg/m ³	6 mg/m ³ ó thosach feidhme na Rialachán seo, á laghdú ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin faoi 2 mg/m ³ go mbainfear an sprioc 0 mg/m ³ amach faoi 1 Eanáir 2005

Torthaí agus anailís

Déantar monatóireacht ar CO sa chathair i Sráid Chúil Raithin agus i Sráid an Fhíona araon. Ba mhéadú é meán rollach 8 n-uaire 0.9mg/m³ do láithreán Shráid Chúil Raithin ar a chomhfhigiúr in 2003 (0.6mg/m³). Mhéadaigh figiúr láithreán Shráid an Fhíona beagán ó 0.2mg/m³ in 2003 go 0.3mg/m³ in 2004. Tá an dá fhigiúr i bhfad faoi na ceanglais dhlíthiúla do CO.

Tábla 9: Torthaí d'aonocsaíd charbón 2003 & 2004

Láithreán	Meán bliantúil 2003 (mg/m ³) meán rollach 8 n-uaire	Meán bliantúil 2004 (mg/m ³) meán rollach 8 n-uaire
Sráid an Fhíona	0.2	0.3
Sráid Chúil Raithin	0.6	0.9

Benzene (C_6H_6)

Exposure and health effects

Benzene is a component of products derived from coal, and is found in petrol and other fuels. It is also used widely in the manufacture of plastics, detergents, pesticides and pharmaceuticals. Commonly, it is found in emissions from burning coal and oil, from vehicle exhausts and at petrol stations. It is also found in tobacco smoke, which may be the main source of exposure for individuals.

Breathing very high levels of benzene can result in death while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. There is currently no identifiable threshold below which there is no risk to human health. Benzene is carcinogenic and long-term exposure at various levels can affect normal blood production and can be harmful to the immune system. It can cause Leukaemia and has also been linked with birth defects in animals and humans.

Table 10: Limit value for Benzene

	Averaging period	Limit value	Margin of tolerance
Limit value for the protection of human health	Calendar year	5 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$ from the date of entry into force of these Regulations, reducing on 1 January 2006 and every 12 months thereafter by 1 $\mu\text{g}/\text{m}^3$ to reach 0 $\mu\text{g}/\text{m}^3$ by 1 January 2010

Results and discussion

There is one site monitoring for Benzene in the city: Winetavern Street. The annual mean for 2004 is **1.29 $\mu\text{g}/\text{m}^3$** . This is a decrease on the 1.56 $\mu\text{g}/\text{m}^3$ recorded in 2003 and well within the legislative limit of 5 $\mu\text{g}/\text{m}^3$. However, it must be mentioned that there was quite an amount of downtime due to a problem with the analyser.

A benzene exposure study was carried out in the city in April 2004. Entitled The PEOPLE Project, it examined the public's exposure to benzene on April 29th. It is discussed further on page 54.

Beinséin (C_6H_6)

Risíocht agus larmhairtí ar shláinte

Is comhbáhar táirgí í an bheinséin a bhaintear as gual agus tá sí le fáil i bpeitreal agus i mbreosláí eile. Baintear úsáid fhairsing aisti le plaistigh, glantaigh, lotnaidicídí agus ceimiceáin a mhonarú. De ghnáth, tá sí le fáil in astaíochtaí ó ghual agus ola atá á ndó, ó sceithphíopaí feithiclí agus ó stáisiúin pheitrial. Tá sí le fáil freisin i ndeatach ó thoitní, rud a d'fhéadfadh bheith ar an fhoinsé is mó risíocht do dhaoine aonair.

Má dhéantar leibhéal fior-arda beinséine a analú isteach, is féidir le duine bás a fháil dá bharr agus is féidir le hardleibhéal bheinséine bheith ina gcúis le mearbhneal, meadhrán, croírátá méadaithe, tinnis chinn, creathaná, mearbhall, agus staid neamhaireachtála. I dtaca leis an mbeinséin de, nil aon tairseach inaithéanta i láthair na huairé nuair nach bhfuil aon bhaol eile do shláinte an duine. Tá an bheinséin carcanaigineach agus de bharr an duine a bheith ris le leibhéal éagsúla go fadtéarmach, is féidir leis sin dul i bhfeidhm ar an ngnáth-thairgeadh fola agus dochar a dhéanamh don chóras imdhíonachta. Is féidir le beinséin bheith ina cúis le Leoicéime agus cuireadh an locht ar an mbeinséin chomh maith as éalanga breithe i gcás ainmhithe agus daoine.

Tábla 10: Luach teorann do Bheinséin

	Tréimhse mheánaithe	Luach teorann	Corrlach lamháltais
Luach teorann chun sláinte an duine a chosaint	Bliaín féilire	5 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$ ó thosach feidhme na Rialachán seo, á laghdú ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin faoi 1 $\mu\text{g}/\text{m}^3$ go mbainfear an sprioc 0 $\mu\text{g}/\text{m}^3$ amach faoi 1 Eanáir 2010

Torthaí agus anailís

Tá aon láithreán amháin ata ag déanamh monatóireachta ar an mbeinséin sa chathair: Sráid an Fhíona. Is é **1.29 $\mu\text{g}/\text{m}^3$** meán bliantúil 2004. Seo laghdú ón fhigiúr 1.56 $\mu\text{g}/\text{m}^3$ a taifeadadh in 2003 agus tá sin i bhfad laistigh den teorainn dhlíthiúil 5 $\mu\text{g}/\text{m}^3$. Ina ainneoin sin, caithfear a lua go raibh an obair taifeadta as feidhm cuid mhór ama nó bhí fadhb leis an anailíseoir.

Rinneadh staidéar faoi risíocht le beinséin sa chathair in Aibreán 2004. Is é 'The PEOPLE Project' an teideal a bhí air agus scrúdaíodh risíocht an phobail le beinséin ar 29 Aibreán ann. Pléifear ar bhonn mionsonraithe é ar leathanach 54.

Particulates (PM₁₀)

Exposure and health effects

People are exposed to particulate matter (PM) from both naturally occurring processes and human activities. Major sources of PM include cars, trucks, construction equipment, wood burning, crushing and grinding operations and unpaved roads. People also are exposed to PM indoors, mostly from cigarette smoke, home heating sources (such as wood burning stoves), and cooking, but also from outdoor PM that can easily enter indoor environments. Indoor exposures to PM may be substantial because this is where people spend most of their time.

Some people, such as the elderly and people with respiratory and cardiovascular diseases, are more susceptible than others to the effects of PM. Susceptible groups include children and adults with asthma, bronchitis, and respiratory infections. Symptoms of exposure may include a sore throat, persistent cough, burning eyes, wheezing, shortness of breath, tightness of chest, and chest pain.

Coarse particles or PM₁₀ are particles up to 10 microns in size. Finer particles, known as PM_{2.5} are those particles less than 2.5 microns in size. There is no legislative requirement to monitor PM_{2.5} at present but this will be introduced in the future. Schedule 3 of the Air Quality Standards Regulations 2002 sets out the limit values for PM10. It is split into two stages for compliance, 2005 and 2010.

Table 11: Stage 1 (2005) Limit values for PM₁₀

	Averaging period	Limit value	Margin of tolerance
24 hour limit value for the protection of human health	24 hours	50µg/m ³ PM ₁₀ not to be exceeded more than 35 times in a calendar year	30% from the date of entry into force of these Regulations, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2005
Annual limit value for the protection of human health	Calendar year	40µg/m ³ PM ₁₀	12% from the date of entry into force of these Regulations, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2005

Ábhar cáithníneach (PM₁₀)

Risíocht agus iarmhairtí ar shláinte

Bíonn daoine ris le hábhar cáithníneach (PM) de bharr próiseas a tharlaíonn go nádúrtha agus de bharr gníomhaíochtaí daonna. Is ó ghluaisteáin, ó thrucaillí, ó threalamh foirgníochta, ó dhó adhmaid, ó oibreacha tuarganta agus meilte agus ó bhóithre neamhphábhála is mó a thagann PM. Bíonn daoine ris le PM laistigh freisin, ó dheatach toitíní, ó fhoinsí téite tí (amhail sornóga dóite adhmaid, agus ón chócaireacht, ach bíonn siad ris freisin le PM atá lasmuigh agus atá in ann teacht isteach gan stró. D'fhéadfadh an risíocht le PM laistigh bheith mór nó seo mar a gcaitheann daoine bunús a gcuid ama.

Tá daoine áirithe, amhail daoine scothaosta agus daoine a bhfuil galar riospráide agus cardashoithíoch orthu, níos so-ghabhálaí ná daoine eile i leith iarmhairtí PM. Ina measc siúd atá so-ghabhálach, tá leanáí agus aosaigh a bhfuil asma, broincíteas agus ionfhabhtaithe riospráide orthu. Is féidir gur airíonna risíocha iad scornach nimhneach, casachtach leanúnach, suíle loiscneacha, cársánacht, giorrú anála, teannas cliabhraigh, agus pian chliabhraigh.

Is cáithníní iad cáithníní garbha ná PM₁₀ atá chomh mór le 10 miocrón. Is cáithníní míne iad cáithníní darb ainm PM_{2.5} agus atá níos lú ná 2.5 miocrón. Níl aon cheanglas dlíthiúil i bhfeidhm faoi láthair chun monatóireacht a dhéanamh ar PM_{2.5} ach cuirfear seo i bhfeidhm san am atá amach romhainn. Leagann Sceideal 3 de Rialachán Chaighdeáin na hAercháilíochta, 2002 amach na luachanna teorann do PM₁₀. Tá dhá chéim i gceist chun na ceanglais seo a chomhlíonadh, 2005 agus 2010.

Tábla 11: Céim 1 (2005) Luachanna Teorann do PM₁₀

	Tréimhse mheánaithe	Luach teorann	Corrlach lamháltais
Luach teorann in aghaidh 24 uaire chun sláinte an duine a chosaint	24 uaire	Gan dul thar 50 $\mu\text{g}/\text{m}^3$ PM ₁₀ níos mó ná 35 uaire in aghaidh na bliana féilire	30% ó thosach feidhme na Rialachán seo, á laghdú ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin i gcéatadáin bhliantúla chomhionanna go mbainfear an sprioc 0% amach faoi 1 Eanáir 2005
Luach teorann in aghaidh na bliana uaire chun sláinte an duine a chosaint	Bliaín féilire	40 $\mu\text{g}/\text{m}^3$ PM ₁₀	12% ó thosach feidhme na Rialachán seo, á laghdú ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin i gcéatadáin bhliantúla chomhionanna go mbainfear an sprioc 0% amach faoi 1 Eanáir 2005

Table 12: Stage 2 (2010) Limit values for PM₁₀

	Averaging period	Limit value	Margin of tolerance
24 hour limit value for the protection of human health	24 hours	50 µg/m ³ PM ₁₀ not to be exceeded more than 7 times in a calendar year	Not to be exceeded more than 28 times by 1 January 2006, 21 times by 1 January 2007, 14 times by 1 January 2008, 7 times by 1 January 2009 and 0 times by 1 January 2010
Annual limit value for the protection of human health	Calendar year	20 µg/m ³ PM ₁₀	50% from 1 January 2005, reducing every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010

Results and discussion

There were seven sites monitoring PM₁₀ in 2004: College St, Winetavern St, Coleraine St, Rathmines, Marino, Phoenix Park and Ballyfermot. The College St site closed in August 2004. This did not conform to the criteria set down by the EU in terms of site selection, specifically in terms of proximity to major road junctions.

The results for 2004 make more favourable reading than those of 2003. There was a reduction in the annual mean at every site as can be seen in Table 13. Also, there was a reduction in the overall number of days during which the levels exceeded 50µg/m³ - from 192 in 2003 to only 65 in 2004.

Table 13: Levels of PM₁₀ recorded in 2004

Location:	Annual Mean (µg/m ³)	Annual Median (µg/m ³)	No. of days > 50µg/m ³
College Street	31	29	18
Phoenix Park	12	10	2
Coleraine Street	20	17	16
Marino	14	11	4
Rathmines	17	14	6
Winetavern Street	20	17	14
Ballyfermot	14	12	5

Tábla 12: Céim 2 (2010) Luachanna teorann do PM₁₀

	Tréimhse mheánaithe	Luach teorann	Corrlach lamháltais
Luach teorann 24 uaire chun sláinte an duine a chosaint	24 uaire	Gan dul thar 50 µg/m ³ PM ₁₀ níos mó ná 7 n-uaire in aghaidh na bliana féilire	Gan dul thairis níos mó ná 28 uaire faoi 1 Eanáir 2006, 21 uaire faoi 1 Eanáir 2007, 14 uaire faoi 1 Eanáir 2008, 7 n-uaire faoi 1 Eanáir 2009 agus 0 uair faoi 1 Eanáir 2010
Luach teorann in aghaidh na bliana chun sláinte an duine a chosaint	Bliain féilire	20 µg/m ³ PM ₁₀	50% ó 1 Eanáir 2005, á laghdú gach 12 mhí ina dhiaidh sin i gcéatadáin bhliantúla chomhionanna go mbainfear an sprioc 0% amach faoi 1 Eanáir 2010

Torthaí agus anailís

Bhí seacht láithreán ag déanamh monatóireachta ar PM₁₀ in 2004: Sráid an Choláiste, Sráid an Fhíona, Sráid Chúil Raithin, Ráth Maonais, Marino, Páirc an Phionnúisce agus Baile Formaid. Dúnadh láithreán Shráid an Choláiste i Lúnasa 2004. Níor comhlíonadh critéir an AE maidir leis an láithreán a roghnú, go sonrach maidir le chomh cóngarach agus a bhí sé d'acomhail phríomhbhóithre.

Tá torthaí 2004 níos fabhraí ná torthaí 2003. Bhí laghdú ar an meán bliantúil i ngach uile láithreán mar atá le feiceáil i dTábla 13. Lena chois sin, bhí laghdú ar an líon iomlán laethanta ina ndeachaigh na leibhéal thar 50ug/m³ - ó 192 in 2003 go 65 amháin in 2004.

Table 14: Comparison of PM₁₀ results 2003-04

	Annual Mean 2003 µg/m³	Annual Mean 2004 µg/m³	No. of Days >50µg/m³ 2003	No. of Days >50µg/m³ 2004
College St	40	31	63	18
Phoenix Park	14	12	9	2
Coleraine St	28	20	39	16
Marino	23	14	20	4
Rathmines	23	17	28	6
Winetavern St	26	20	29	14
Ballyfermot	19	14	4	5

Tábla 14: Comparáid idir torthaí PM₁₀ 2003-04

Láithreán	Meán Bliantúil 2003 µg/m ³	Meán Bliantúil 2004 µg/m ³	Laethanta >50µg/m ³ 2003	Laethanta >50µg/m ³ 2004
Sráid an Choláiste	40	31	63	18
Páirc an Fhionnuisce	14	12	9	2
Sráid Chúil Raithin	28	20	39	16
Marino	23	14	20	4
Ráth Maonais	23	17	28	6
Sráid an Fhíona	26	20	29	14
Baile Formaid	19	14	4	5

Atmospheric Lead (Pb)

Exposure and health effects

Lead particles are released into the environment from such artificial sources as metal processing, industries, incinerators and vehicles. Traditionally lead was used widely as an additive in petrol but since the introduction of the ban in 1991, the levels of airborne lead have dramatically dropped to well below the legislative requirements.

Lead exposure can lead to fatigue, irritability, loss of appetite, reduced attention span and insomnia. Lead poisoning in children can result in brain damage, kidney damage, behavioural problems, hyperactivity, developmental delays and other physical and mental problems. Exposure to lead at any age is a concern, but young children are most at risk due to the fact that they are still developing.

Lead particles in the environment can attach to dust and carry long distances in the atmosphere. Such lead-containing dust can be removed from the air by rain and deposited on soil where it may remain for years.

Results and discussion

The limit value for lead is set out in Schedule 4 of the Air Quality Standards Regulations 2002.

Table 15: Limit value for Lead

	Averaging period	Limit value	Margin of tolerance
Annual limit value for the protection of human health	Calendar year	0.5 ug/m ³	60% from the date of entry into force of these Regulations, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by January 2005

There were six monitoring sites in the city in 2004 – College St, Branch Road, Coleraine St, Kilbarrack, Rathmines and Winetavern St. The filters were sent for analysis at an external laboratory.

Luaidhe Atmaisféarach (Pb)

Risíocht agus larmhairtí ar shláinte

Is amhlaidh a scaoiltear cáithní luaidhe isteach sa timpeallacht as foinsí saorga amhail tionscail phróiseála miotail, as loisceoirí agus as feithiclí. Roimhe seo, úsáideadh an luaidhe ar bhonn fairsing ina breiseán do pheitreal ach ó tugadh an cosc isteach in 1991, tháinig laghdú suntasach ar leibhéal luaidhe aerbheirthe chomh mór sin go bhfuil siad i bhfad faoi na ceanglais dhlíthiúla.

D'fhéadfadh risíocht le luaidhe bheith ina cúis le turise agus greannaitheacht, maolú goile, réise aire laghdaithe agus easuan. Is féidir le nimhiú luaidhe i bpáistí bheith ina chúis le lot inchinne, lot duán, fadhbanna iompraíochta, hipirghníomhaíocht, moillithe forásacha agus fadhbanna fisiceacha meabhracha eile. Is ábhar imní é risíocht le luaidhe in aon aois, ach is iad na leanáí óga is mó ata i mbaol de bharr go bhfuil siad ag forbairt agus ag fás ar fad.

Is féidir le cáithní luaidhe sa timpeallacht greamú de dheannach agus bheith á n-ionpar ar feadh bealaí fada tríd an atmaisféar. Is féidir leis an mbáisteach deannach luaidhe den chineál seo a glanadh ón aer agus é a shil-leagan ar an ithir áit a bhféadfadh sé fanacht ar feadh na mblianta.

Torthaí agus anailís

Tá an luach teorann leagtha amach i Sceideal 4 de Rialacháin Chaighdeáin na hAercháilíochta, 2002.

Tábla 15: Luach teorann do Luaidhe

	Tréimhse mheánaithe	Luach teorann	Corrlach lamháltais
Luach teorann in aghaidh na bliana chun sláinte an duine a chosaint	Bliain féilire	0.5 ug/m ³	60% ó thosach feidhme na Rialacháin seo, á laghdú ar 1 Eanáir 2003 agus gach 12 mhí ina dhiaidh sin i gcéatadáin bhliantúla chomhionanna go mbainfear an sprioc 0% amach faoi Eanáir 2005

Bhí 6 láithreán monatóireachta sa chathair in 2004 - Sráid an Choláiste, an Chraobh-bhóthar, Sráid Chúil Raithin, Cill Bharróg, Ráth Maonais agus Sráid an Fhíona. Cuireadh na scagairí chuig saotharlann sheachtrach i gcomhair a n-anailíse.

Table 16: Lead results for Dublin City 2003 & 2004

Station	2003 Mean ($\mu\text{g}/\text{m}^3$)	2004 Mean ($\mu\text{g}/\text{m}^3$)	2003 Maximum ($\mu\text{g}/\text{m}^3$)	2004 Maximum ($\mu\text{g}/\text{m}^3$)
Branch Road	0.05	0.06	0.2	0.15
College St	0.01	0.02	0.05	0.04
Coleraine St	0.02	0.01	0.07	0.02
Winetavern St	0.01	0.01	0.02	0.03
Kilbarrack	0.01	0.01	0.06	0.02
Rathmines	0.01	0.01	0.02	0.02

As has been the case over the past few years, the level of lead has fallen again at almost all sites. The exception to this is Branch Road, with a very slight increase. The Branch Road site was originally the site of a lead industry that has since scaled back its operations. The site may be relocated in the future. The site at College St closed in August 2004. The results are shown in Table 16.

**Tábla 16: Torthaí luaidhe
do Chathair Bhaile Átha Cliath 2003 & 2004**

Láithreán	Airmheán 2003 (µg/m³)	Airmheán 2004 (µg/m³)	Uasluach 2003 (µg/m³)	Uasluach 2004 (µg/m³)
An Craobh-Bhóthar	0.05	0.06	0.2	0.15
Sráid an Choláiste	0.01	0.02	0.05	0.04
Sráid Chúil Raithin	0.02	0.01	0.07	0.02
Sráid an Fhíona	0.01	0.01	0.02	0.03
Cill Bharróg	0.01	0.01	0.06	0.02
Ráth Maonais	0.01	0.01	0.02	0.02

De réir mar ab amhlaidh le cúpla bliain anuas, thit an leibhéal luaidhe arís beagnach i ngach uile láithreán. Is eisceacht é láithreán an Chraobh-Bhóthair ina raibh méadú beag ar an leibhéal luaidhe. Ba láithreán tionscail luaidhe é láithreán an Chraobh-Bhóthair ó thús a chiorraigh a chuid oibreacha ó shin. D'fhéadfáí an láithreán a chur in áit eile amach anseo. Dúnadh láithreán Shráid an Choláiste i Lúnasa 2004. Tá na tortaí le feiceáil i dTábla 16.

Background Air Quality Monitoring

Daily black smoke and sulphur dioxide

The results for the first time represent a calendar year, and run from January 1st to December 31st 2004. The original network of smoke and sulphur dioxide composed of up to 18 active sites when it was initially introduced in the early 1980s. However, with the improvement in air quality since the introduction of the coal ban and the popularity of gas central heating, this has been reduced to just 4 sites – Finglas, Cabra, Ringsend and Crumlin.

**Table 17: EC Limit Values and Guide Values for SO₂ and suspended particulates
EC Directive 80/779/EEC**

EC Limit Values		
Pollutant	Reference period	Limit values
Sulphur Dioxide	1 year (median of daily values)	120µg/m ³ if black smoke <40µg/m ³ 80µg/m ³ if black smoke >40µg/m ³
	Winter (median of daily values)	180µg/m ³ if black smoke <60µg/m ³ 130µg/m ³ if black smoke >60µg/m ³
Black smoke	1 year (median of daily values)	80µg/m ³
	Winter (median of daily values)	130µg/m ³
	98 percentile of daily mean	250µg/m ³
EU Guide Values		
Pollutant	Reference period	Guide Values
Sulphur Dioxide	24-hour mean	100-150µg/m ³
Black smoke	1 year mean	40-60µg/m ³

Results and discussion

The results for 2004 indicate compliance with the EU limit and guide values at all four sites. The maximum level of smoke in 2004 was recorded in Finglas with a value of 27ug/m³. This is a great improvement on the maximum in Cabra of 53ug/m³ recorded in 2003/04.

Monatóireacht ar Aercháilíocht Chúlrach

Deattach dubh laethúil agus dé-ocsáid sulfair

Is tortaí do bhliain féilire iad na tortaí den chéad uair riamh, agus déantar iad a thaifeadadh ó 1 Eanáir go 31 Mí na Nollag 2004. Bhíodh 18 láithreán gníomhach ag feidhmiú mar chuid den lónra tosaigh a bhíodh ag déanamh monatóireachta ar dheatach agus ar dhé-ocsáid sulfair nuair a cuireadh i bhfeidhm é go luath sna 1980í. Ina ainneoin sin, ó cuireadh feabhas ar an aercháilíocht mar gheall ar chosc an ghuail agus ar an ráchait a bhí ar an téamh lárnach gáis, laghdaíodh líon na láithreán go 4 - Fionnghlas, an Chabhrach, an Rinn agus Cromghlinn.

Tábla 17: Luachanna Teorann agus Treoirluachanna an AE do SO ₂ agus ábhar cáithníneach foluaineach; Treoir AE 80/779/EEC		
Luachanna Teorann AE		
Truailleán	Tréimhse thagartha	Luachanna teorann
Dé-ocsáid Sulfair	1 bhliain (airmheán luachanna laethúla) Geimhreadh (airmheán luachanna laethúla)	120µg/m ³ más deattach dubh é atá <40µg/m ³ 80µg/m ³ más deattach dubh é atá >40µg/m ³ 180µg/m ³ más deattach dubh é atá <60µg/m ³ 130µg/m ³ más deattach dubh é atá >60µg/m ³
Deattach dubh	1 bhliain (airmheán luachanna laethúla) Geimhreadh (airmheán luachanna laethúla) 98 peirceintíl mheáin laethúil	80µg/m ³ 130µg/m ³ 250µg/m ³
Treoirluachanna AE		
Truailleán	Tréimhse thagartha	Treoirluachanna
Dé-ocsáid Sulfair	Meán 24 uaire	100-150µg/m ³
Deattach dubh	Méan 1 bhliana	40-60µg/m ³

Torthaí agus anailís

Léiríonn tortaí 2004 gur comhlíonadh teorainn agus treoirluachanna an AE i ngach ceann de na ceithre láithreán. Taifeadadh uasleibhéal deataigh 27ug/m³ i bhFionnghlas in 2004. Is mór an feabhas a tháinig ar uasleibhéal 53ug/m³ sa Chabhrach a taifeadadh in 2003/04.

All 4 sites had quite low levels of smoke recorded. 80ug/m³ was the highest level of SO₂ recorded at Cabra, traditionally the station with the highest levels of SO₂. This is exactly the same level as the previous year.

Table 18: Smoke and SO₂ results 2004

Station	Annual Mean μg/m ³ Smoke	Annual Mean μg/m ³ SO ₂	Annual Median Smoke μg/m ³	Annual Median SO ₂ μg/m ³	Maximum Smoke μg/m ³	Maximum SO ₂ μg/m ³
Ringsend	1	3	1	0	14	32
Cabra	3	9	1	8	24	80
Crumlin	5	3	5	0	18	26
Finglas	5	7	4	0	27	56

Taifeadadh leibhéil deataigh a bhí fíor-íseal i ngach ceann de na ceithre láithreán. Is é 80ug/m³ an leibhéil SO₂ is airde a taifeadadh sa Chabreach arb é an láithreán ina ndéantar na leibhéil is airde SO₂ a thaifeadadh go hiondúil. Seo go díreach an leibhéil céanna mar a taifeadadh an bhliain roimhe.

Tábla 18: Torthaí Deataigh agus SO₂ 2004

Láithreán	Meán Bliantúil Deataigh µg/m ³	Meán Bliantúil SO ₂ µg/m ³	Airmheán Bliantúil Deataigh µg/m ³	Airmheán Bliantúil SO ₂ µg/m ³	Uasmhéid Deataigh µg/m ³	Uasmhéid SO ₂ µg/m ³
An Rinn	1	3	1	0	14	32
An Chabreach	3	9	1	8	24	80
Cromghlinn	5	3	5	0	18	26
Fionnghlas	5	7	4	0	27	56

The PEOPLE Project

The PEOPLE (Population Exposure to Air Pollutants in Europe) Project was a one-day snapshot of the exposure of 150 volunteers to benzene in Dublin City. It was part of a European – wide study into how people are exposed to the cancer causing agent benzene. The project had been run previously in a number of European cities, including Brussels, Lisbon, Ljubljana and Madrid.

The project ran in Dublin on the 28th April 2004, and was carried out by members of the Air Monitoring Unit of Dublin City Council with Dublin Institute of Technology, with support from the Joint Research Centre (JRC) of the European Commission. The Environmental Protection Agency (EPA) also provided support during the Project.

Over 600 people originally volunteered to participate in the study following a general invitation through the media. This number was reduced to a sample of 150 people, representing categories that are reflective of the lifestyle of the city. The volunteers carried a passive monitor for 12 hours to measure their personal exposure to benzene. The groups included those walking to work or school, driving to work, sedentary smokers and non-smokers and school children. Benzene was also monitored at a range of indoor locations, including offices, schools, homes and cafes. Outdoor measurements were carried out at 37 urban sites.

The results indicated that the level of pollution in the City compared favourably with all of the other cities that completed the study. On the day in question, the overall concentrations of pollutants were low. The highest outdoor pollution levels were associated with major roads in the city centre. The smokers had the highest exposure to benzene compared to other participants, regardless of their method of transport.

Table 19: Comparison of PEOPLE Cities

	Brussels	Lisbon	Bucharest	Ljubljana	Madrid	Dublin
Median city background level ($\mu\text{g}/\text{m}^3$)	2.5	3.8	7.0	3.1	4.1	2.1
Maximum outdoor value ($\mu\text{g}/\text{m}^3$)	6.2	7.9	18.2	5.4	11.6	5.4
Percentile value	35	55	45	45	90	25
Estimated annual mean ($\mu\text{g}/\text{m}^3$)	3.4	4.1	8.5	3.8	3.4	3.7

Tionscadal PEOPLE

Bhí Tionscadal PEOPLE (*Population Exposure to Air Pollutants in Europe* nó i nGaeilge, ‘Risíocht an Phobail le Truailleán Aeir san Eoraip’) mar a bheadh sciobphictiúr aon lae ann a tógadh de risíocht 150 deonach le beinséin i gCathair Bhaile Átha Cliath. Ba chuid de staidéar é an tionscadal a rinneadh ar fud na hEorpa maidir le céid dóigh a mbíonn daoine ris leis an oibreán carcanaigineach, mar atá an bheinséin. Cuireadh an tionscadal i gcrích i líon cathracha Eorpacha, lena n-áirítear an Bhruséil, Liospón, Liúibleána agus Maidrid.

Cuireadh an tionscadal i gcrích i mBaile Átha Cliath ar 28 Aibreán 2004, agus is iad baill an Aonaid Monatóireachta ar Aerchálíocht de chuid Chomhairle Cathrach Bhaile Átha Cliath a rinne an tionscadal i gcomhar le hInstitiúid Teicneolaíochta Bhaile Átha Cliath agus le tacaíocht ón Láirionad um Thaighde Comhpháirteach (JRC) de Choimisiún na hEorpa. Sholáthair an Ghníomhaireacht um Chaomhnú Comhshaoil (EPA) taca ar fáil freisin le linn an tionscadail.

Bhí thar 600 duine ag an túis a bhí sásta bheith páirteach ar bhonn deonach sa staidéar i ndiaidh cuireadh poiblí a eisiúint san meáin chumarsáide. Laghdaíodh an líon seo go sampla 150 duine, rud ab ionann agus líon catagóirí a bhí mar scáthán ar stíl mhaireachtála mhuintir na cathrach. Bhí monatóir éigníomhach ar iompar ag na deonaigh ar feadh 12 uaire chun an risíocht phearsanta acu le beinséin a thomhas. Ba iad na grúpaí a bhí páirteach iad a bhíonn ag siúl chun na hoibre nó chun na scoile, ag tiomáint chun na hoibre, caiteoirí tobac a bhíonn ina suí agus neamhchaiteoirí agus páistí scoile. Rinneadh monatóireacht ar bheinséin i líon ionad laistigh chomh maith, lena n-áiríodh oifigí, scoileanna, tithe agus caifí. Rinneadh leibhéal a thomhas in 37 láthair chathrach.

Léirigh na tortaí go raibh leibhéal an truaillithe sa chathair fabhrach i gcomparáid le gach uile chathair eile a bhí páirteach sa staidéar. Ar an lá féin, bhí an tiúchan foriomlán de thruailleáin íseal. Bhain na leibhéis truaillithe is airde a taifeadadh lasmuigh le príomhbhóithre lár na cathrach. Ba iad na caiteoirí tobac a raibh an risíocht is airde le beinséin acu i gcomparáid le rannpháirtithe eile, ar neamhchead don mhodh iompair a d’úsáid siad.

Tábla 19: Comparáid idir Cathracha PEOPLE

	An Bhruséil	Liospón	Búcairist	Liúibleána	Maidrid	Baile Átha Cliath
Airmheán leibhéal Chúlracha na Cathrach ($\mu\text{g}/\text{m}^3$)	2.5	3.8	7.0	3.1	4.1	2.1
Uasluach lasmuigh ($\mu\text{g}/\text{m}^3$)	6.2	7.9	18.2	5.4	11.6	5.4
Luach Peirceintíle	35	55	45	45	90	25
Meán bliantúil garmheasta ($\mu\text{g}/\text{m}^3$)	3.4	4.1	8.5	3.8	3.4	3.7

Reference material and Internet addresses:

For real time air quality monitoring results:

<http://www.epa.ie/OurEnvironment/Air/AccessMaps/>

For updates on national environmental issues

<http://www.environ.ie>

For updates on developments at European Union level on noise control

<http://www.europa.eu.int/scadplus/leg/en/s15003.htm>

For updates on developments at European Union level on air quality

<http://www.europa.eu.int/scadplus/leg/en/s15004.htm>

For the PEOPLE Project results:

http://www.dublincity.ie/press_news/publications/air_pollution.asp

Tagairtí agus Seoltaí Idirlín:

Más maith leat na torthaí monatóireachta fíorama ar aercháilíocht a léamh, cliceáil:

<http://www.epa.ie/OurEnvironment/Air/AccessMaps/>

Má teastaíonn an t-eolas is deireanaí faoi cheisteanna náisiúnta timpeallachta uait, cliceáil:

<http://www.environ.ie>

Más maith leat an t-eolas is deireanaí faoi forbairtí san Aontas Eorpach ar rialú torainn, cliceáil:

<http://www.europa.eu.int/scadplus/leg/en/s15003.htm>

Más maith leat an t-eolas is deireanaí faoi forbairtí i dtaobh aercháilíochta san Aontas Eorpach, gabh chuig:

<http://www.europa.eu.int/scadplus/leg/en/s15004.htm>

Más maith leat torthaí Thionscadal *PEOPLE* a léamh, cliceáil:

http://www.dublincity.ie/press_news/publications/air_pollution.asp