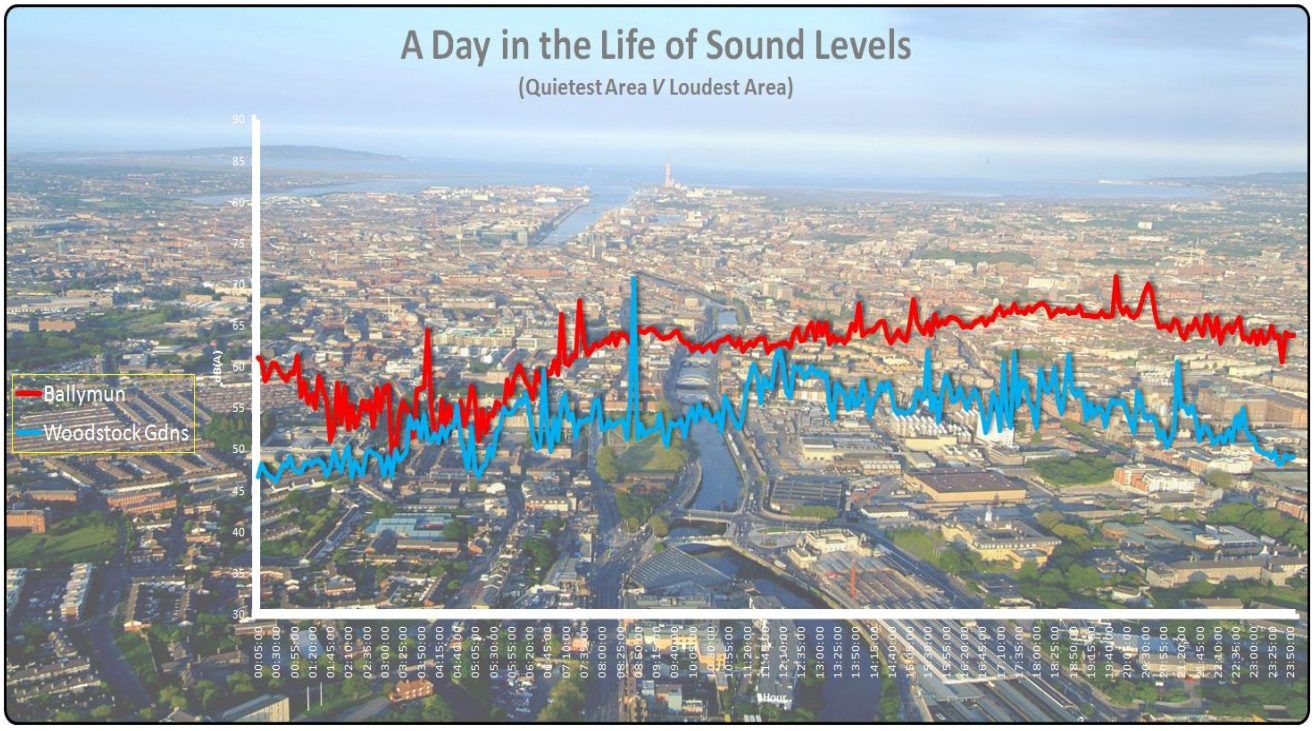
DUBLIN CITY COUNCIL

AMBIENT SOUND MONITORING NETWORK

Annual Report For 2010



Produced by

Traffic Noise & Air Quality Unit

Roads and Traffic Department,

Dublin City Council

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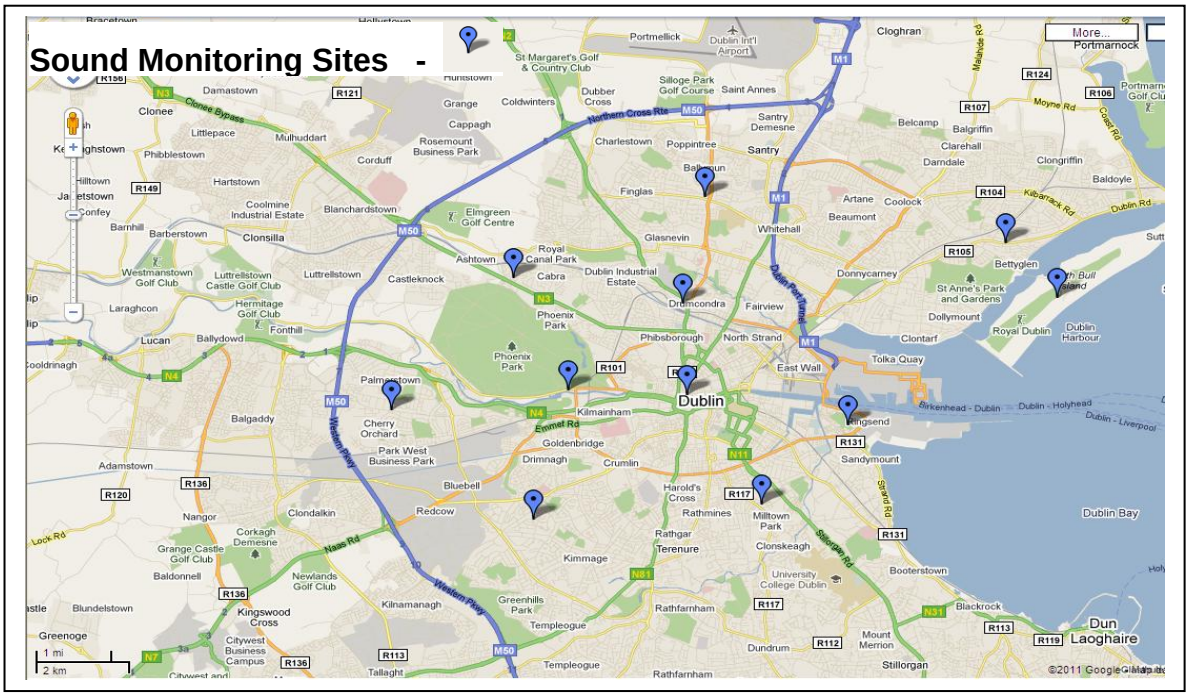
Introduction

This is the second Annual Report for the Dublin Ambient Sound Monitoring Network. Dublin City Council commenced the installation of a permanent ambient sound monitoring network in 2009. In 2010 an additional monitor was placed in the recently renovated Chancery Park, Dublin, close to the Luas Red Line. It is proposed to further upgrade the network over the coming years with additional monitors in the Kimmage\Terenure area on the Southside and the Belcamp\Artane areas on the Northside of Dublin. The purpose of the network is to measure outdoor ambient sound levels in the City, at sites which are representative of typical sound levels to which the citizen is being exposed.

Fig.1



It should be noted that the sound level meters are located so that there is no single dominant source such as major roads, road junctions, industrial sources etc. having a significant influence on the outdoor ambient sound levels being measured,

The network currently consists of eleven monitoring locations:

- Ashtown, off Navan Rd. D7, Private House
- Ballyfermot Road, D10, Civic Centre
- Ballymun Road, D11, Library
- Bull Island, D3, Interpretative Centre
- Chapelizod Road, D8, Dublin City Council Rowing Club
- Howth Road, D5, Raheny Library
- Millmount Avenue, D9, Drumcondra Library
- Percy French Road, D12, Walkinstown Library
- Ringsend, D4, Irishtown Stadium
- Woodstock Gardens, Ranelagh, D6, Snr. Citizens Residential Scheme
- Chancery Park, Public Park, Dublin 1

Measurement Parameters

The European Commission requires the use of a parameter called the Lden (Sound **L**evel for **D**ay, **E**vening and **N**ight) in population exposure assessment. This measurement parameter of *Day-evening-night level* is a descriptor of average sound levels over a whole day with the addition of a penalty of 5 dB(A) for evening sound (i.e. 19.00-23.00) and a penalty of 10 dB(A) for night time sound (23.00-7.00). Lden has been put forward as a single value parameter for the quantification of annoyance caused by noise.

The monitoring network measures continuously, 5 minute parcels of sound right throughout the year. These periods of 5 minute sound levels are then converted and presented as average hourly sound levels in decibels (dB(A)). This enables the compilation of *day, evening, night and Lden* statistics.

Sound Sources

Work carried out by Dublin City Council on computer modelled noise maps has shown that traffic is the dominant sound source in Dublin. This sound comes from two aspects of traffic – the road surface i.e. wheel\tyre interface where sound levels increase with speed and secondly, engine\ gear change and body rattle sound, normally observed at lower speeds. Whilst measurements at the monitoring locations are influenced by traffic generated sounds the monitors are located so that the measurements are not totally dominated by this source. The aim is to measure total ambient sound without one source dominating another. So whilst the new location at Chancery Park – to the side of the Four Courts, is close to the Luas Red Line, measurements will include sound from the LUAS, sound from traffic on the Quays, sound from deliveries to the Markets area and sound from activities in the park itself. As this location is close to residential properties it gives a good representation of the overall sound, that people in that area are being exposed to throughout the year.

The site locations are displayed on maps to the rear of this report and give an indication as to the type of area they are situated in. Bull Island, again this year, tends to be the most erratic site in that there is no readily discernable pattern to the measured levels. This site would be impacted more by the time of the tides and weather rather than sounds from traffic and human activity.

The impact of extreme weather events in early January and December of 2010 can be easily be discerned in all the charts displaying measured sound levels. This was due to heavy snow, which resulted in reduced traffic volumes and traffic speeds throughout that period. The dips could also be due to snow lodging on the microphone assembly

Data Loss

Loss of data is mainly due to the drifting of the correct calibration of the microphones. In 2010 the microphones were exposed to extreme weather conditions with temperatures falling to below minus 10 degrees Celcius. Most of them performed well but there were some failures identified after routine calibration checks. Data, which could not be verified with a correct calibration was disregarded. There was only on instance of vandalism at one site which resulted in ten days loss of data.

Guidelines\ Standards for exposure to Ambient Sound levels

Sound emission levels from certain sources, outside of the work environment, can be applied and enforced through Integrated Pollution Prevention Control licences, Planning Control, or Section 107-108 of the Environmental Protection Agency Act 1992. There are no legally binding statutory limits for ambient sound levels, similar to currently existing air quality standards. However the levels outlined below are used for guidance and comparison purposes.

Areas with desirable\undesirable or high\low sound levels

The Dublin City Council Noise Action Plan Oct 2008-Nov2013 proposes that areas with undesirable high sound levels are areas with a night time sound level greater than 55 decibels and a daytime level greater than 70 decibels. Areas with desirably low sound levels are defined as areas with a night time level less than 50 decibels and\or a daytime level less than 55 decibels.

The World Health Organisation Night Noise Guidelines (NNGL) for Europe

These guidelines propose a **N**ight **N**oise **G**uideline (NNGL) Lnight for outside = 40 dB; Interim target (IT) Lnight, outside = 55 dB.

Summary Results

The measurements for the year 2010 indicate that only one of the locations exceeded the undesirable values of 55dB night\70dB day - Chancery Park, with a night time value of 56.1dB(A). However this value is based only on the last three months of the year.

Six of the sites met the desirable criteria for night time levels (Drumcondra, Raheny, Ringsend, Bull Island, Walkinstown, Ranelagh). The overall Network Average also met the desirable night time level with a value of 48.6dB(A).

Seven sites met the desirable value for daytime, (Navan Rd, Raheny, DCC Rowing Club\Chapelizod, Ringsend, Bull Island, Walkinstown, Woodstock Gdns\Ranelagh). The Network Average of 53.8dB(A) met the desirable daytime value also.

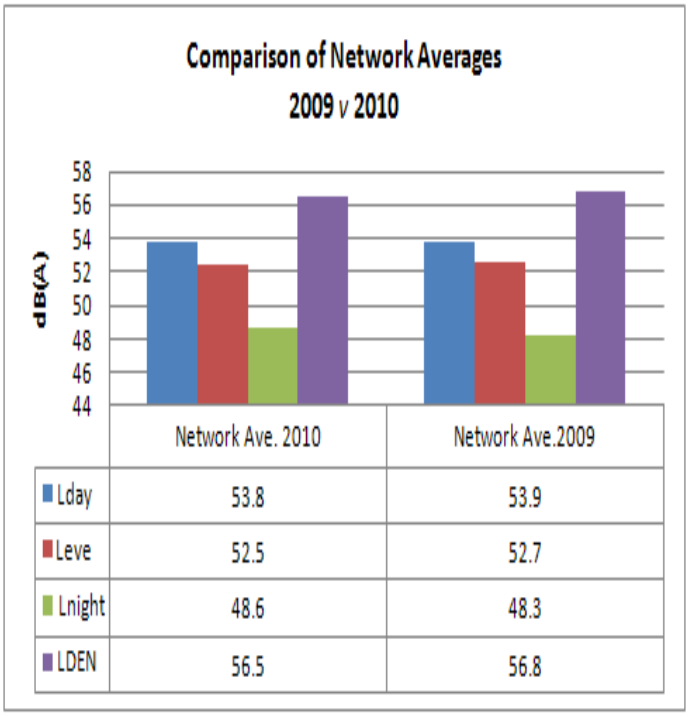
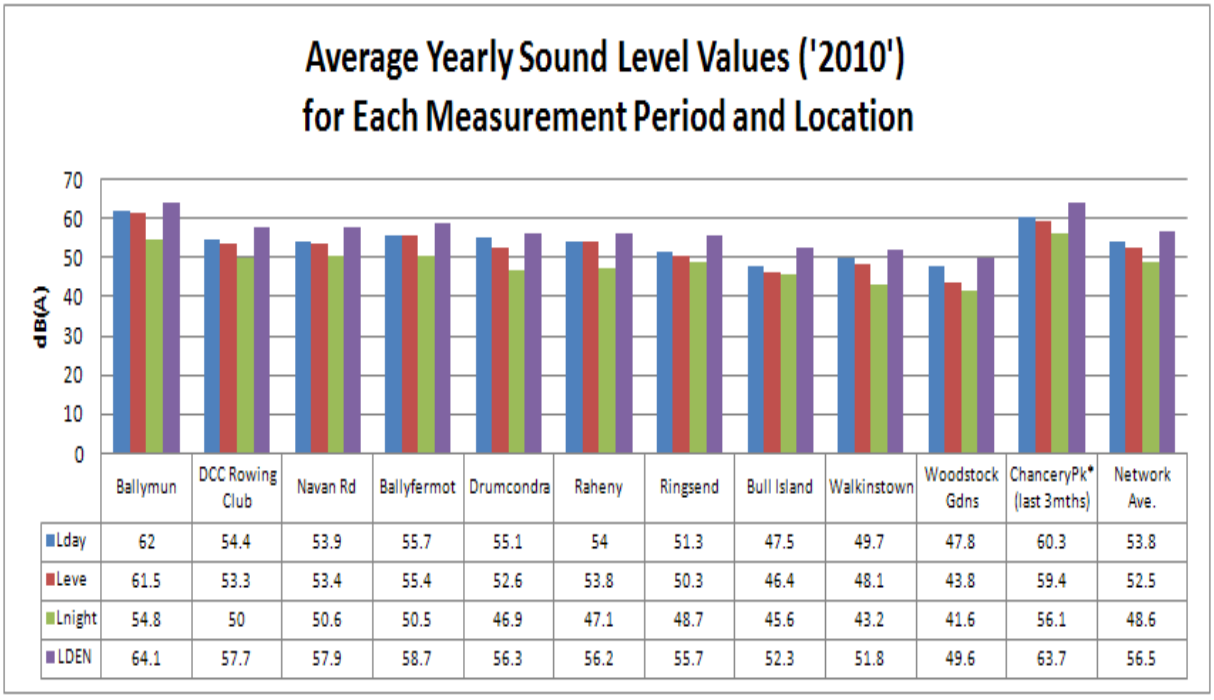


Fig.2

All of the sites except Chancery Park met the WHO NNGL interim target for exterior night time level of 55dB(A). Again, Chancery Park was only in situ for the last three months of the year.

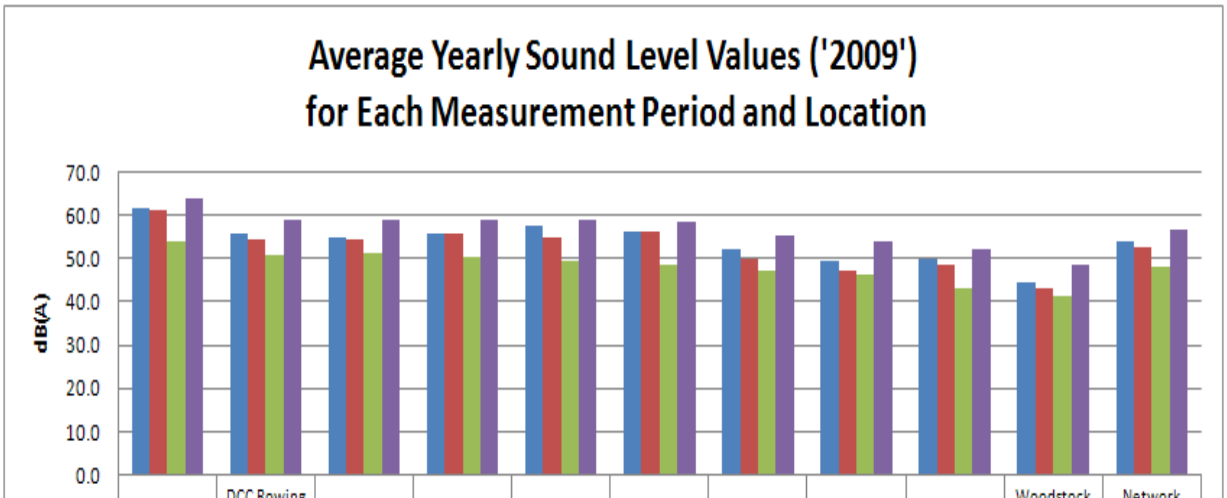
Set out in *fig.2* is a comparison of the Network averages for 2009 and 2010. Figures 3&4 display more detail for the individual sites. The 2010 Network yearly average figures show no significant changes on year 2009.

Fig.3



	Ballymun	DCC Rowing Club	Navan Rd	Ballyfermot	Drumcondra	Raheny	Ringsend	Bull Island	Walkinstown	Woodstock Gdns	ChanceryPk* (last 3mths)	Network Ave.
Lday	62	54.4	53.9	55.7	55.1	54	51.3	47.5	49.7	47.8	60.3	53.8
Leve	61.5	53.3	53.4	55.4	52.6	53.8	50.3	46.4	48.1	43.8	59.4	52.5
Lnight	54.8	50	50.6	50.5	46.9	47.1	48.7	45.6	43.2	41.6	56.1	48.6
LDEN	64.1	57.7	57.9	58.7	56.3	56.2	55.7	52.3	51.8	49.6	63.7	56.5

Fig.4



	Ballymun	DCC Rowing Club	Navan Rd	Ballyfermot	Drumcondra	Raheny	Ringsend	Bull Island	Walkinstown	Woodstock Gdns	Network Ave.
Lday	61.8	56.0	55.0	56.0	57.6	56.3	52.1	49.3	50.0	44.4	53.9
Leve	61.0	54.6	54.6	55.8	55.0	56.2	50.1	47.4	48.7	43.2	52.7
Lnight	54.2	51.0	51.5	50.4	49.4	48.5	47.0	46.3	43.1	41.4	48.3
LDEN	63.8	59.0	59.0	58.9	58.9	58.4	55.2	54.0	52.2	48.6	56.8

Measurement Results

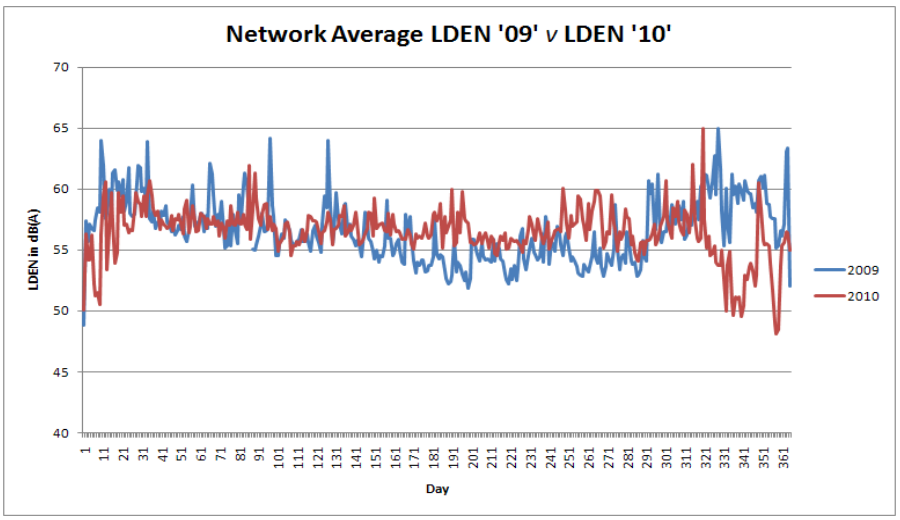
The ambient sound monitoring network measures all sound from all sources thus giving an indication of the amount of exposure the general population is exposed to from the hustle and bustle of daily life. Although mentioned in last year's report it is worth stating again that the ambient sound monitoring network measures sound levels in decibels (dB(A)). ***It does not measure noise***.

Noise is usually defined as "unwanted sound". "noise" and "sound" are often erroneously interchanged. However *' Noise Annoyance', is a term generally used for all negative feelings such as disturbance, dissatisfaction, displeasure, irritation and nuisance (Guski 1999, Quis, 2002). Adverse effects of noise occur when intended activities of the individual are disturbed. The sound level of the acoustic stimulus, the time of its occurrence, its time domain, its frequency spectrum and its informational content modify the reaction. During sleep, however, unconscious activation of the autonomous system takes place without cognitive control, due to direct interaction between the hearing nerve and higher structures of the central nervous system. Noise indicators such as Lden and Lnight, in this respect, describe the exposure situation.* (***Dr. Wolfgang Babisch, Expert Panel on Noise, EEA).***

The second year of long term measurements confirm traffic is the dominant sound source at most sites. Hourly sound values track traffic volumes as they vary throughout the day. As already mentioned weather has an important influence on sound measurements.

Figure 6 illustrates a comparison of the networks daily Lden values between 2009 and 2010. They are quite similar except for the dips in early January and December 2010. These were due to the extreme weather events of heavy snow, which resulted in reduced traffic volumes and traffic speeds throughout that period. The dips could also be due to snow lodging on the microphone assembly. Comparison of the Network Lden over the two years shows no significant changes, whereas on an individual site by site comparison, seven sites show a drop in sound levels, with the largest decrease at Drumcondra and Raheny. At these sites sound values dropped by an average 2.6 and 2.2 decibels respectively on 2009 figures.

Fig.6



This year, Ballymun is again the site with the highest Lden values, followed by the new site at Chancery Park – a City Centre location. As indicated, last year meteorological conditions had both a negative and positive impact on sound levels. In the middle of the year, during the summer period and good weather (no wind\rain), a dip in sound levels is apparent. Generally at the start and end of the year (extreme weather conditions excepted) levels are slightly higher than mid-year levels.

Difference between 2010 and 2009 values

(*Minus values in dB(A), indicate a decrease on 2009*)

As can be seen from *figure 5*, the average difference between the Lden values for years 2009 and 2010 is approximately one decibel(-0.8dB(A)). Although it is encouraging to see some reductions in sound levels at most of the sites influenced by traffic sound sources, the extent of these reductions would not be noticeable to the general public.Generally a 3 decibel reduction would just barely be noticed. However, people may well note a reduction, in terms of traffic flow

Fig. 5

	Lday	Leve	Lnight	LDEN
Ballymun	0.2	0.5	0.6	0.3
DCC Rowing Club	-1.6	-1.3	-1.0	-1.3
Navan Rd	-1.1	-1.2	-0.9	-1.1
Ballyfermot	-0.3	-0.4	0.1	-0.2
Drumcondra	-2.5	-2.4	-2.5	-2.6
Raheny	-2.3	-2.4	-1.4	-2.2
Ringsend	-0.8	0.2	1.7	0.5
Bull Island	-1.8	-1.0	-0.7	-1.7
Walkinstown	-0.3	-0.6	0.1	-0.4
Ranelagh	3.4	0.6	0.2	1.0
Chancery Park	0	0	0	0
Average. Difference	-0.7	-0.8	-0.4	-0.8

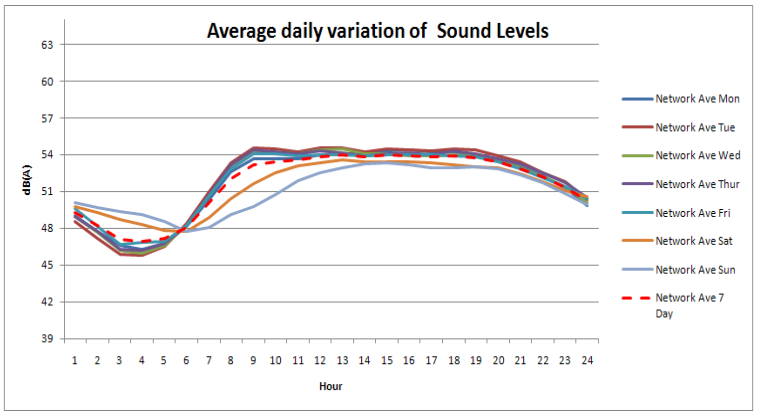
The Ranelagh site displays the largest increase in daytime sound levels. As was indicated in last year's annual report this site had been giving erratic readings. In 2010 this was rectified by replacement with a new sound monitor. Although Ballymun and Ringsend also show increases, these are marginal and are insignificant at present.

Drumcondra had the most significant decrease in sound levels of all the individual sites- particularly at night-time. A drop in the Lden of 2.6dB(A) is verging on significant. As this site is close to schools, a health centre, a public park and a library, a drop in sound levels is to be welcomed.

Variation of Sound Levels

The site summaries *average lAeq* (sound levels) provide a more detailed view of how sound levels vary from hour to hour throughout the average day and between the different days of the week. During the average day sound levels (along with traffic levels) start rising at 6 a.m. After approximately 9 a.m. sounds levels at most sites, level off until 9pm when they start to fall. It is interesting to note early Saturday and Sunday morning sound levels are higher than the same periods during the week. The peak sound levels on weekend mornings arise between ten and eleven a.m. It is thought these differences are due to different social activities at these times with less traffic on the road on late Saturday and Sunday mornings and more traffic coming from late night social events early Saturday and Sunday mornings. The days of the week which record the average highest sound levels are Tuesday, Wednesday and Thursdays, with little variation between them. The average lowest sound levels are recorded on Sundays. Again these values mirror trends in traffic flows.

Fig.7



The top three sites with the lowest daytime sound values were Bull Island, Woodstock Gardens and Walkinstown. The top three sites with the highest daytime sound values were Ballymun, Chancery St and Ballyfermot. The sites with the lowest night time sound values were Woodstock Gardens, Bull Island and Walkinstown. The sites with the highest night time sound values were Chancery Park, Ballymun and Navan Road.

The Monthly Charts to the rear of this report present a detailed view of how average daily sound levels change from day to day and month to month. In 2009, the Network's highest average monthly sound levels were experienced at most stations in November followed by January. In 2010 September and February were the months with the highest average sound levels. The dips in early January and December 2010 were due to the extreme weather events of heavy snow and freezing temperatures.

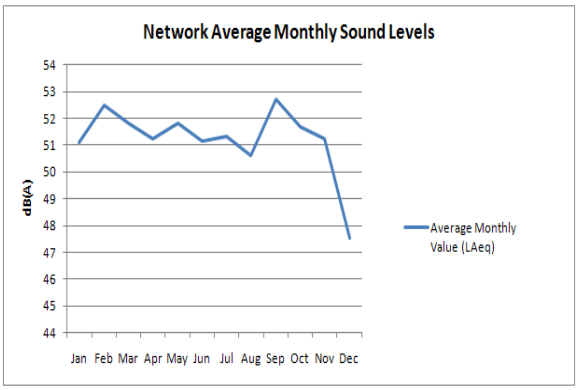
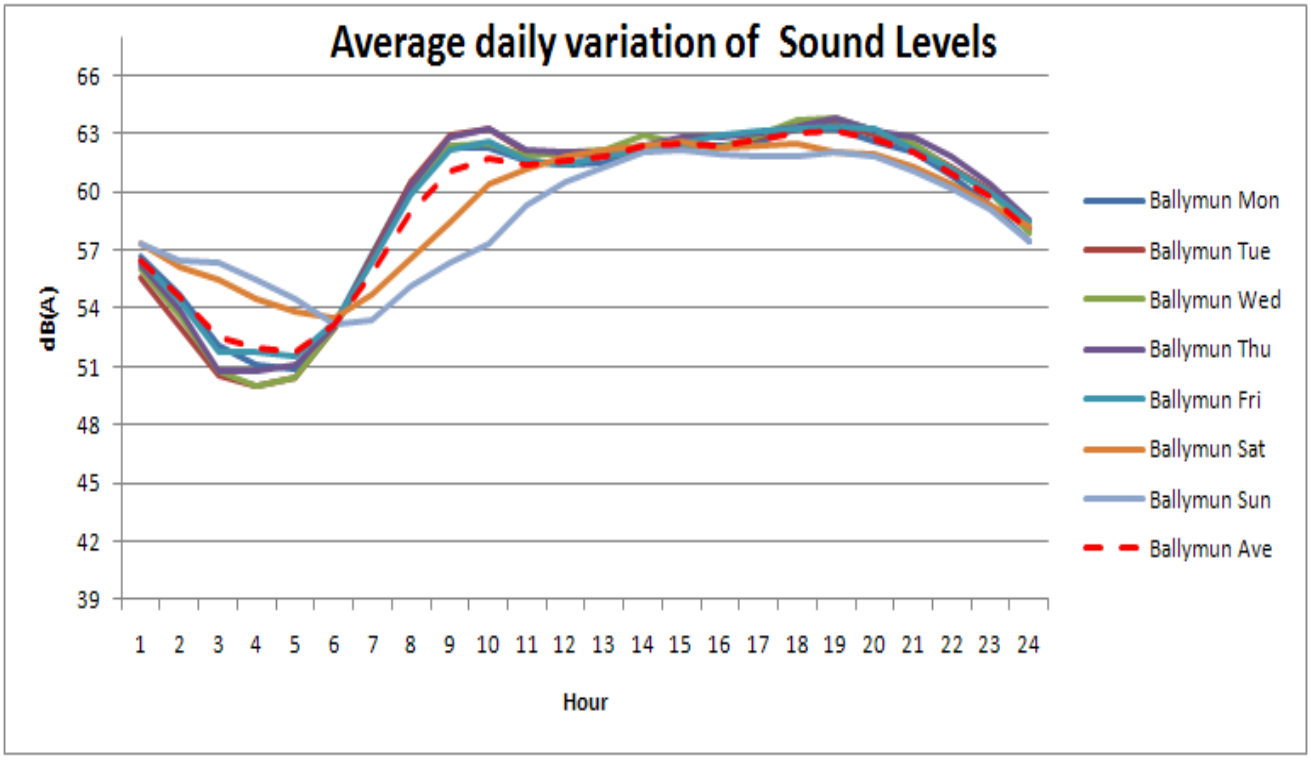


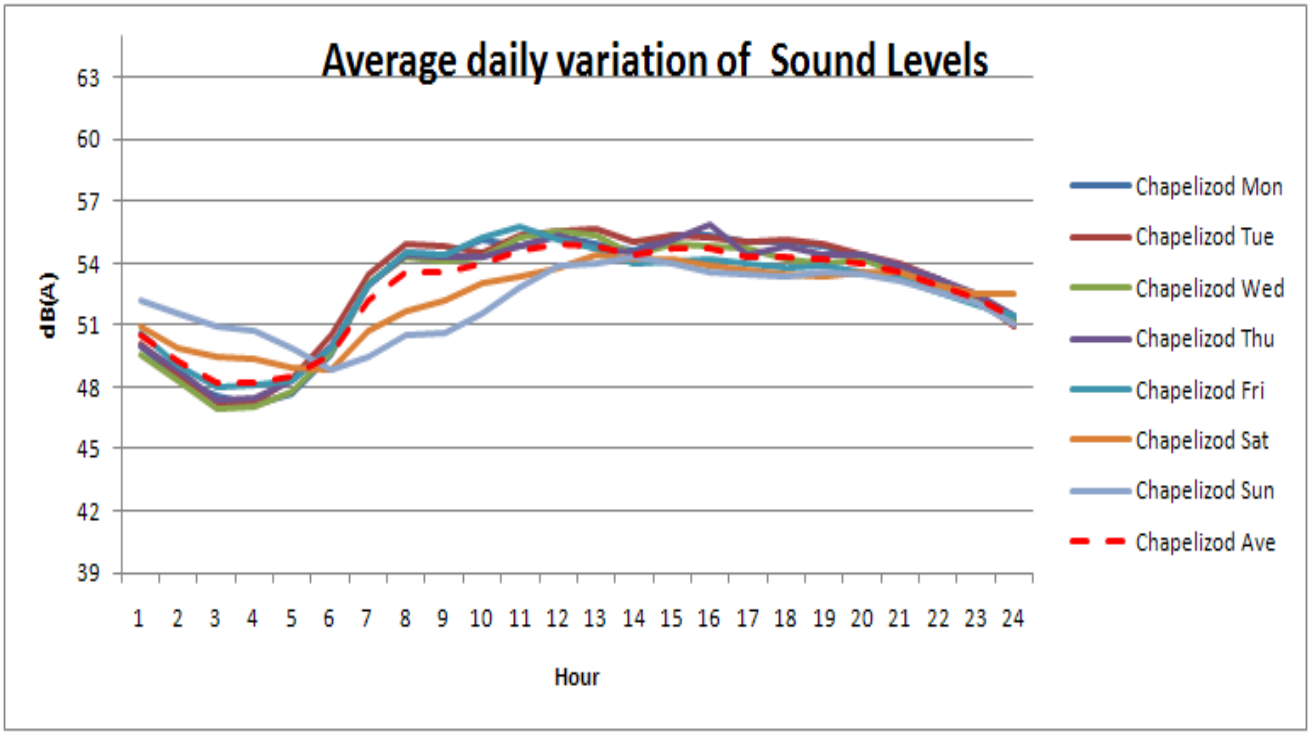
Fig.8

Average Daily Summary Charts

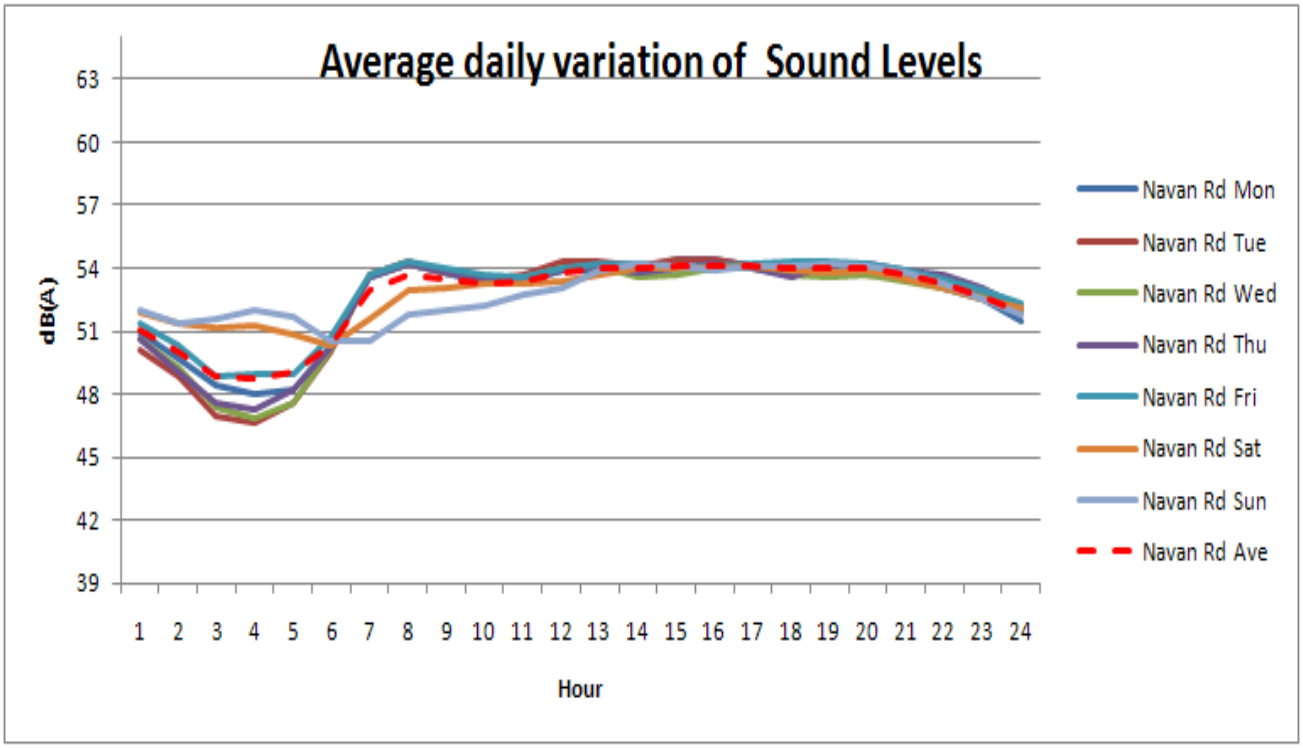
BALLYMUN



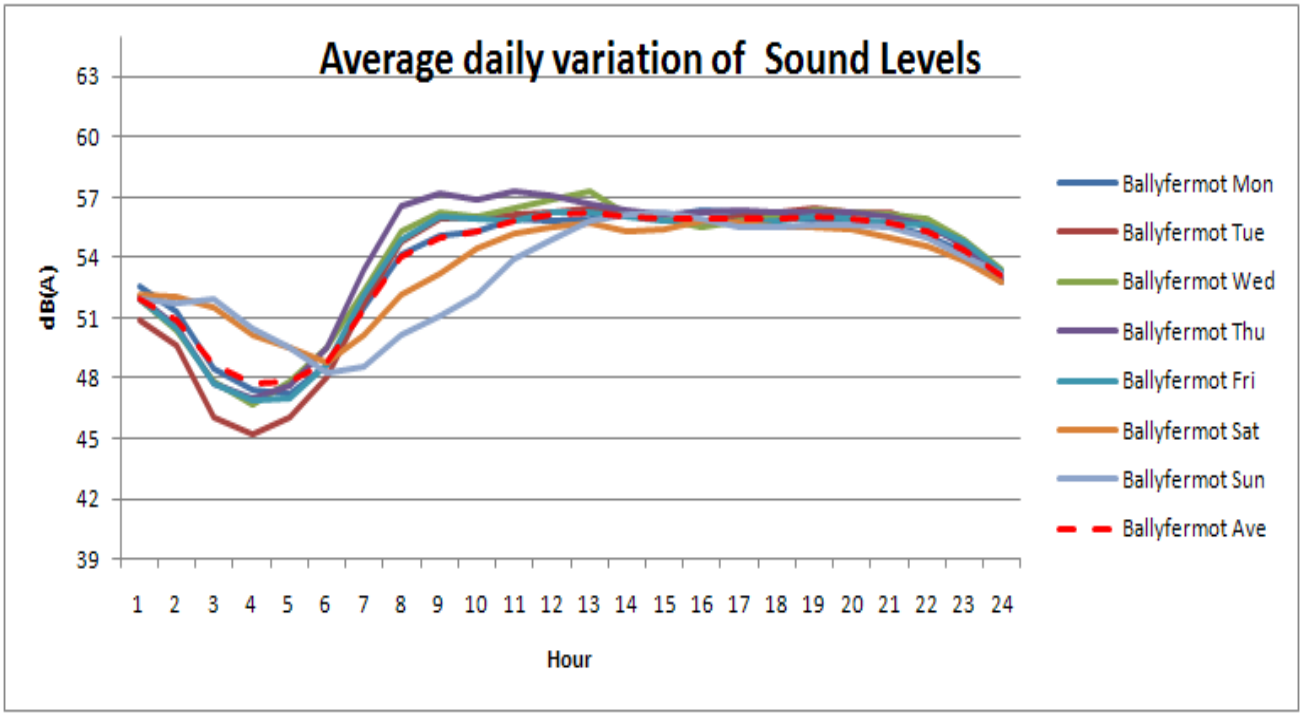
CHAPELIZOD



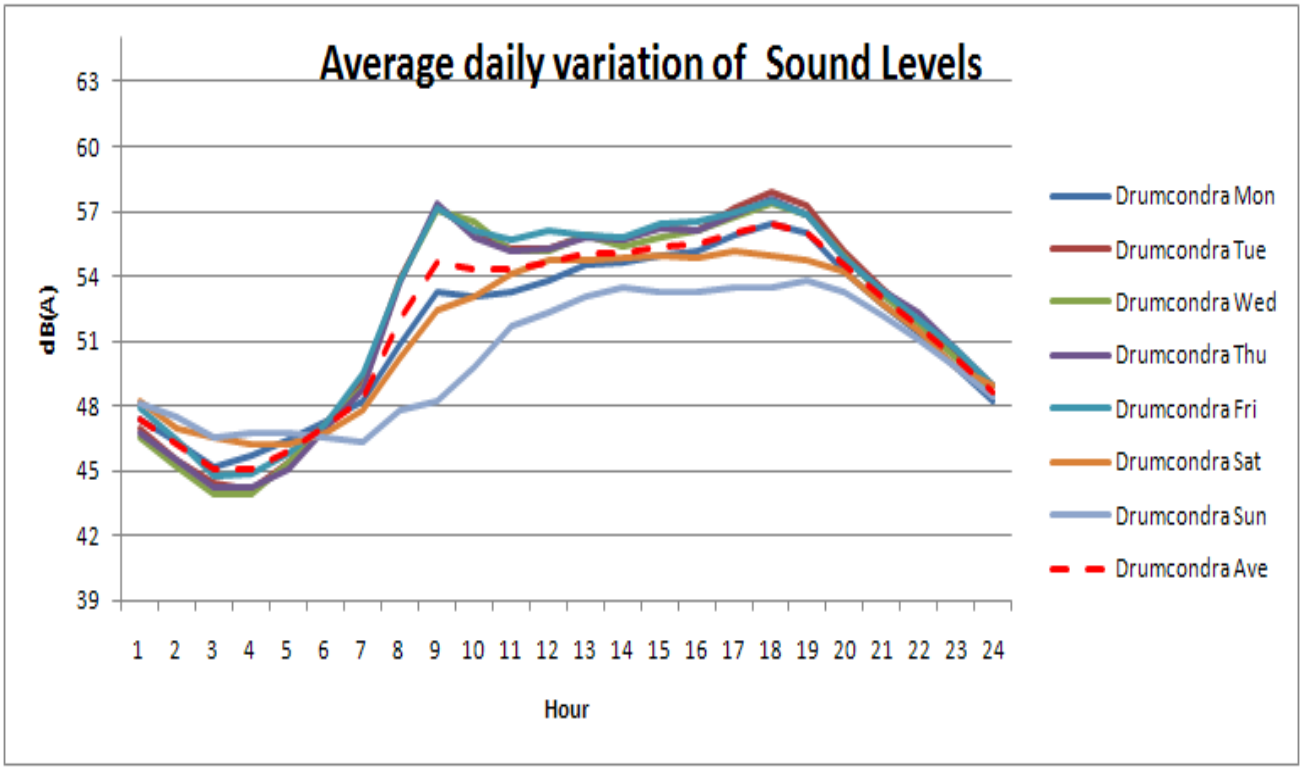
NAVAN RD.



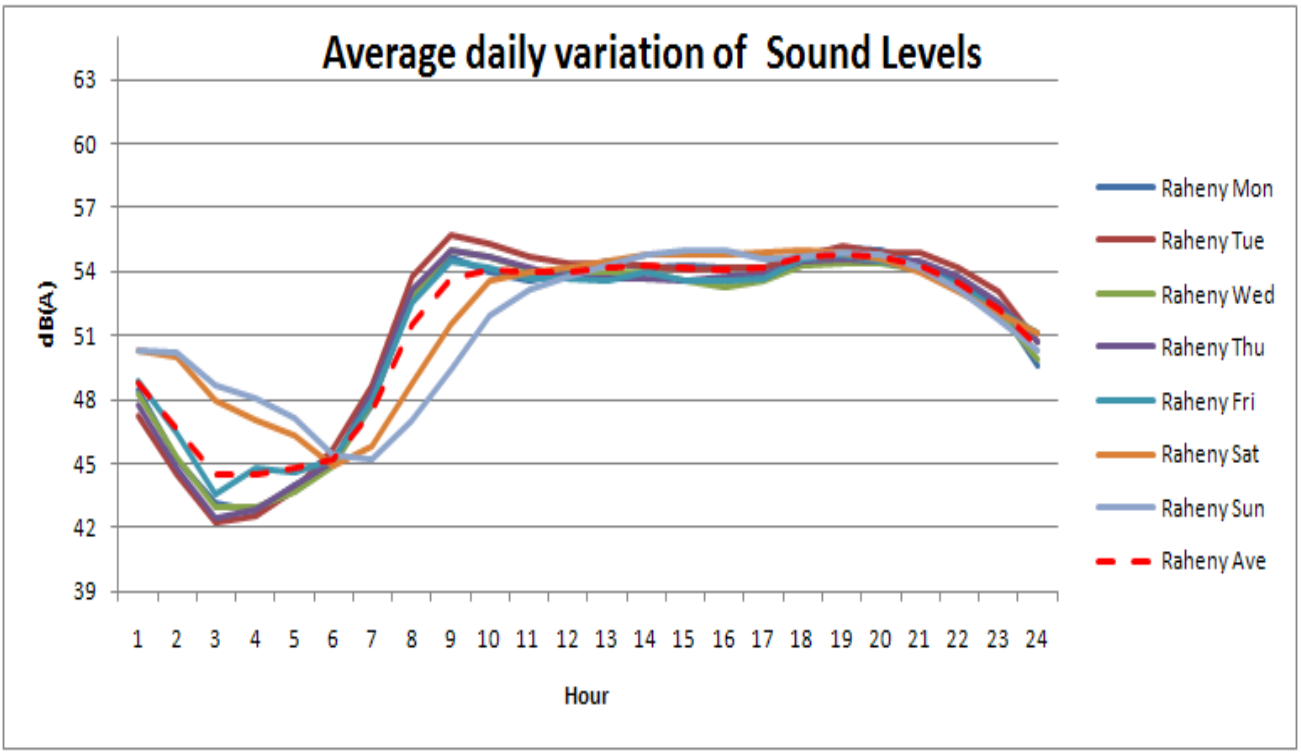
BALLYFERMOT



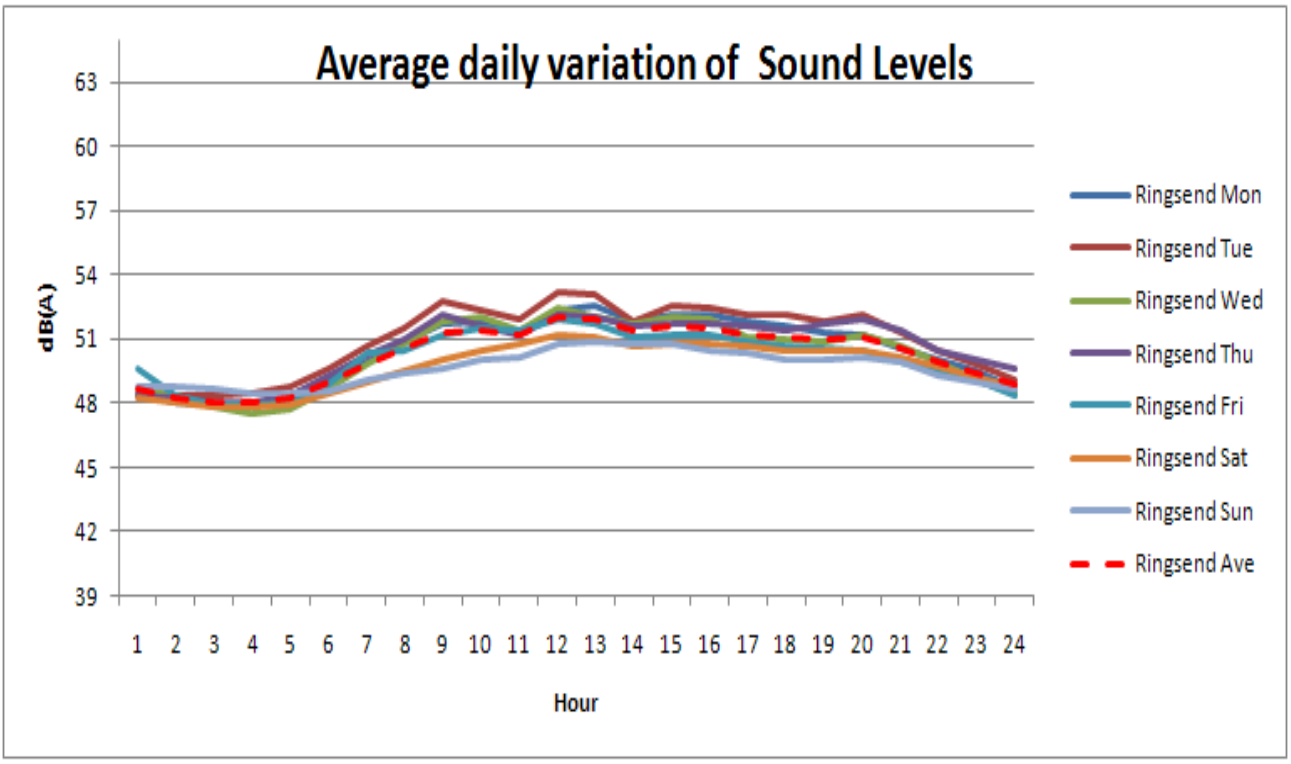
DRUMCONDRA



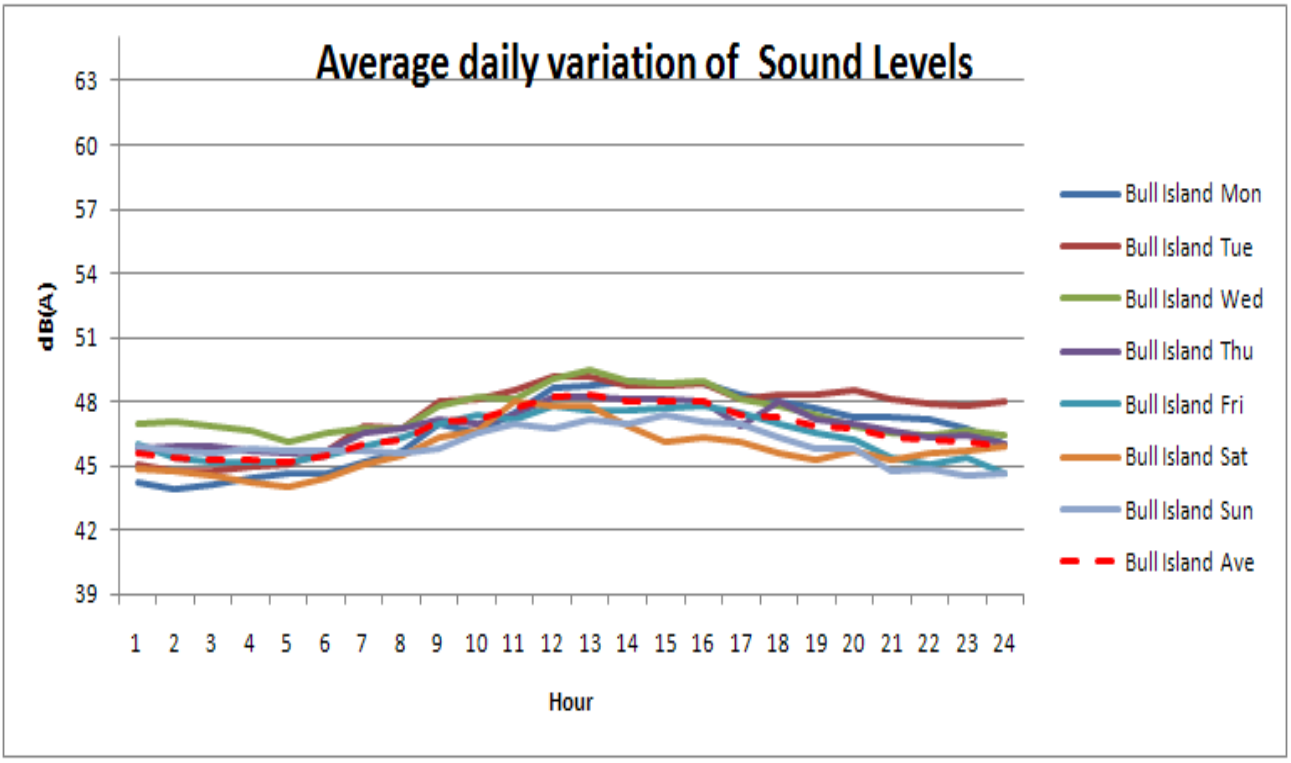
RAHENY



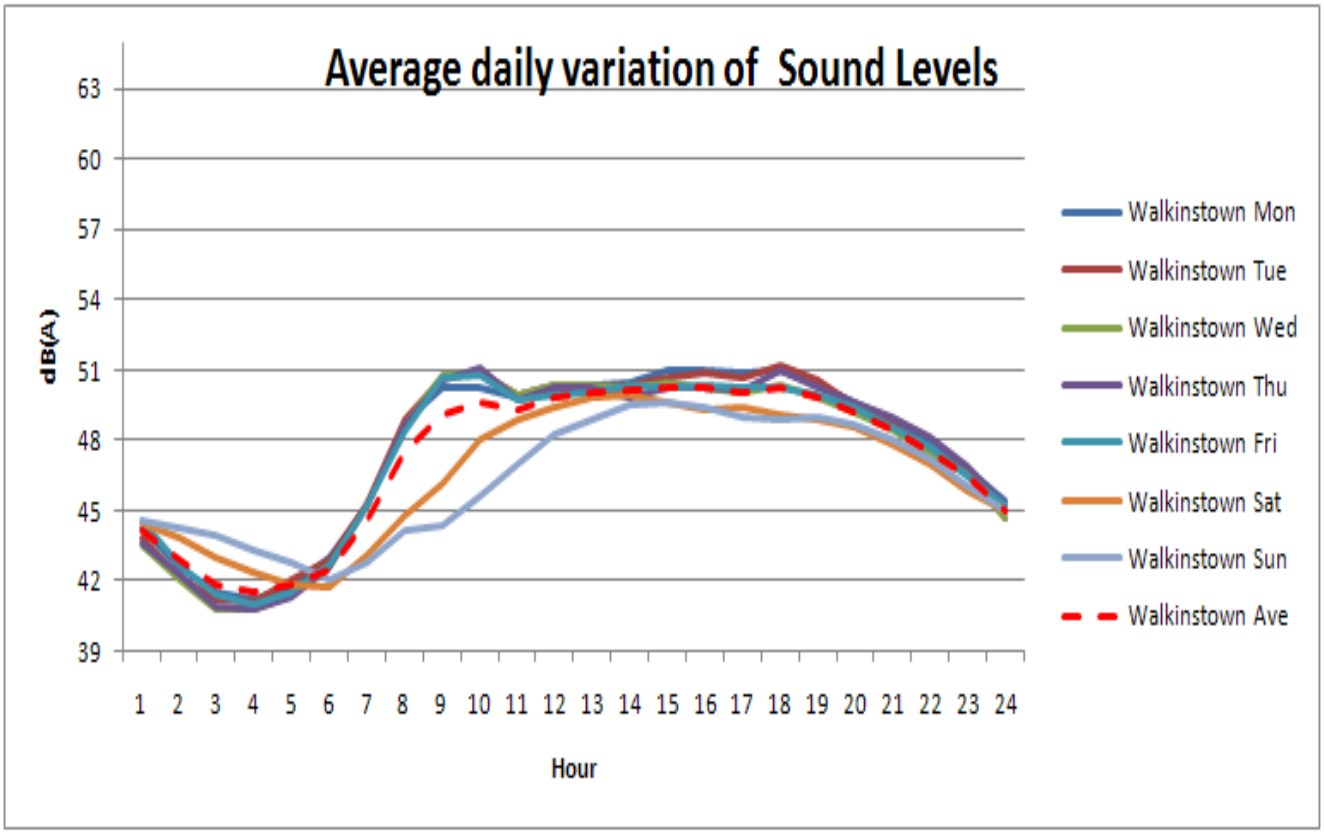
RINGSEND



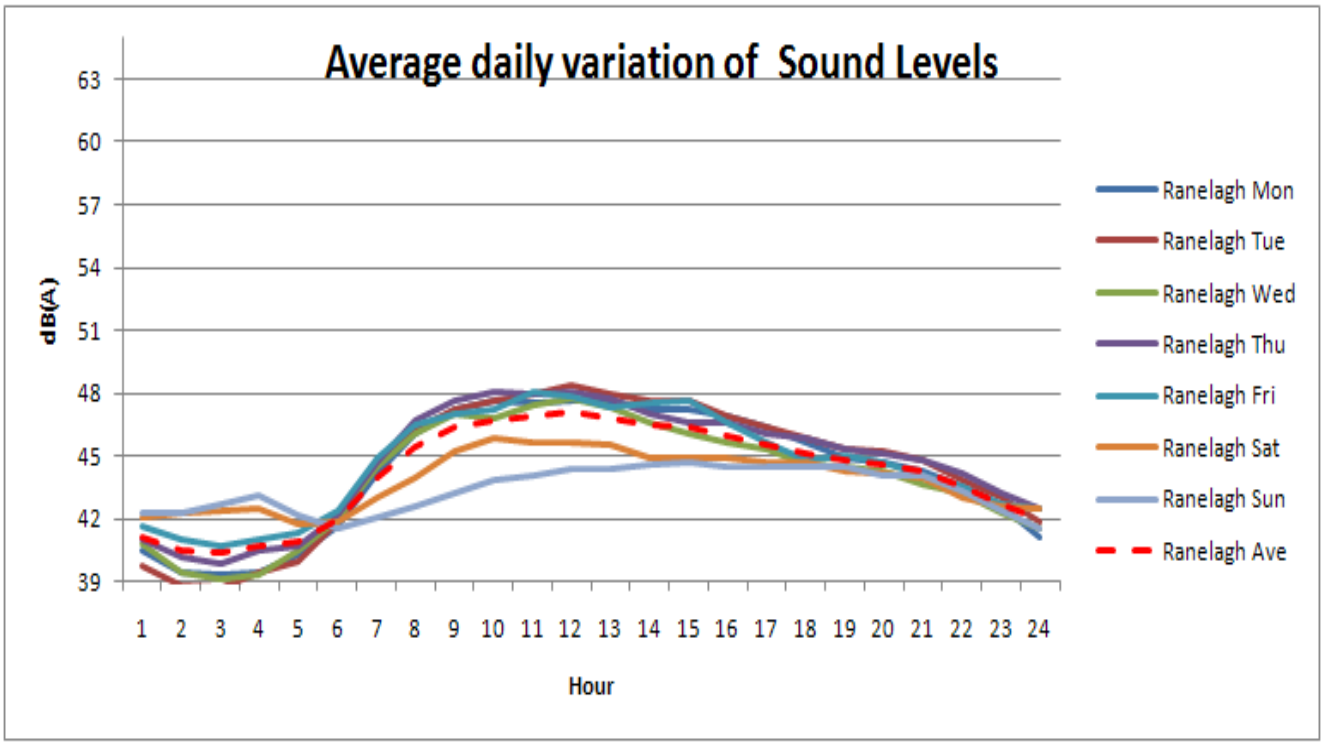
BULL ISLAND



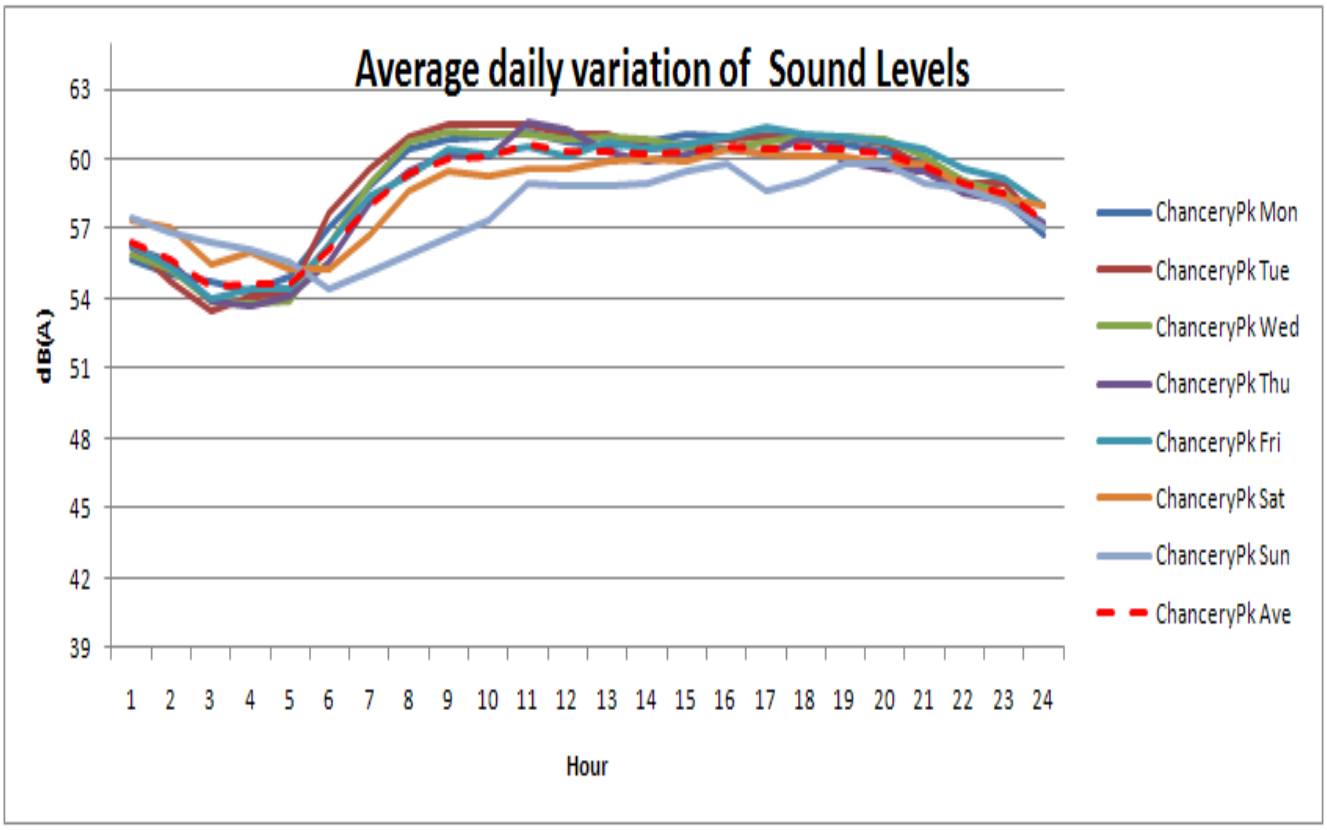
WALKINSTOWN



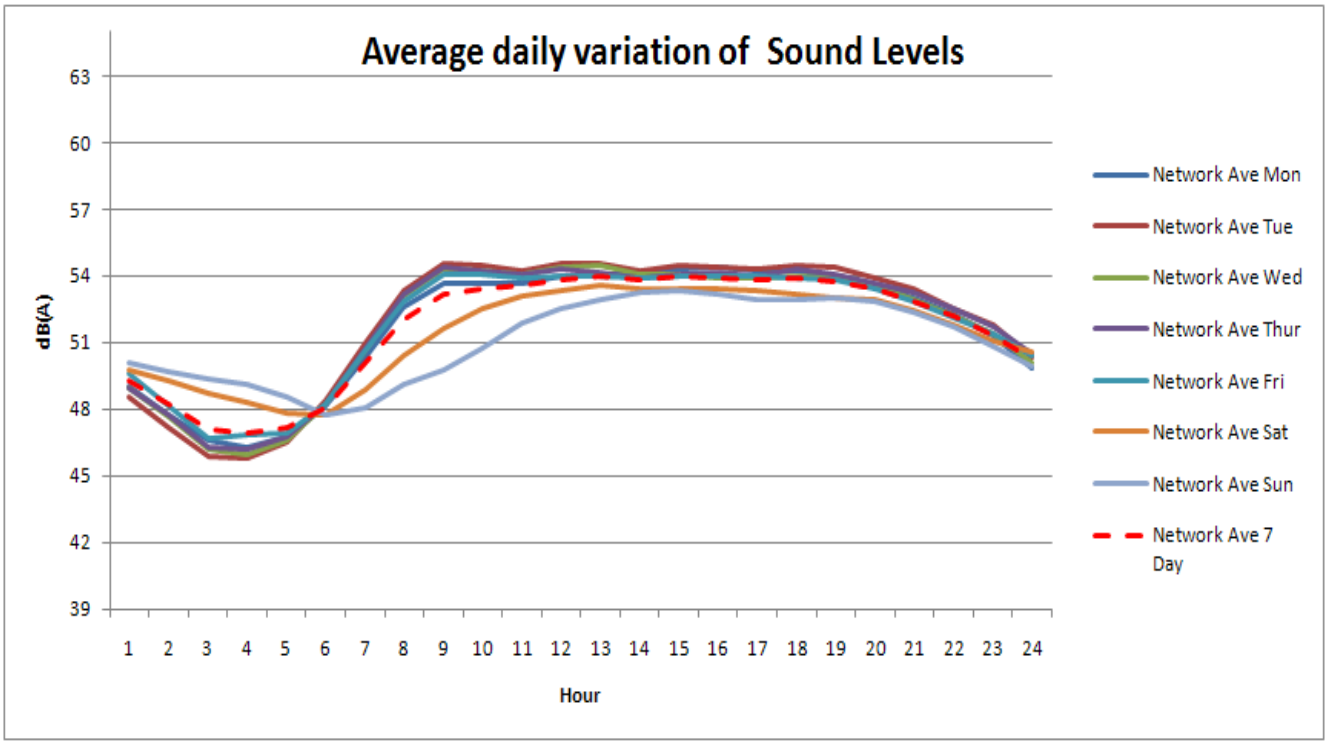
RANELAGH



CHANCERY PARK



NETWORK

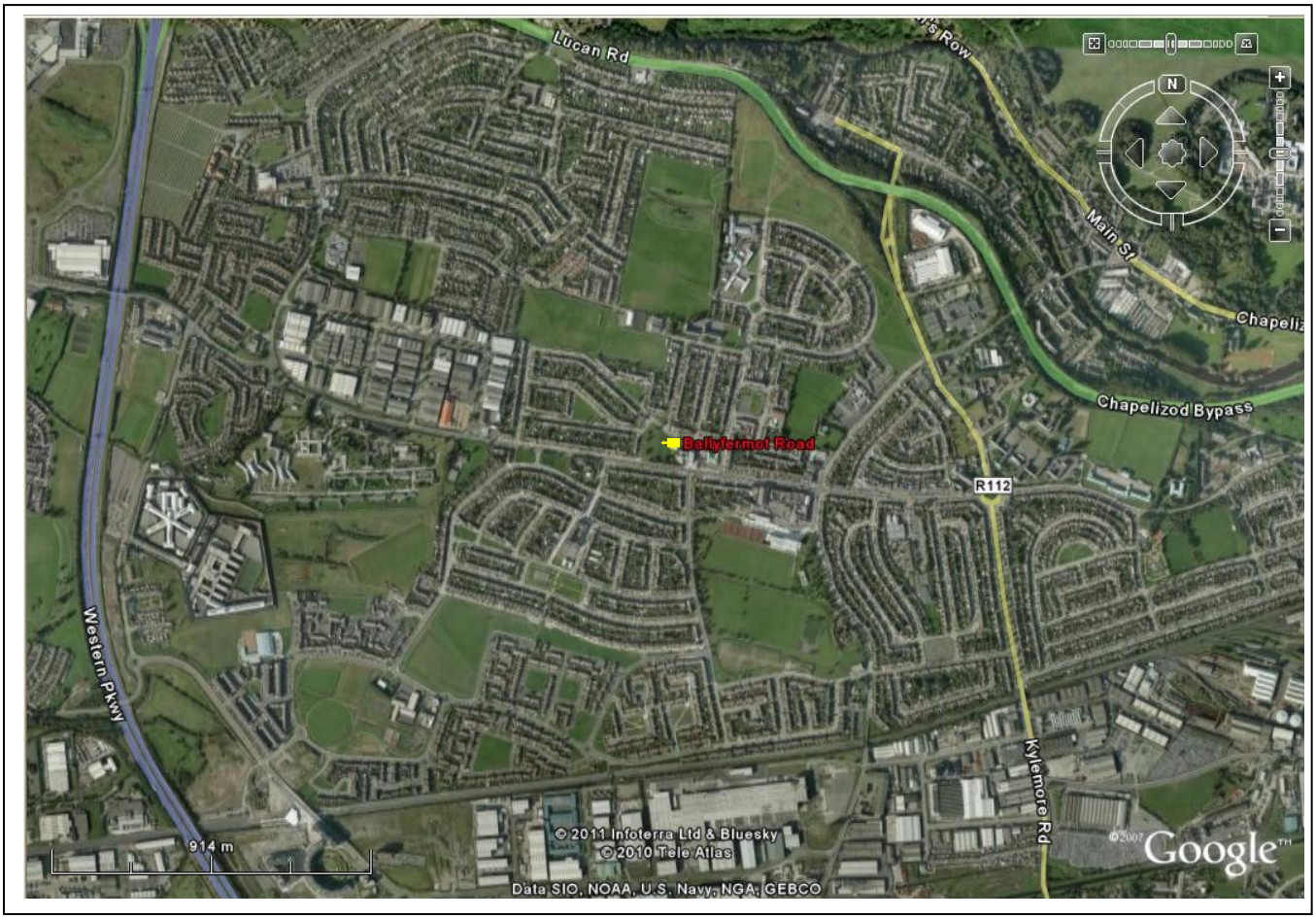


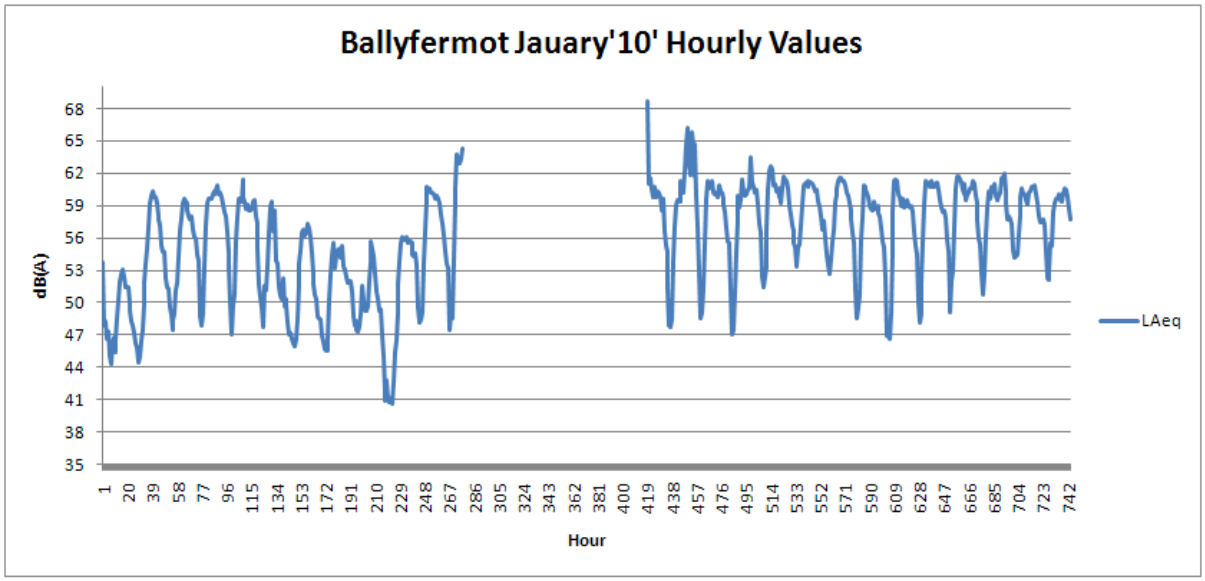
Monthly Summary Charts

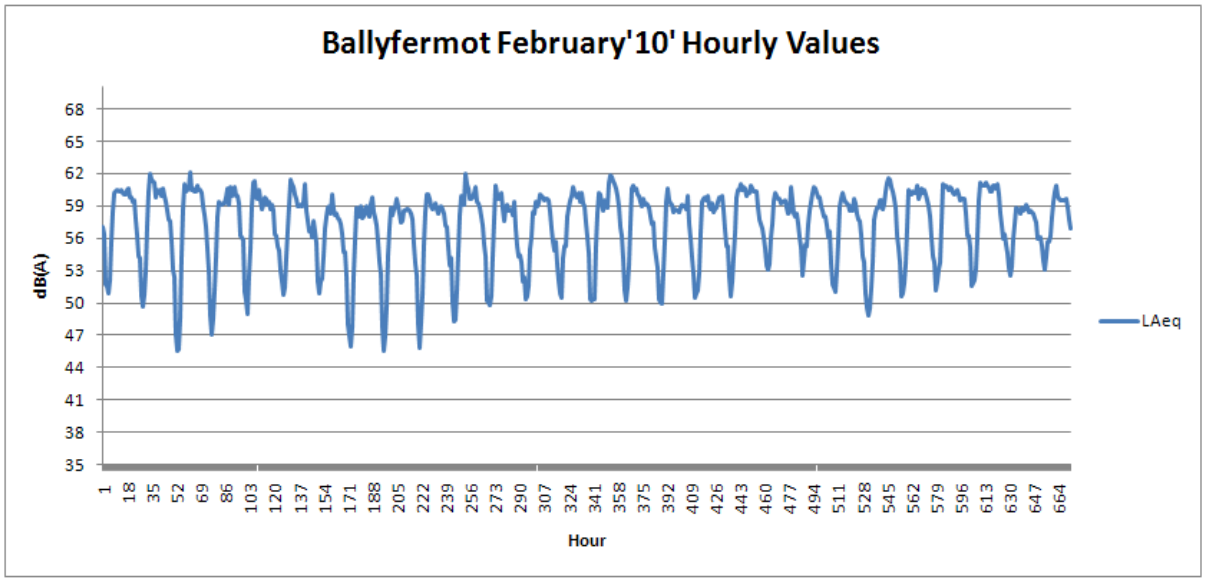
BALLYFERMOT CIVIC CENTRE

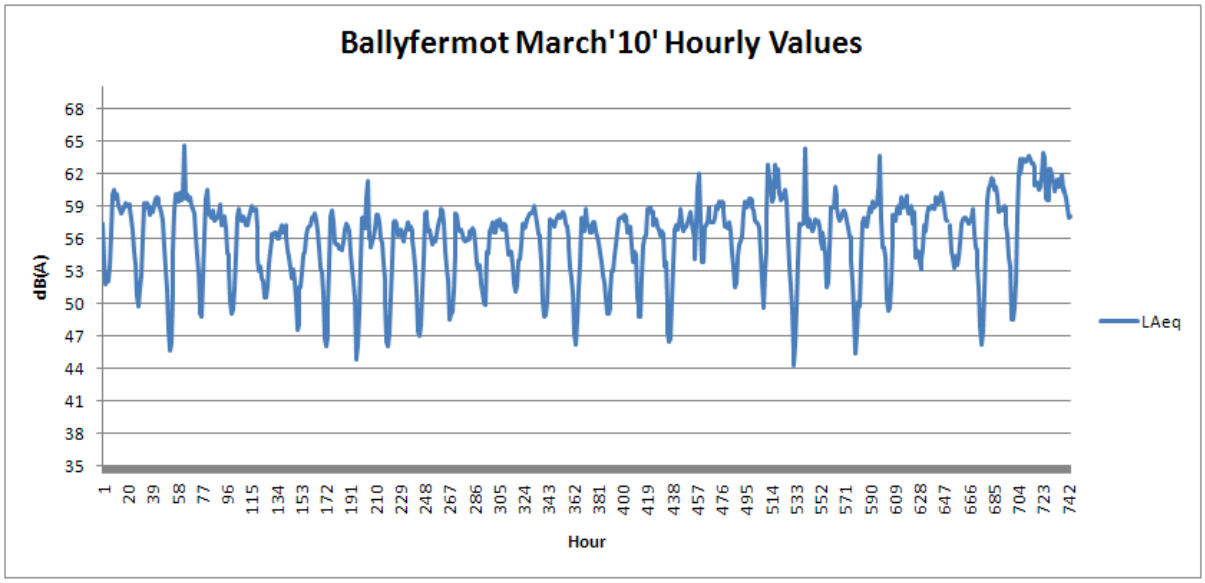
BALLYFERMOT ROAD

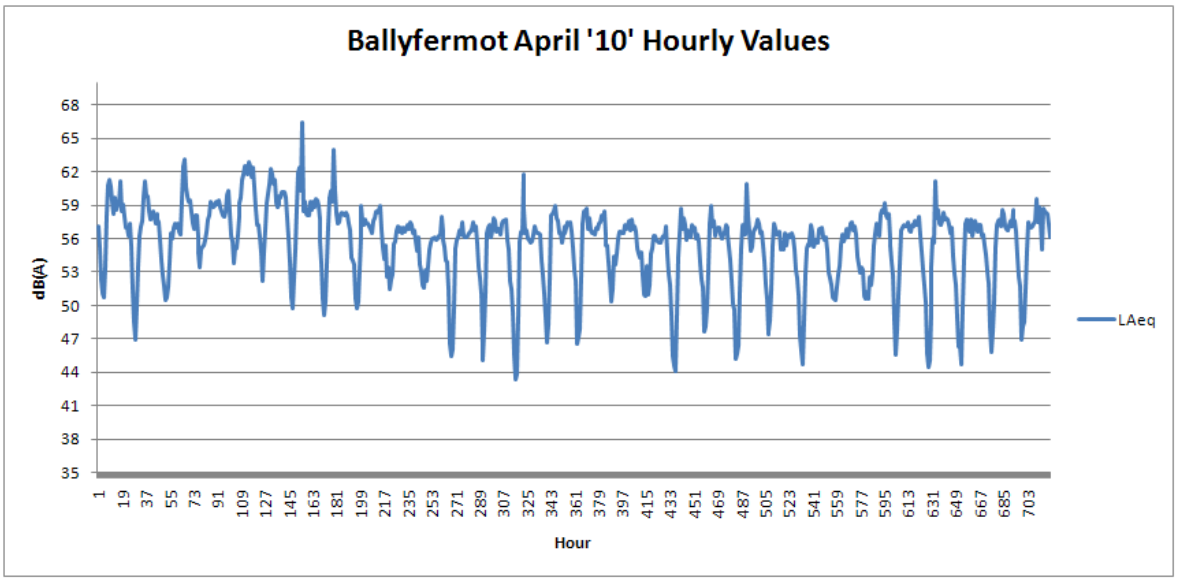
DUBLIN 10

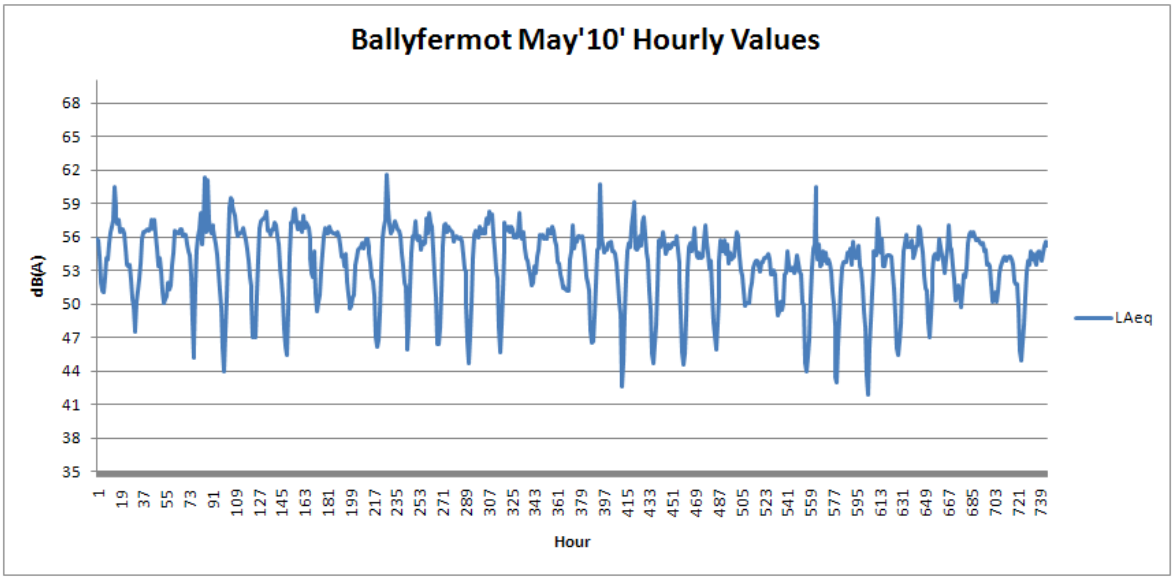


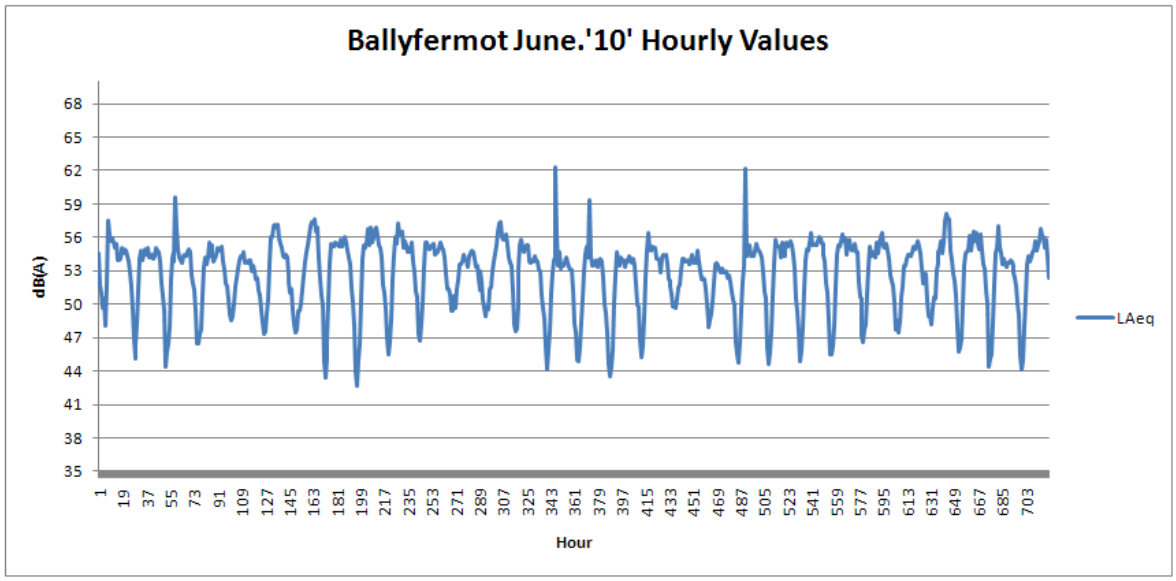

Ballyfermot Jauary'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

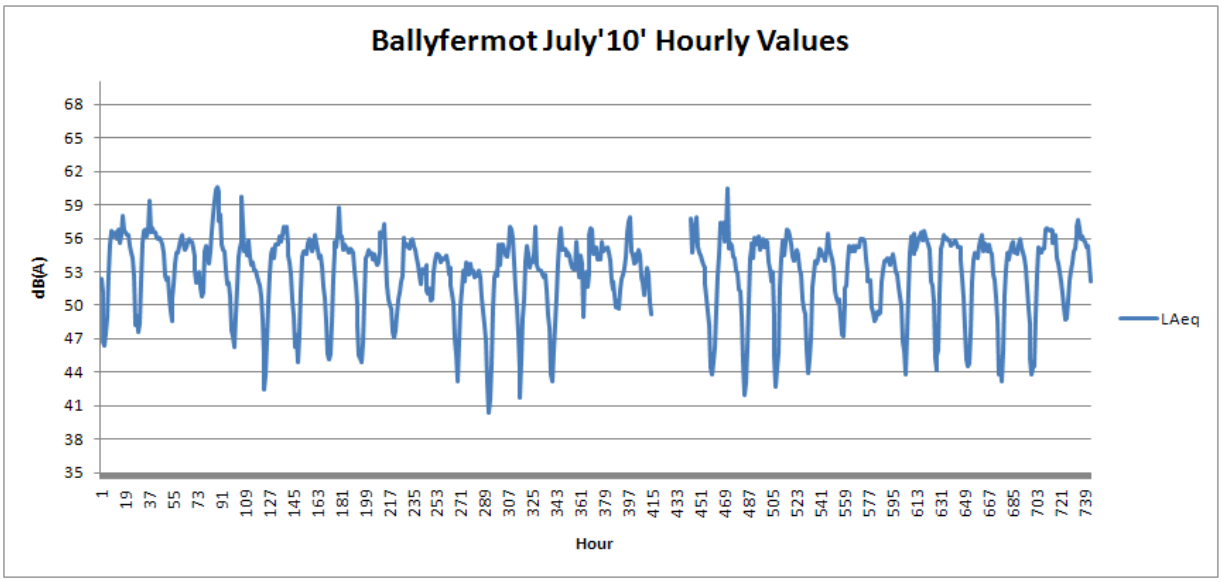

Ballyfermot February'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 18 35 52 69 86 103 120 137 154 171 188 205 222 239 256 273 290 307 324 341 358 375 392 409 426 443 460 477 494 511 528 545 562 579 596 613 630 647 664
Hour
LAeq

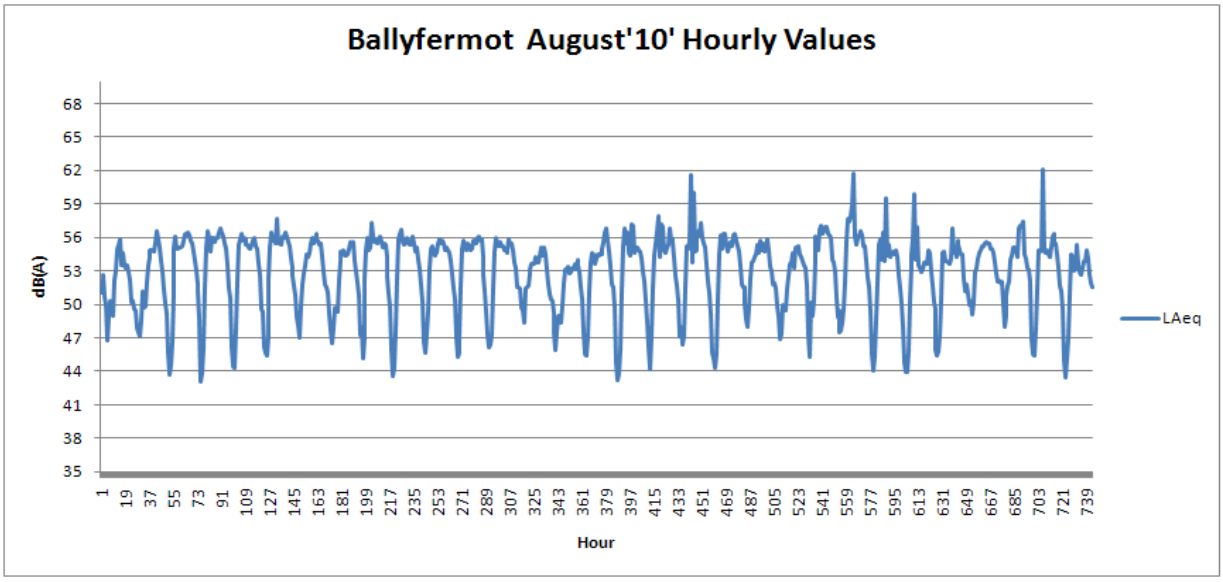

Ballyfermot March'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

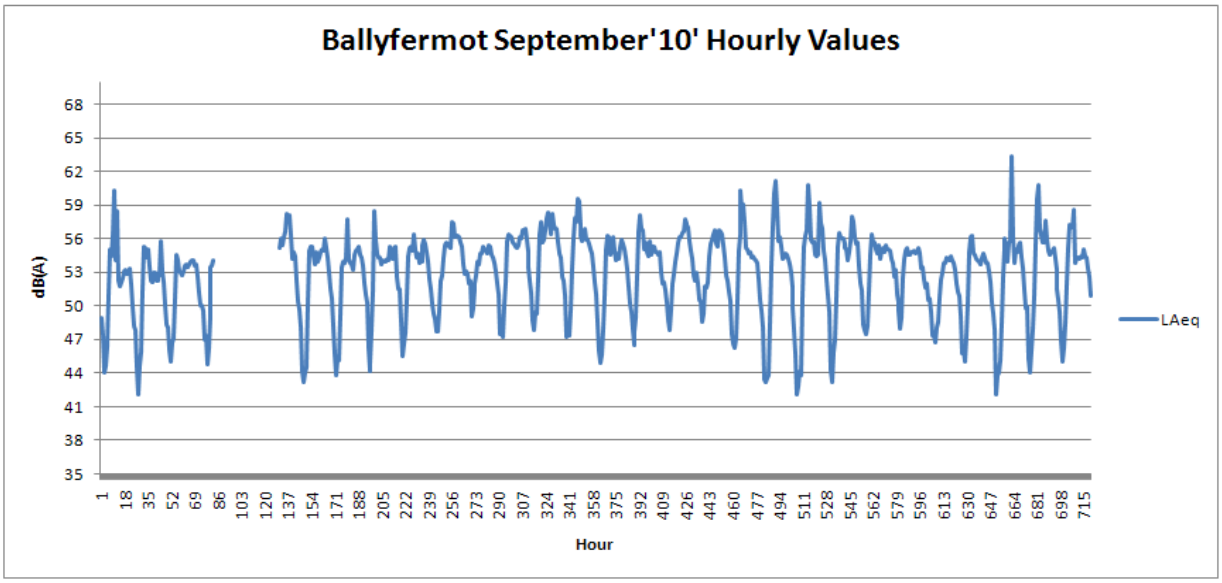

Ballyfermot April '10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq

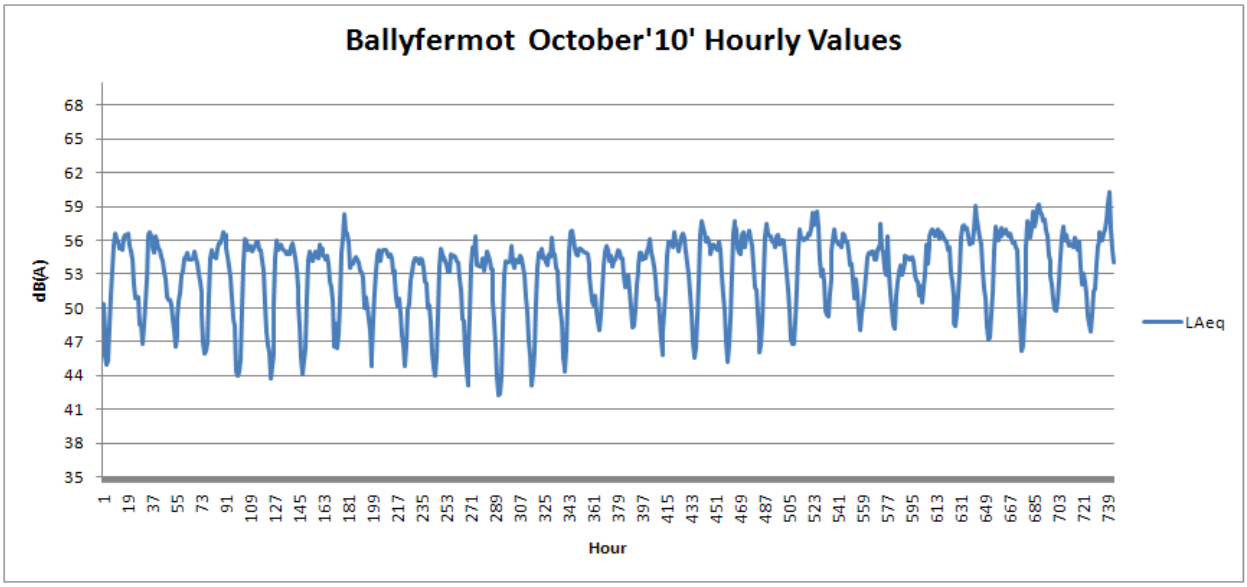

Ballyfermot May'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq

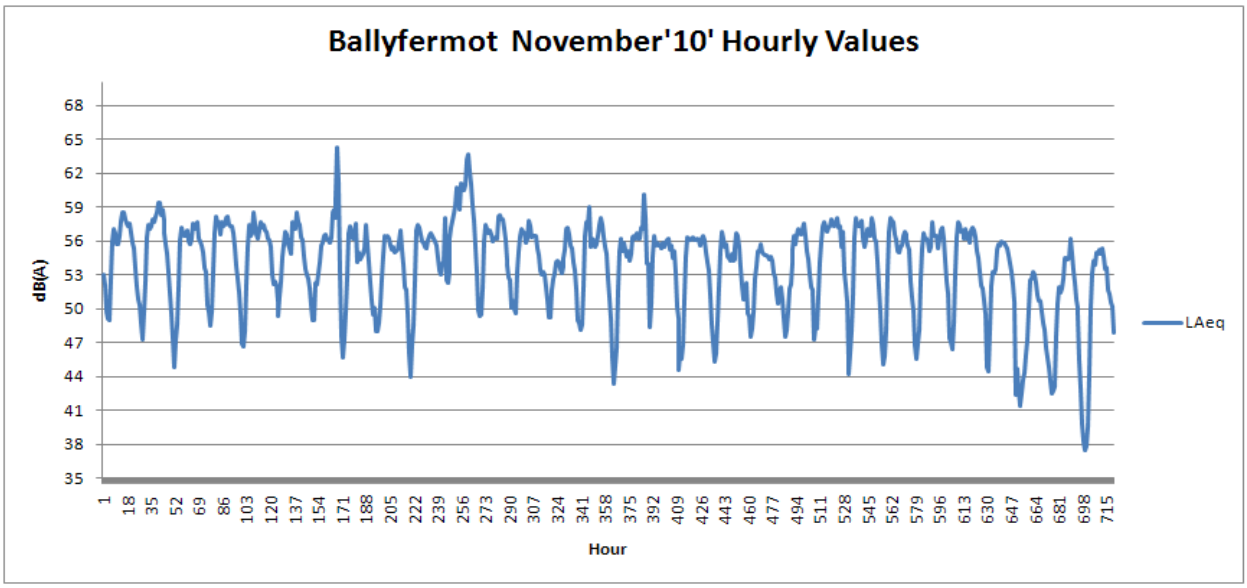

Ballyfermot June.'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq

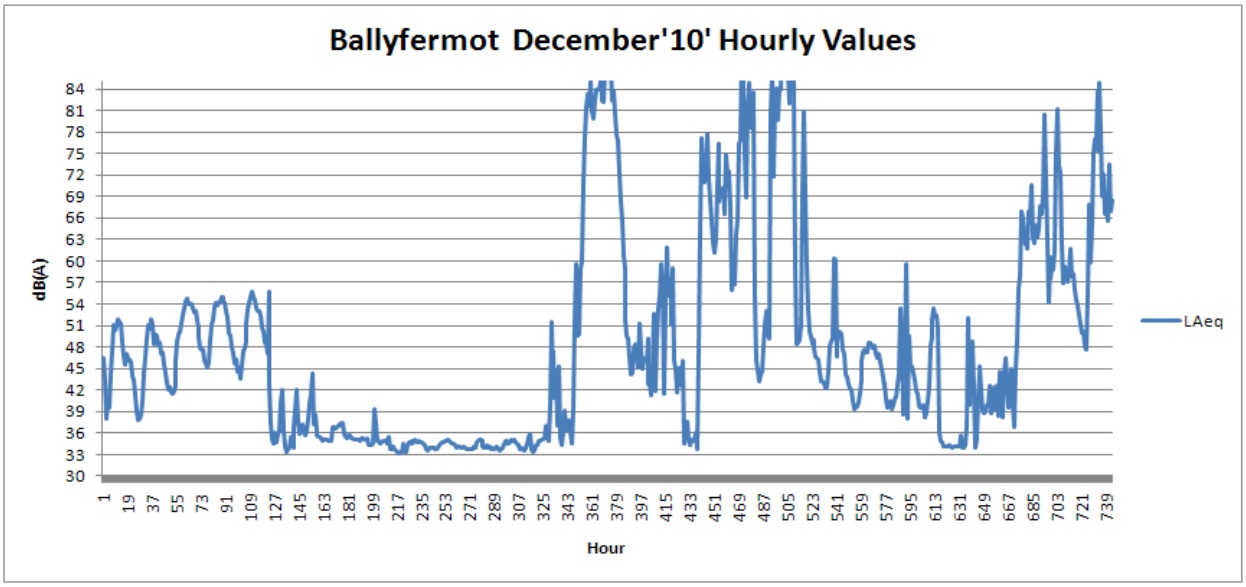

Ballyfermot July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq


Ballyfermot August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq


Ballyfermot September'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq


Ballyfermot October'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq

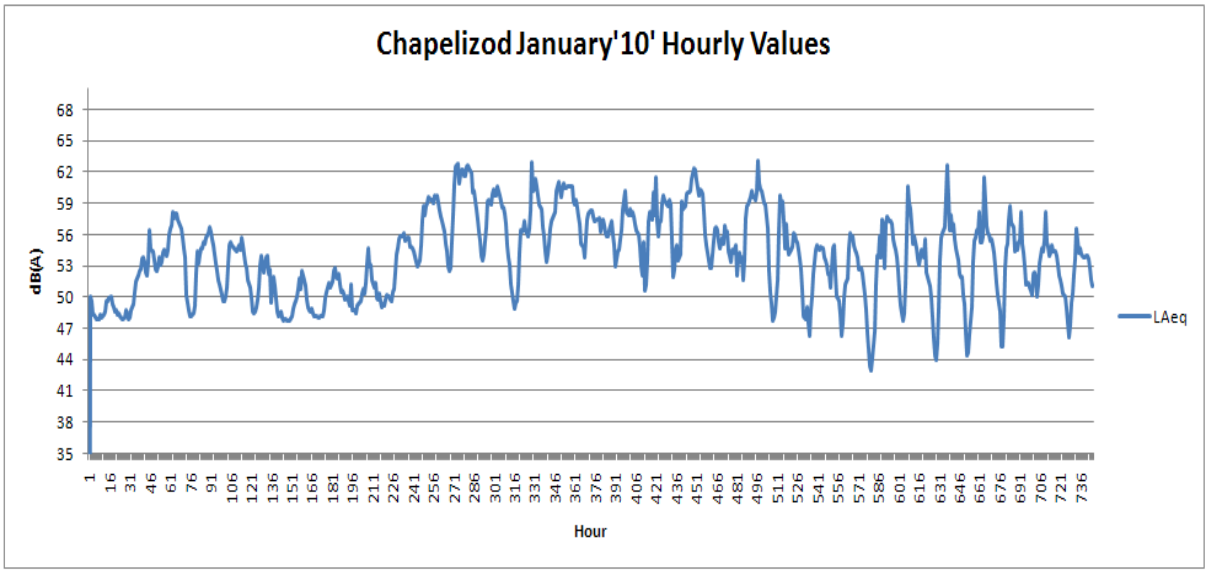

Ballyfermot November'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 18 35 52 69 86 103 120 137 154 171 188 205 222 239 256 273 290 307 324 341 358 375 392 409 426 443 460 477 494 511 528 545 562 579 596 613 630 647 664 681 698 715
Hour
LAeq

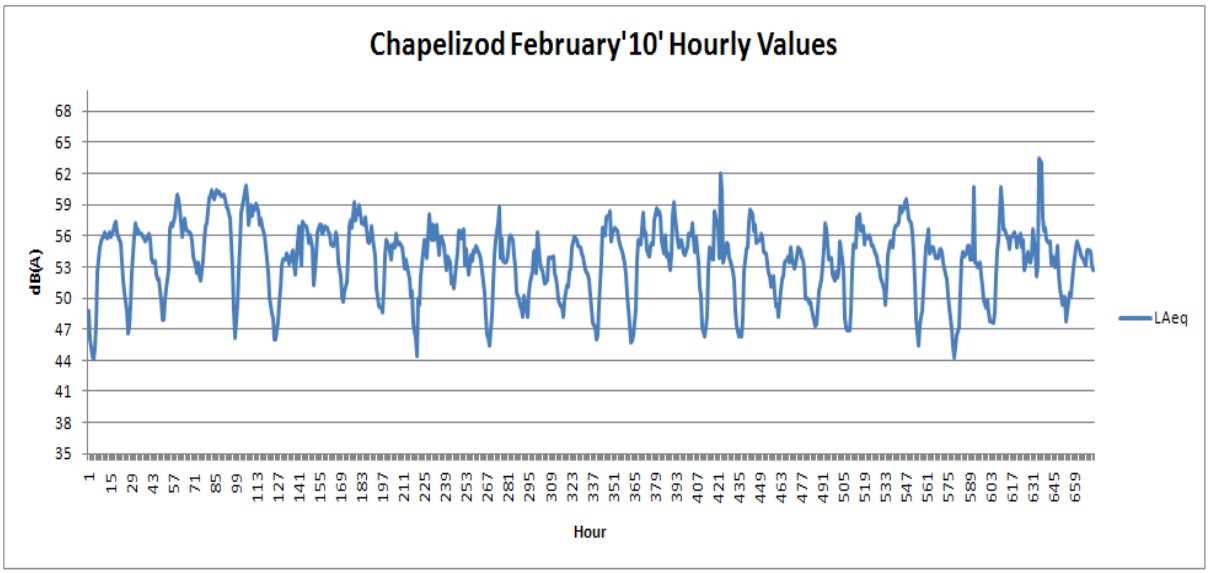

Ballyfermot December'10' Hourly Values
dB(A)
84
81
78
75
72
69
66
63
60
57
54
51
48
45
42
39
36
33
30
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq

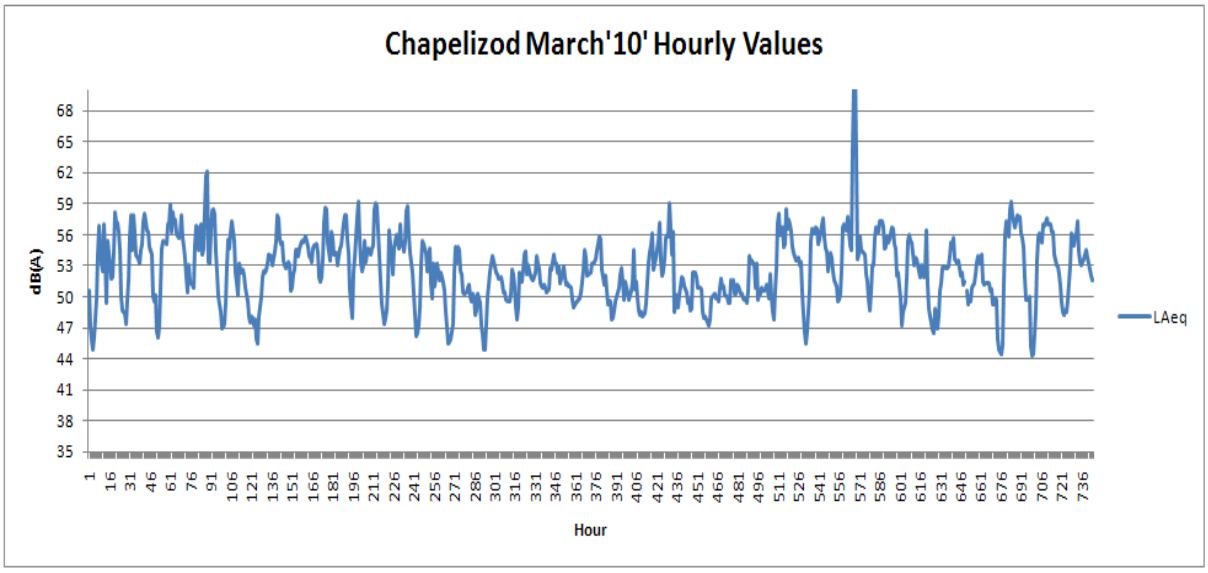
DUBLIN CITY COUNCIL ROWING CLUB

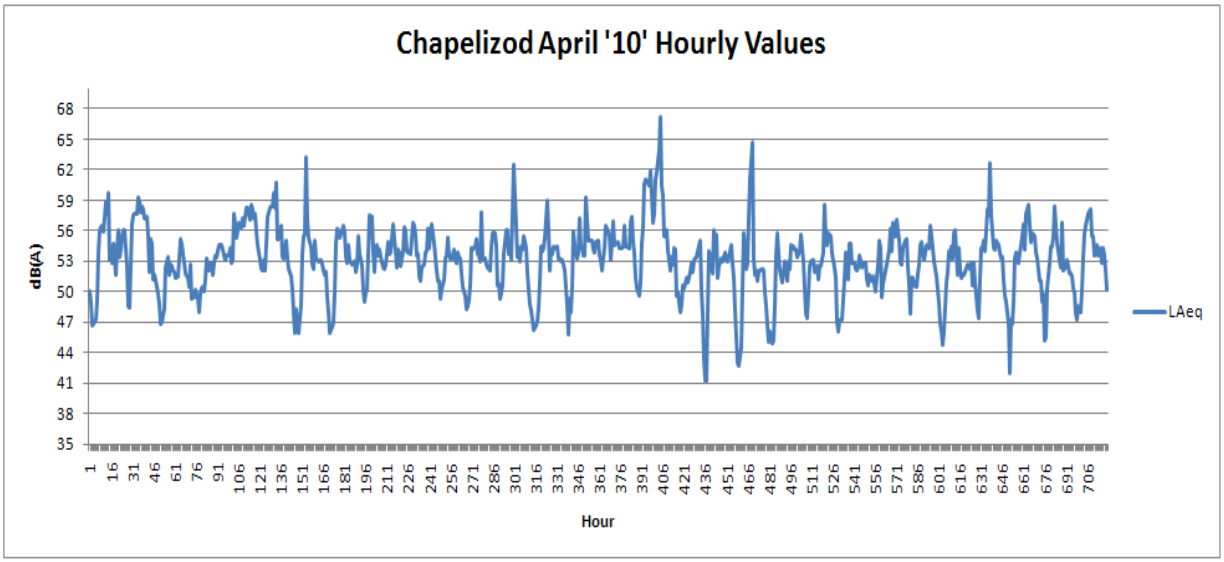
CHAPELIZOD ROAD

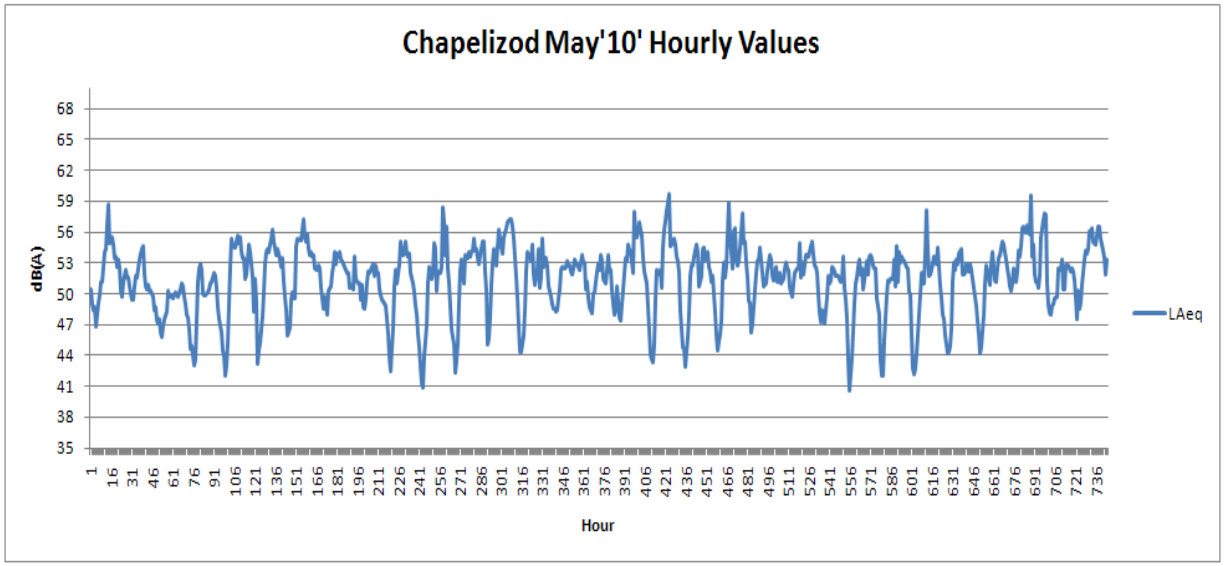
DUBLIN 8

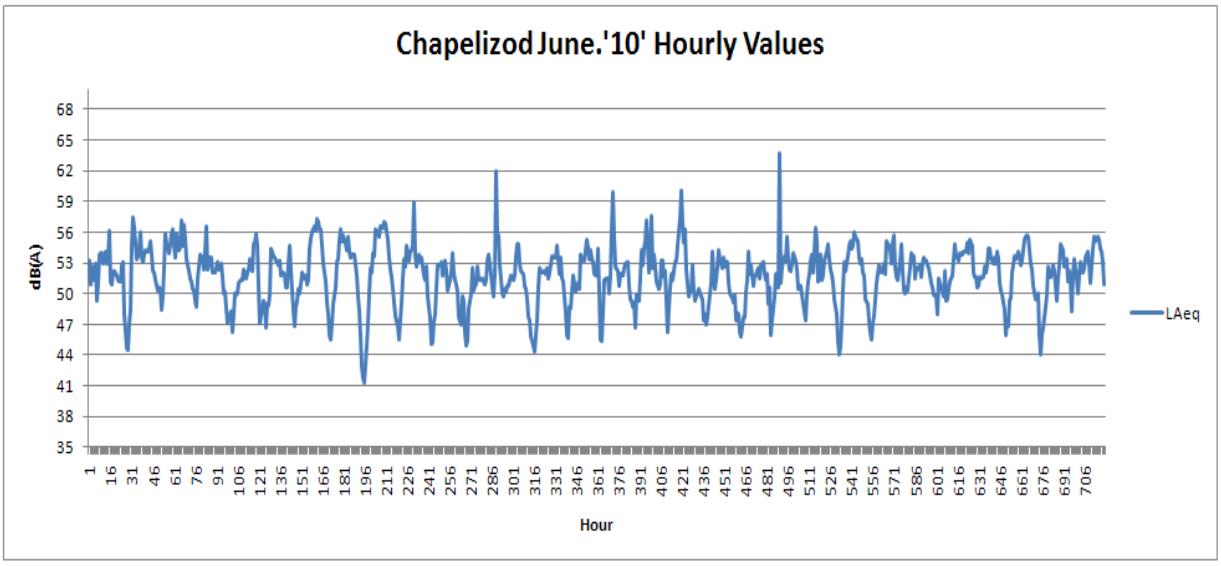

Chapelizod January'10' Hourly Values
dB(A)
Hour
LAeq

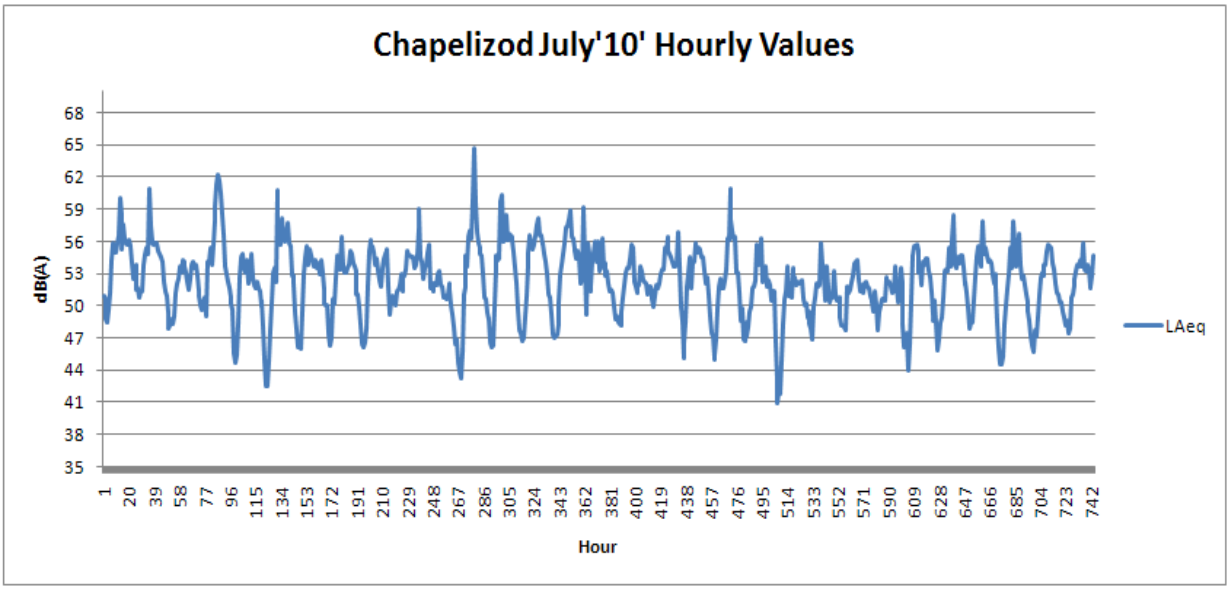

Chapelizod February'10' Hourly Values
dB(A)
Hour
LAeq

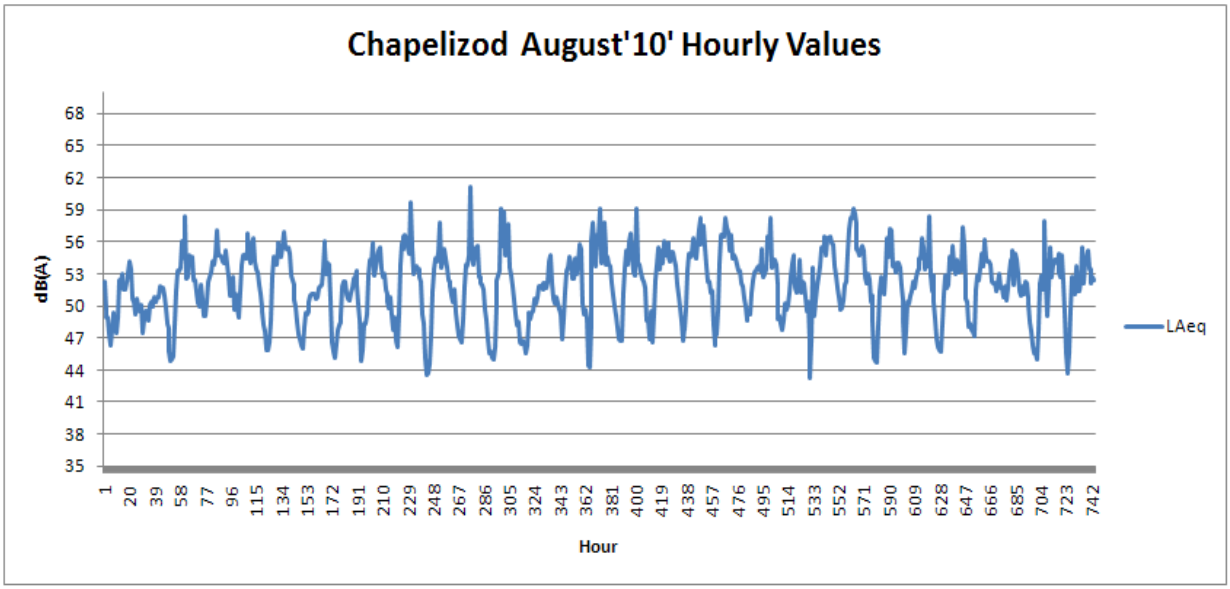

Chapelizod March'10' Hourly Values
dB(A)
Hour
LAeq

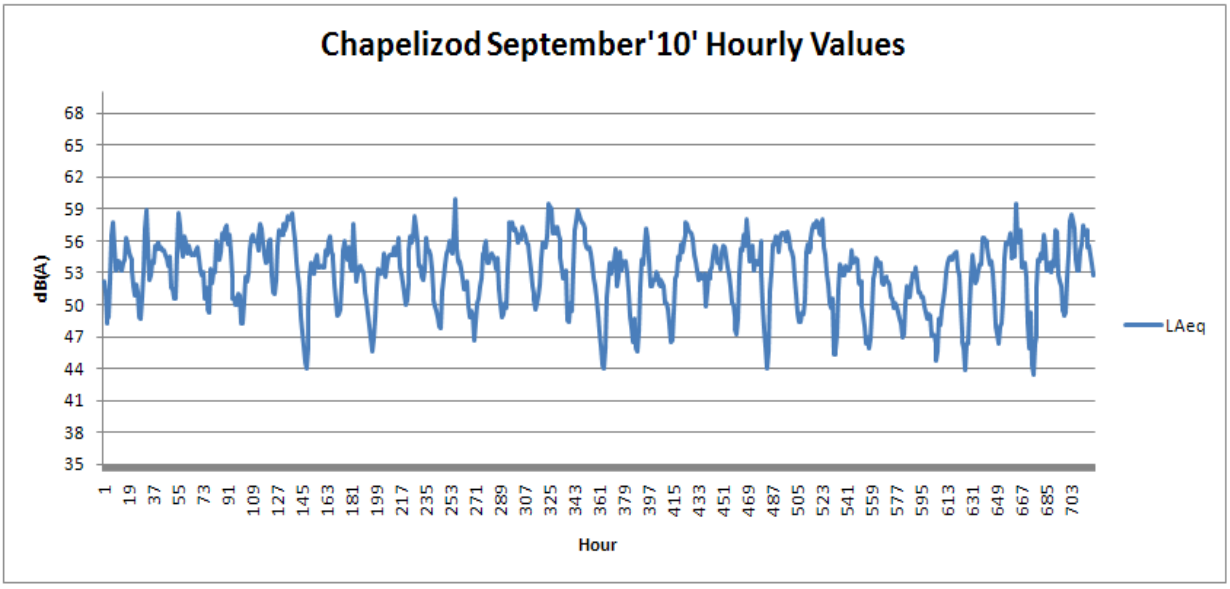

Chapelizod April '10' Hourly Values
dB(A)
Hour
LAeq

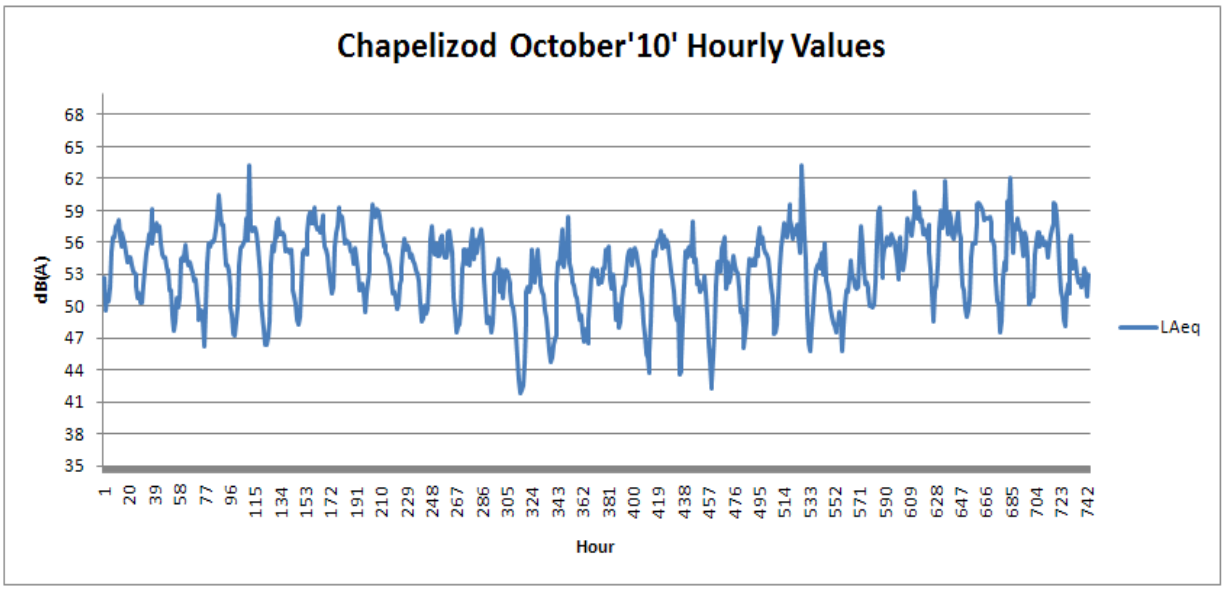

Chapelizod May'10' Hourly Values
dB(A)
Hour
LAeq

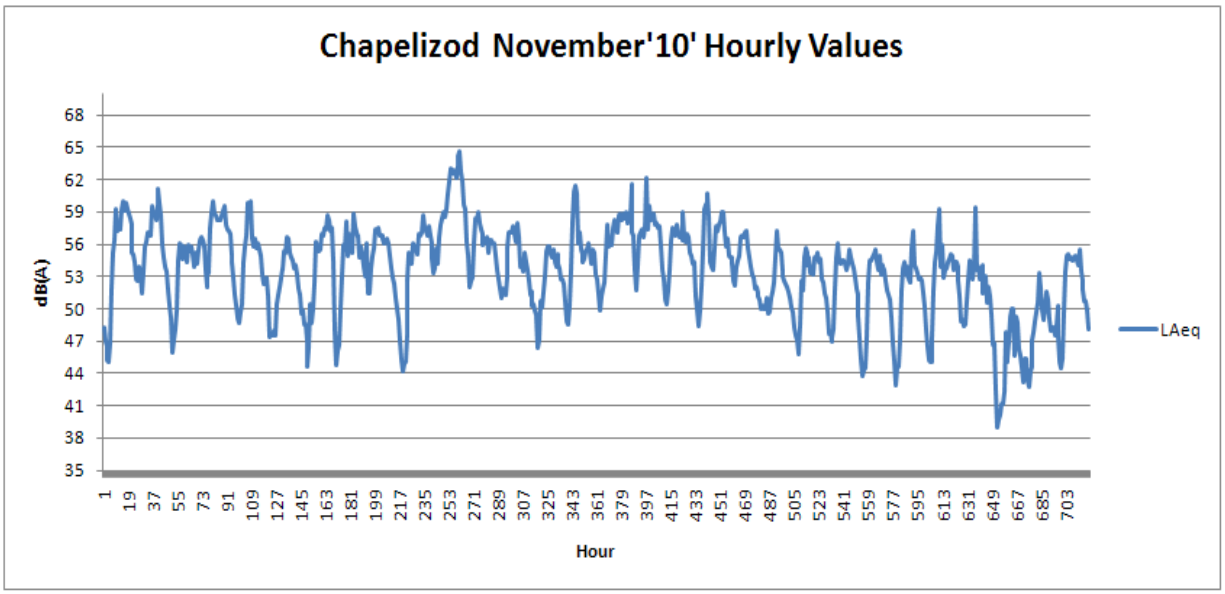

Chapelizod June.'10' Hourly Values
dB(A)
Hour
LAeq

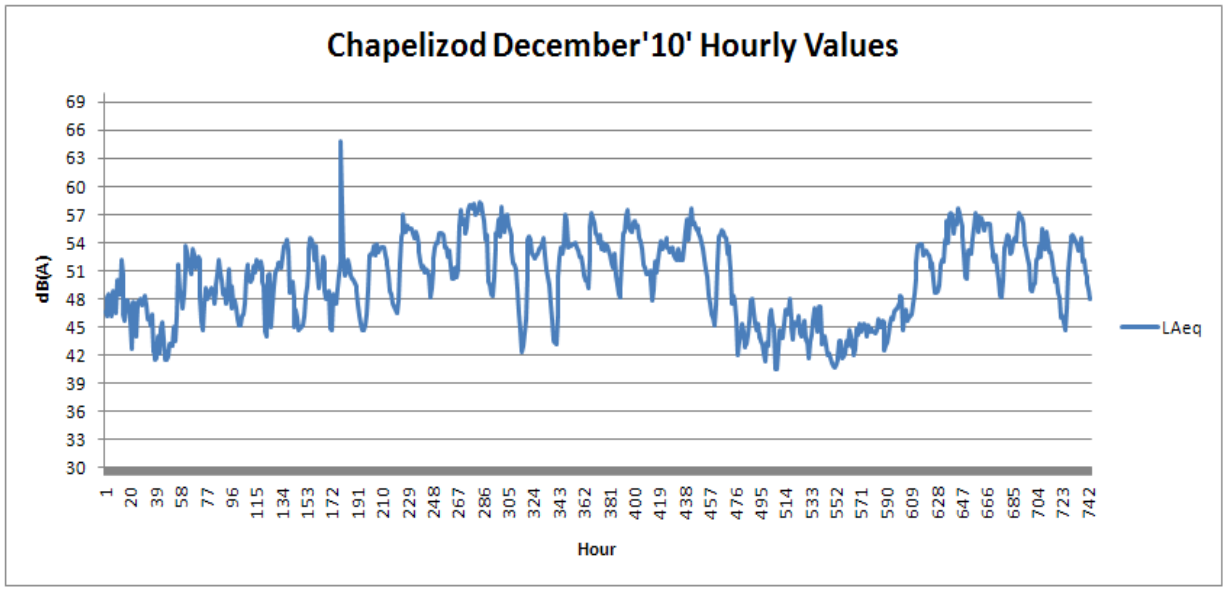

Chapelizod July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Chapelizod August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Chapelizod September'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Chapelizod October'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

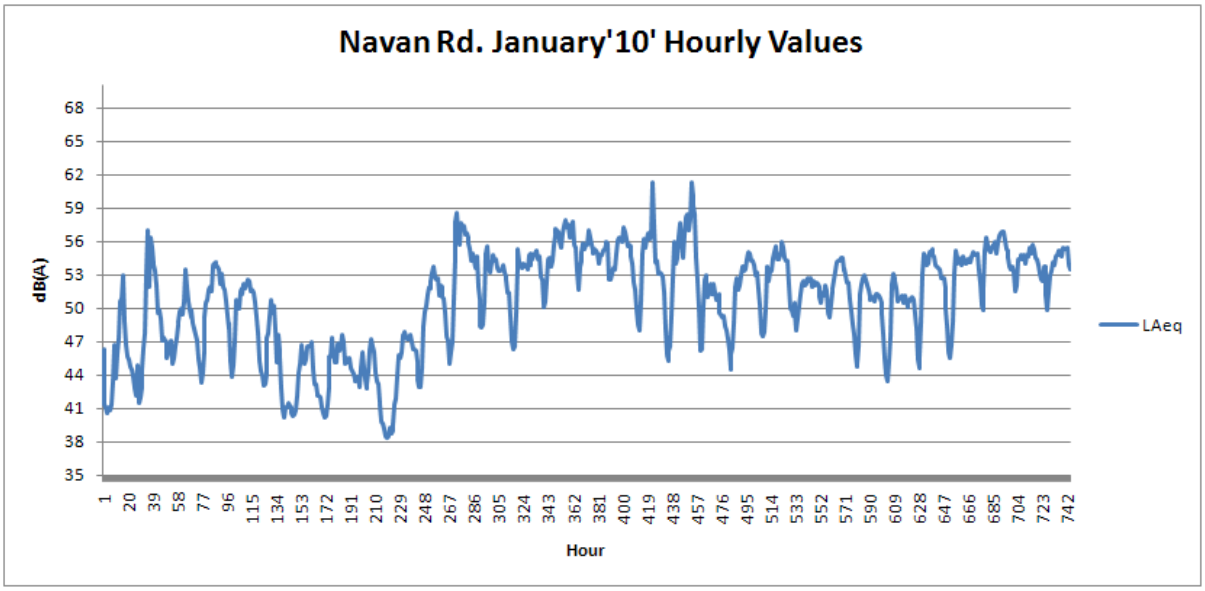

Chapelizod November'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

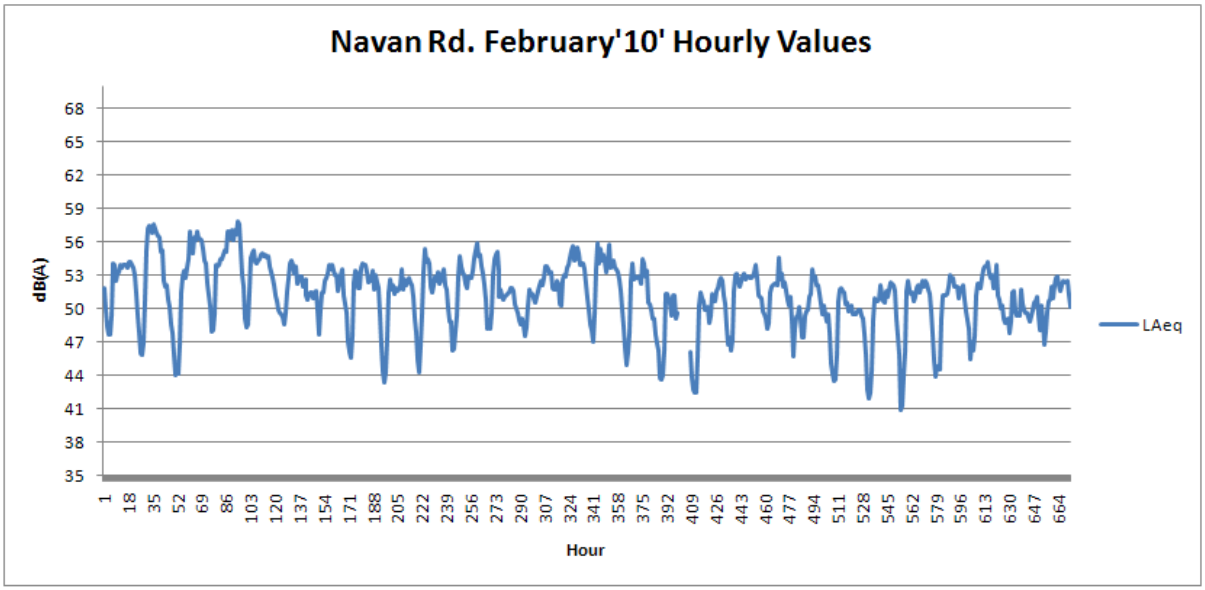

Chapelizod December'10' Hourly Values
dB(A)
69
66
63
60
57
54
51
48
45
42
39
36
33
30
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

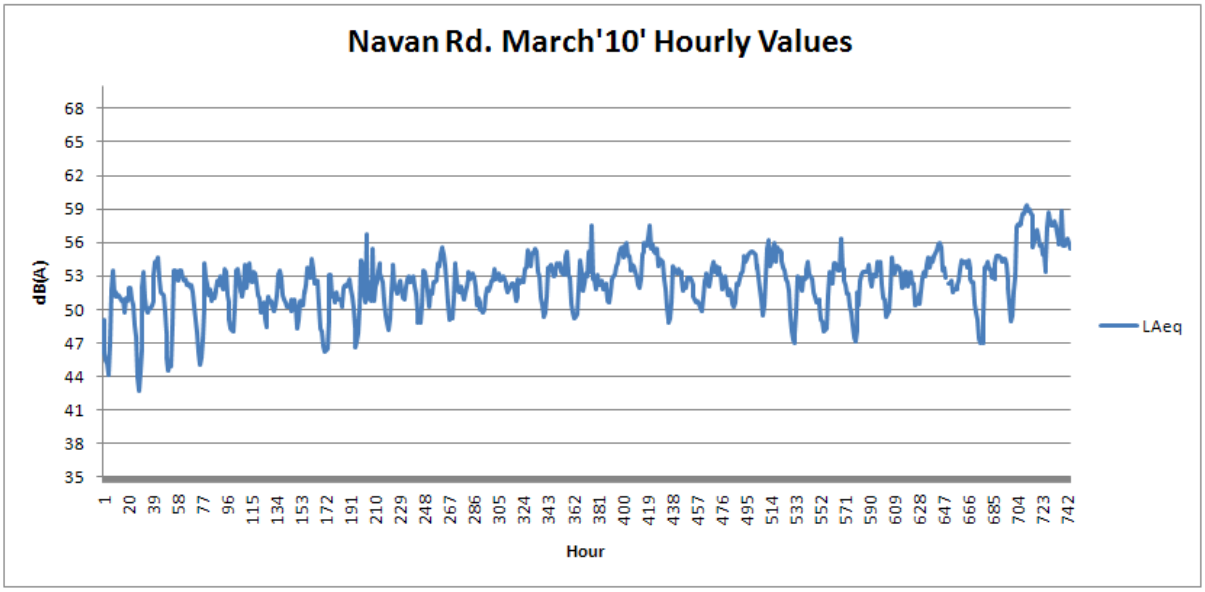
ASHTOWN GROVE

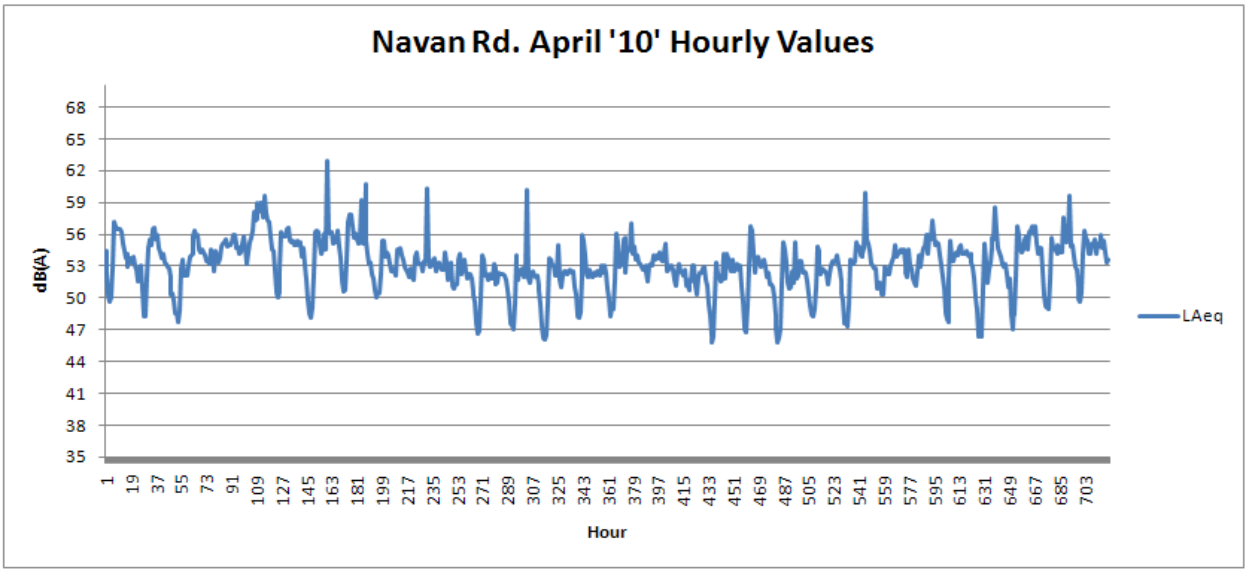
NAVAN ROAD

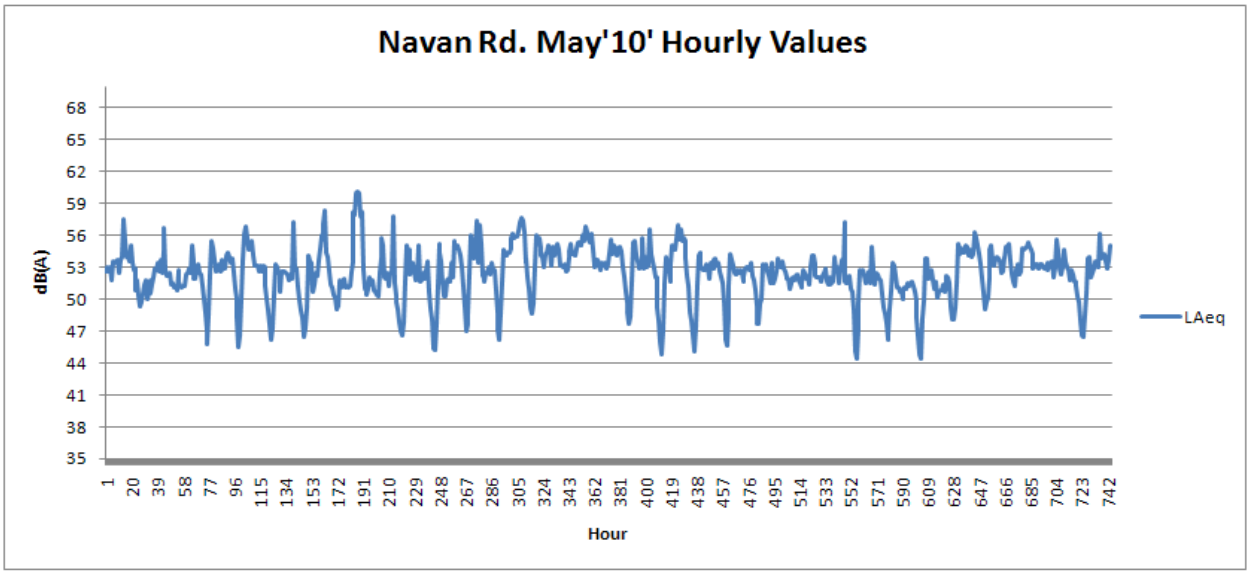
DUBLIN 7

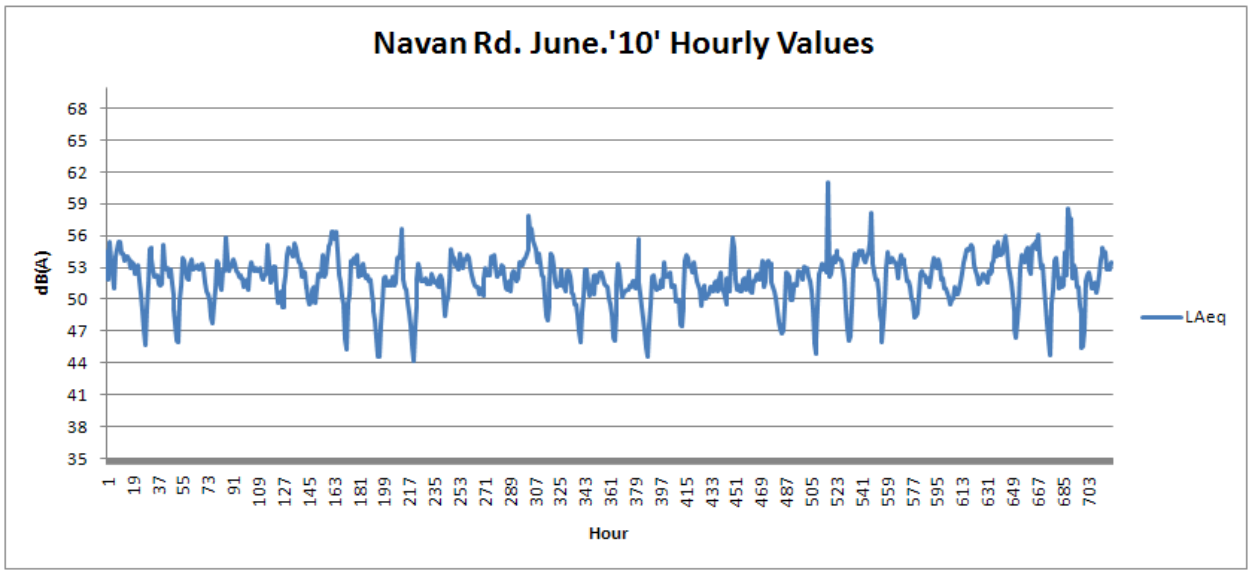

Navan Rd. January'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

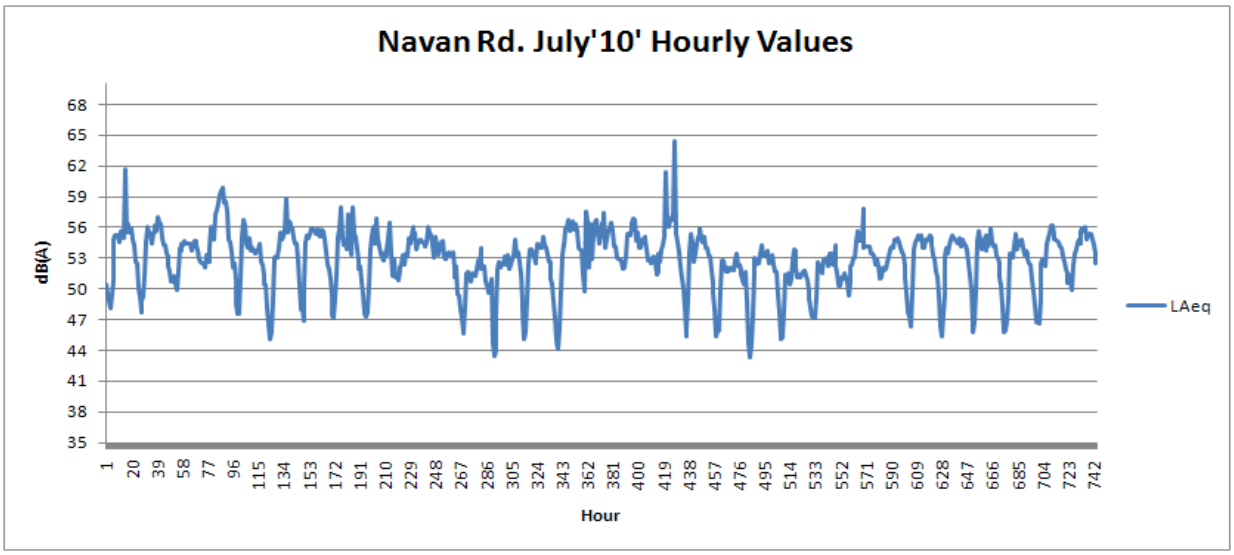

Navan Rd. February'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 18 35 52 69 86 103 120 137 154 171 188 205 222 239 256 273 290 307 324 341 358 375 392 409 426 443 460 477 494 511 528 545 562 579 596 613 630 647 664
Hour
LAeq

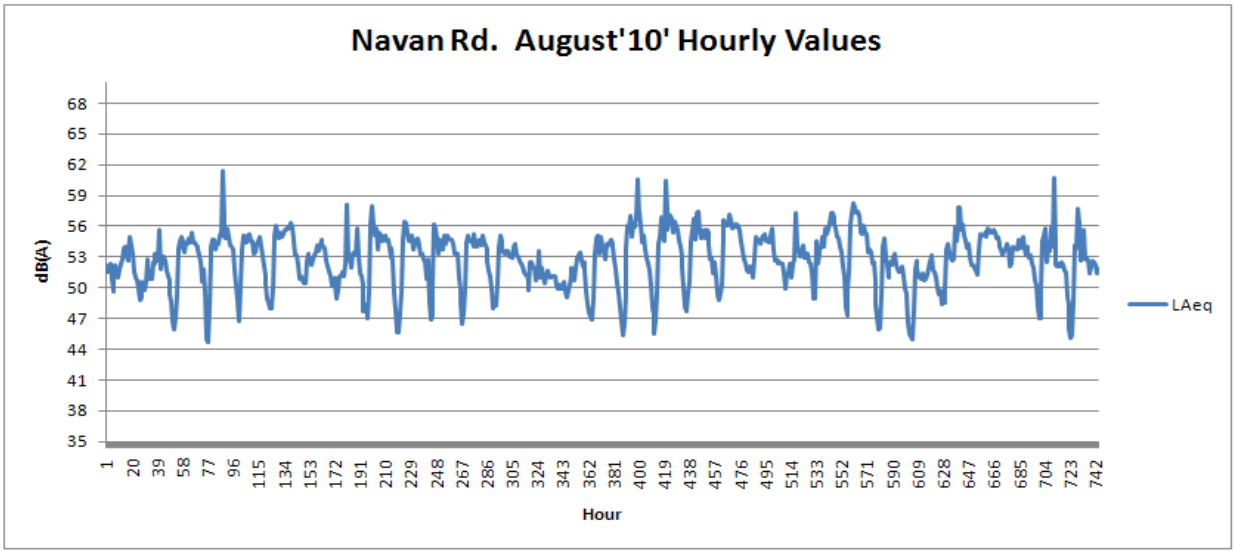

Navan Rd. March'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

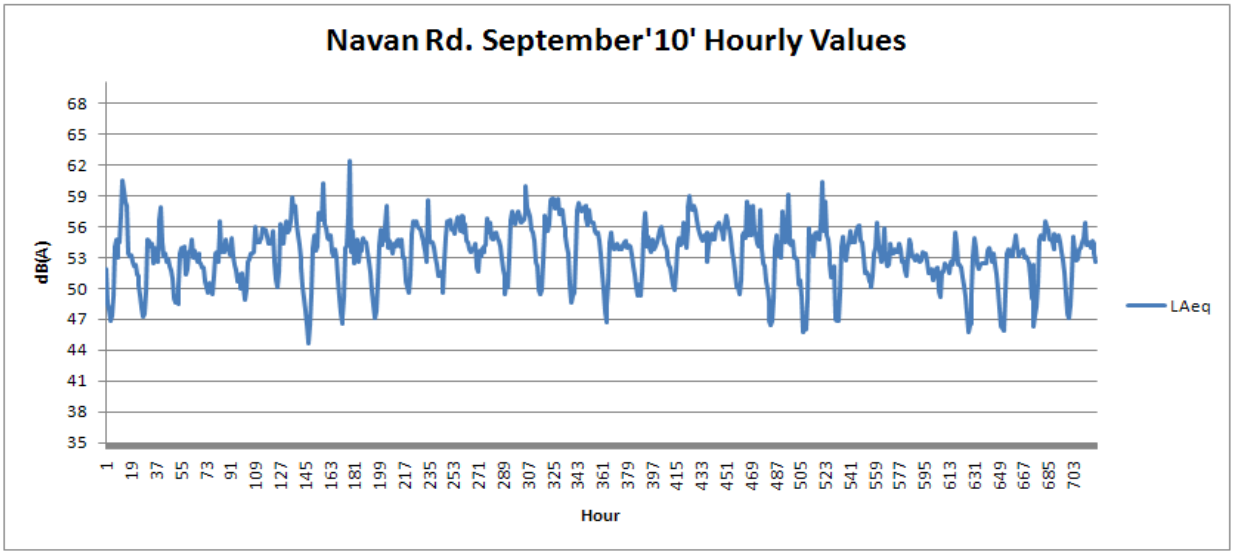

Navan Rd. April '10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

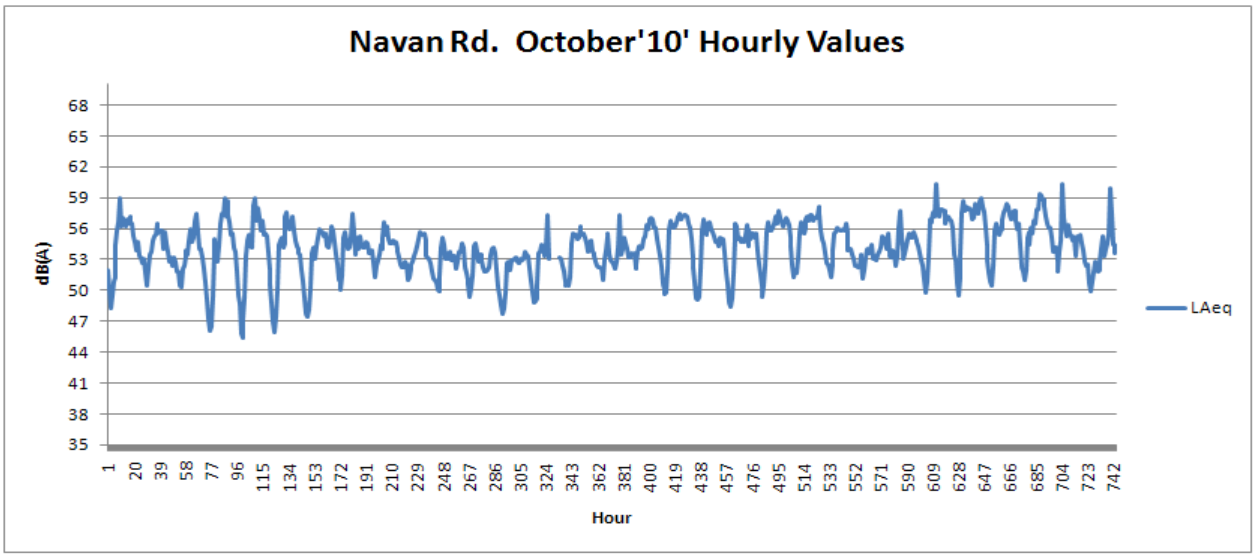

Navan Rd. May'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

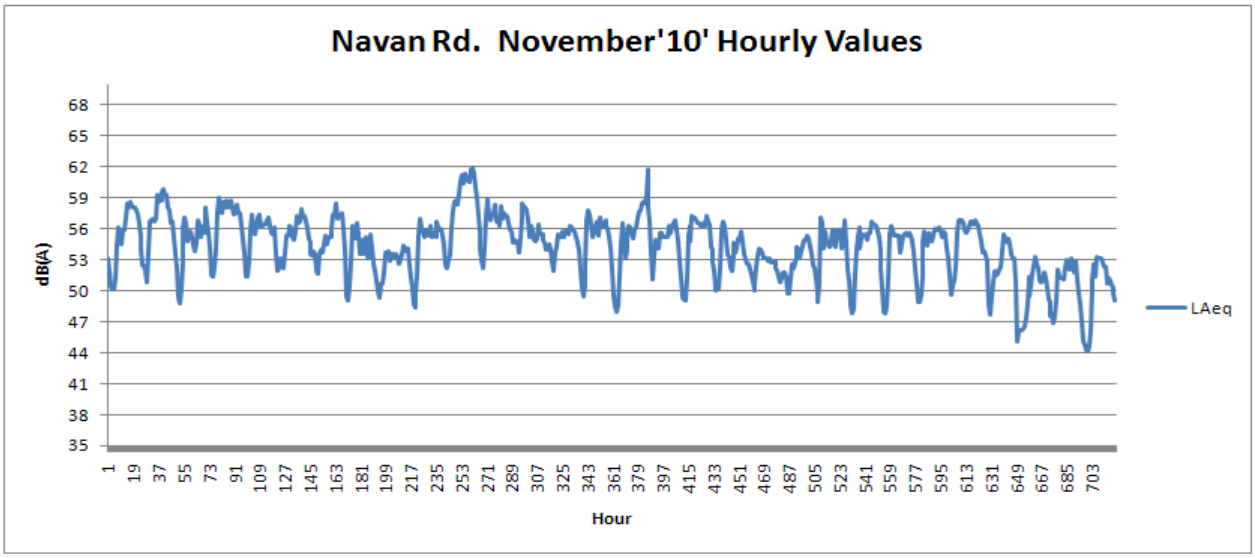

Navan Rd. June.'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

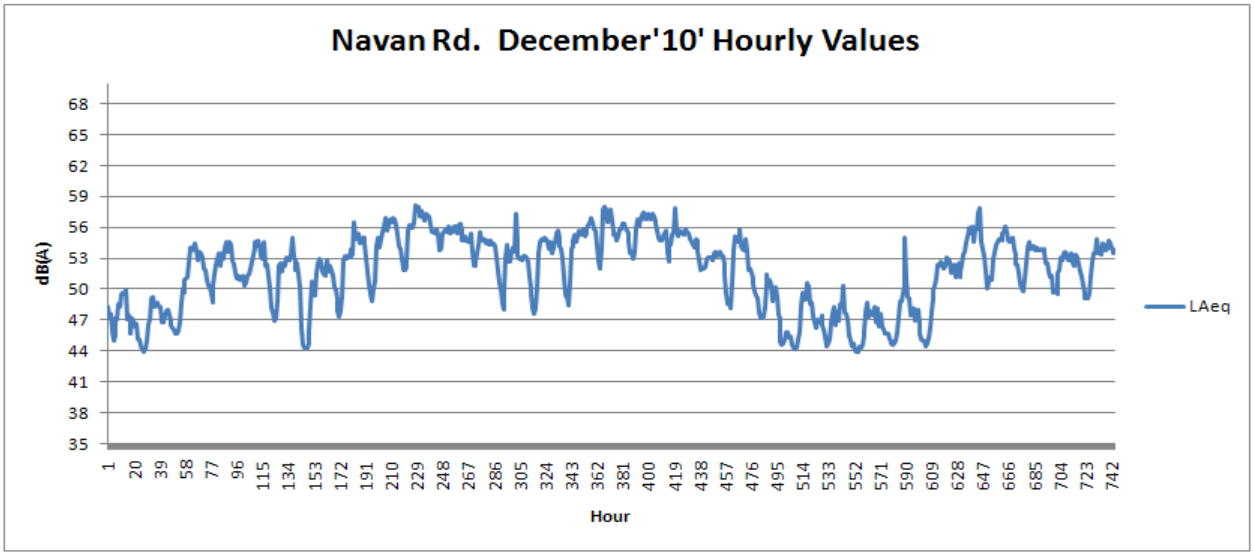

Navan Rd. July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Navan Rd. August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Navan Rd. September'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Navan Rd. October'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

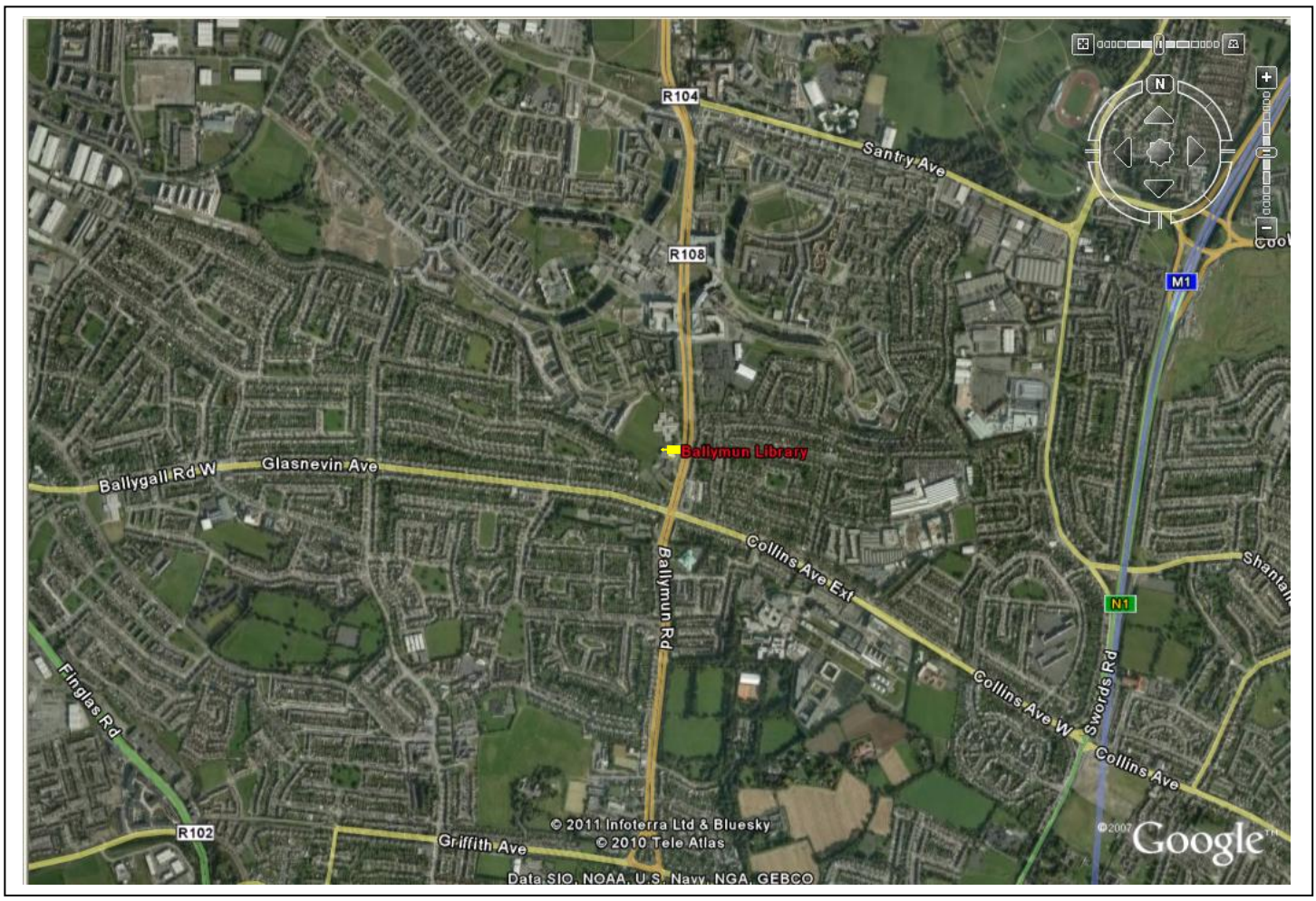

Navan Rd. November'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

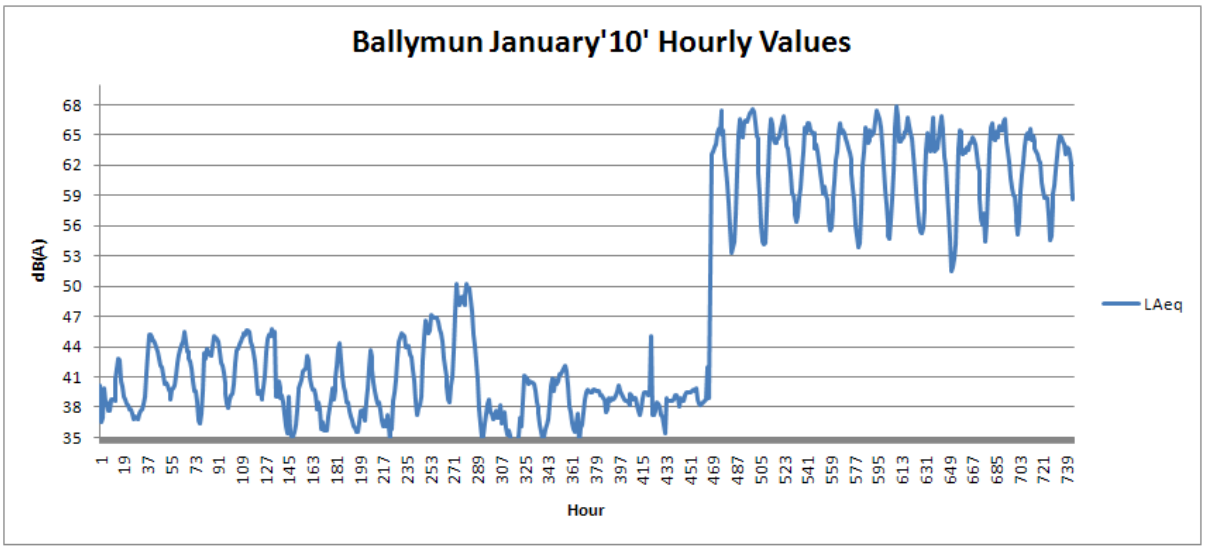

Navan Rd. December'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

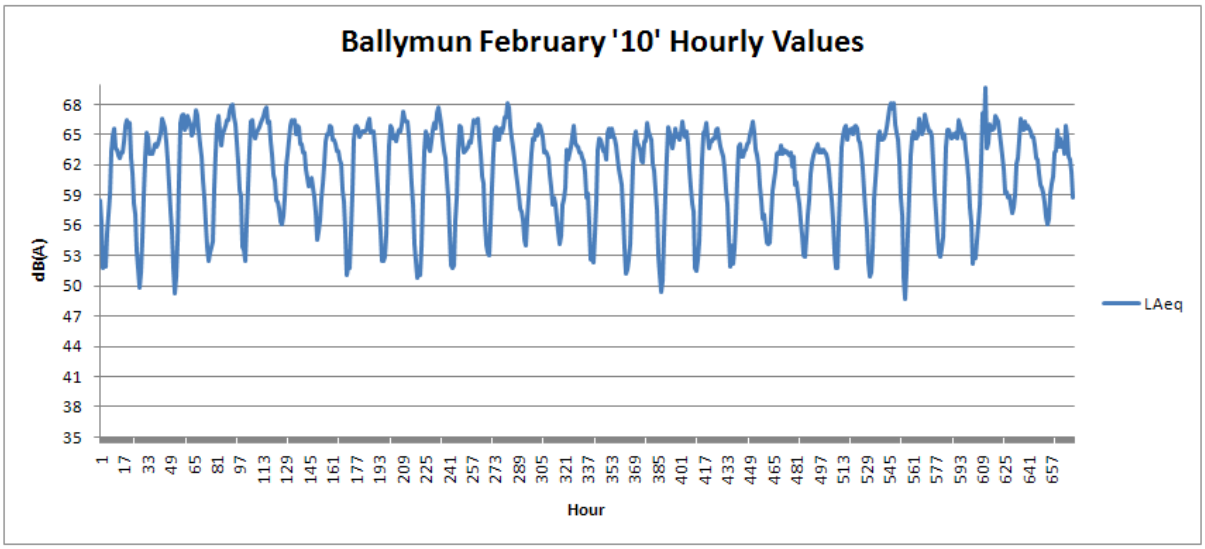
BALLYMUN LIBRARY

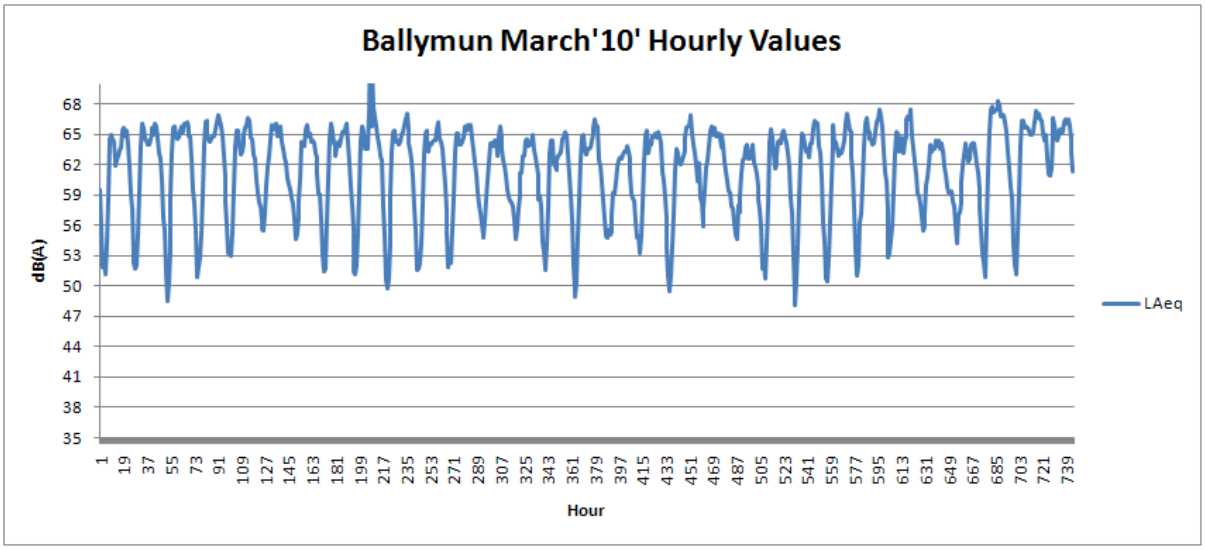
BALLYMUN ROAD

DUBLIN 11




Ballymun January'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq


Ballymun February '10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 17 33 49 65 81 97 113 129 145 161 177 193 209 225 241 257 273 289 305 321 337 353 369 385 401 417 433 449 465 481 497 513 529 545 561 577 593 609 625 641 657
Hour
LAeq


Ballymun March'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
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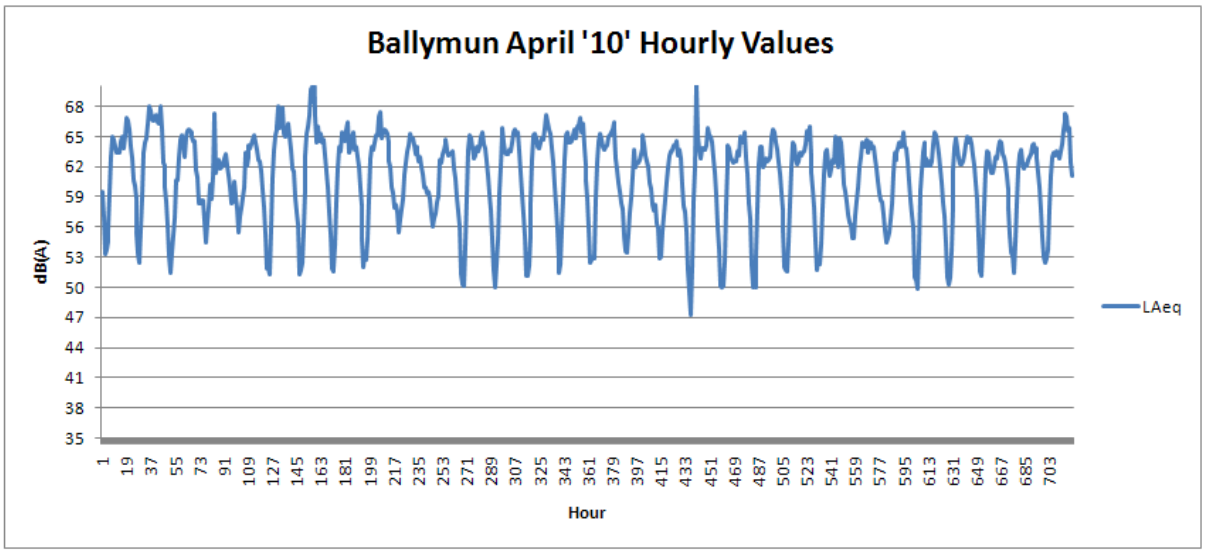
Hour
LAeq


Ballymun April '10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
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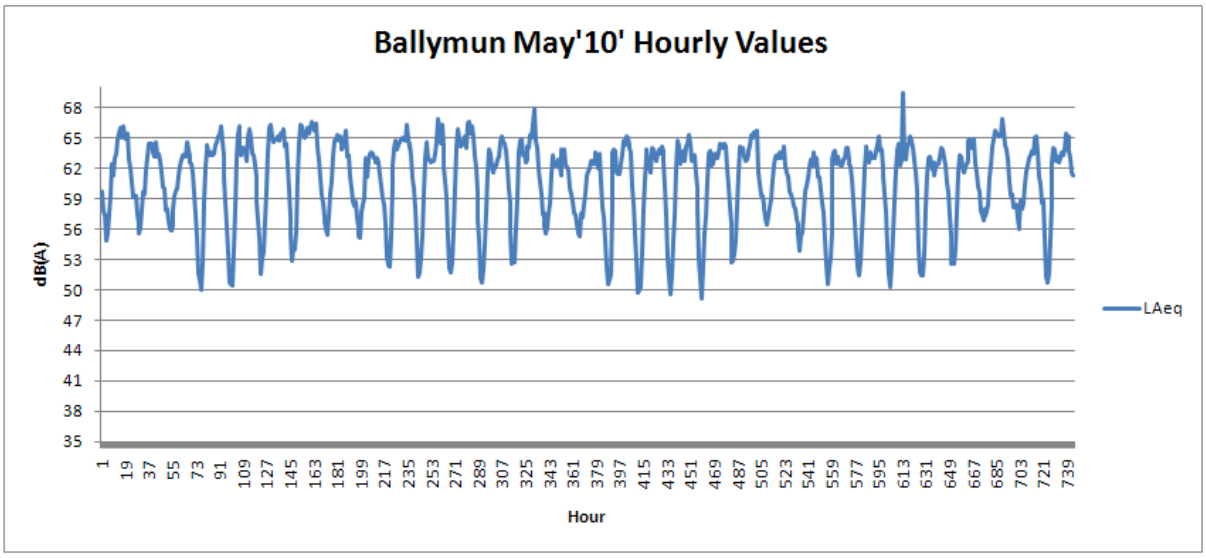
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Ballymun May'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
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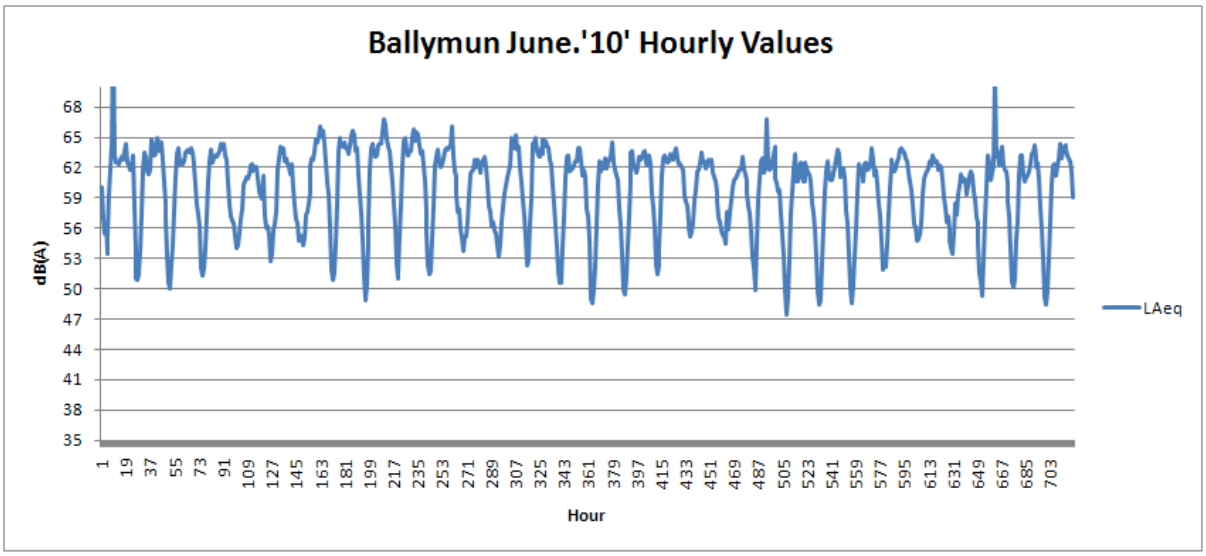
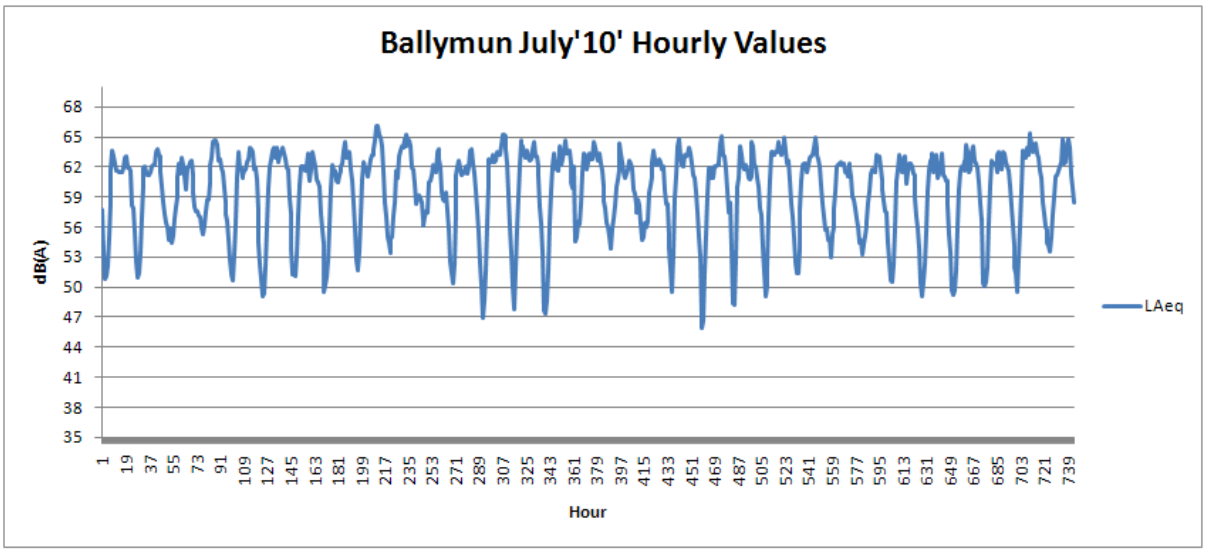
Hour
LAeq


Ballymun June.'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Ballymun July'10' Hourly Values
dB(A)
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50
47
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38
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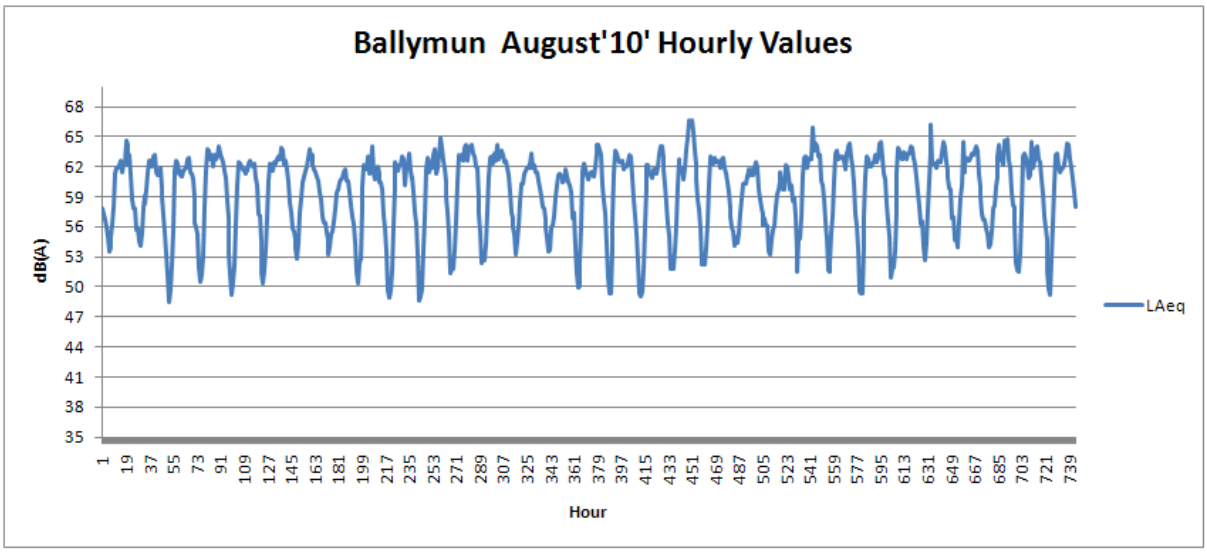
Hour
LAeq


Ballymun August'10' Hourly Values
dB(A)
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62
59
56
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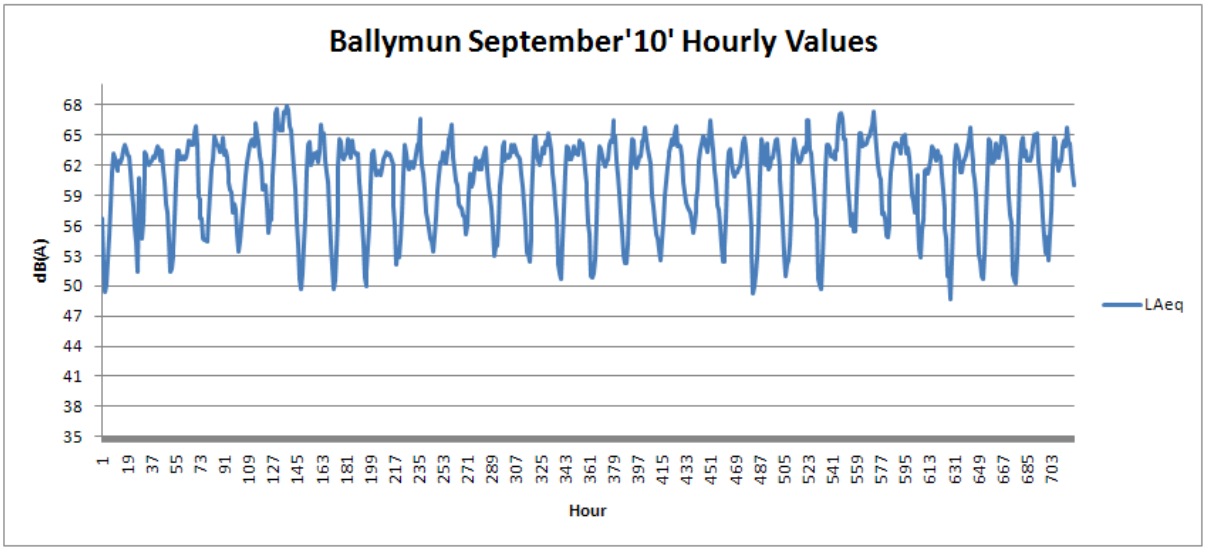
50
47
44
41
38
35
Hour
LAeq


Ballymun September'10' Hourly Values
dB(A)
68
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62
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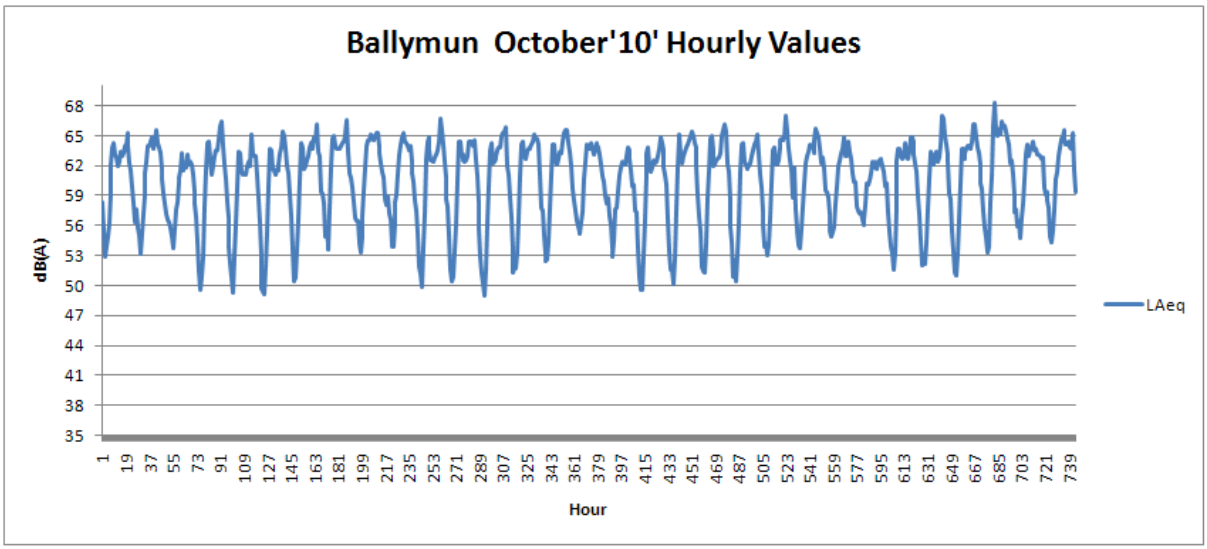
38
35
Hour
LAeq


Ballymun October'10' Hourly Values
dB(A)
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62
59
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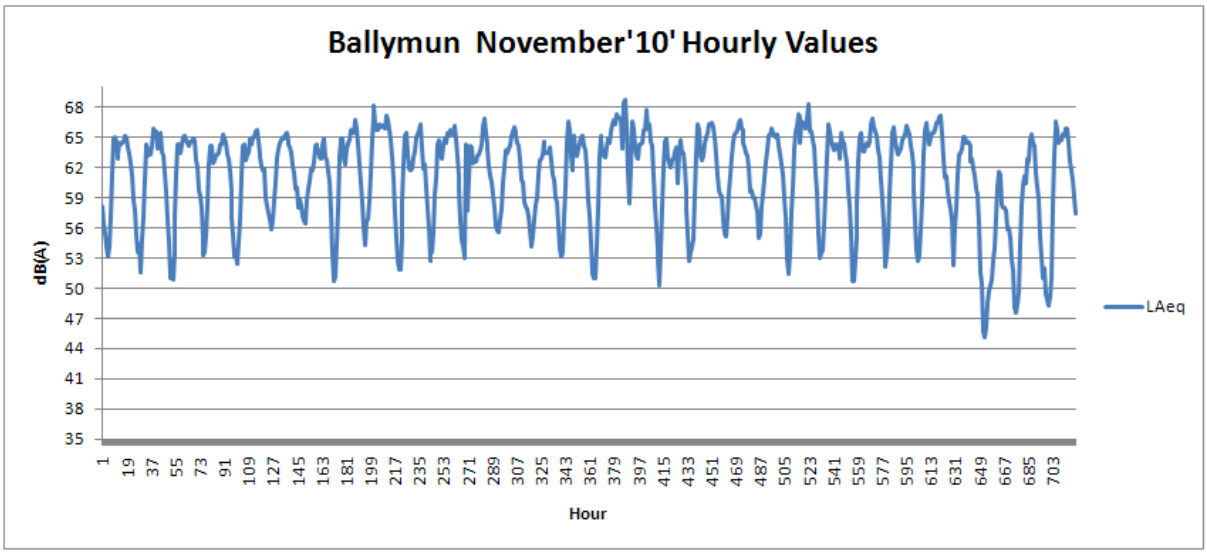
50
47
44
41
38
35
Hour
LAeq


Ballymun November'10' Hourly Values
dB(A)
68
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62
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38
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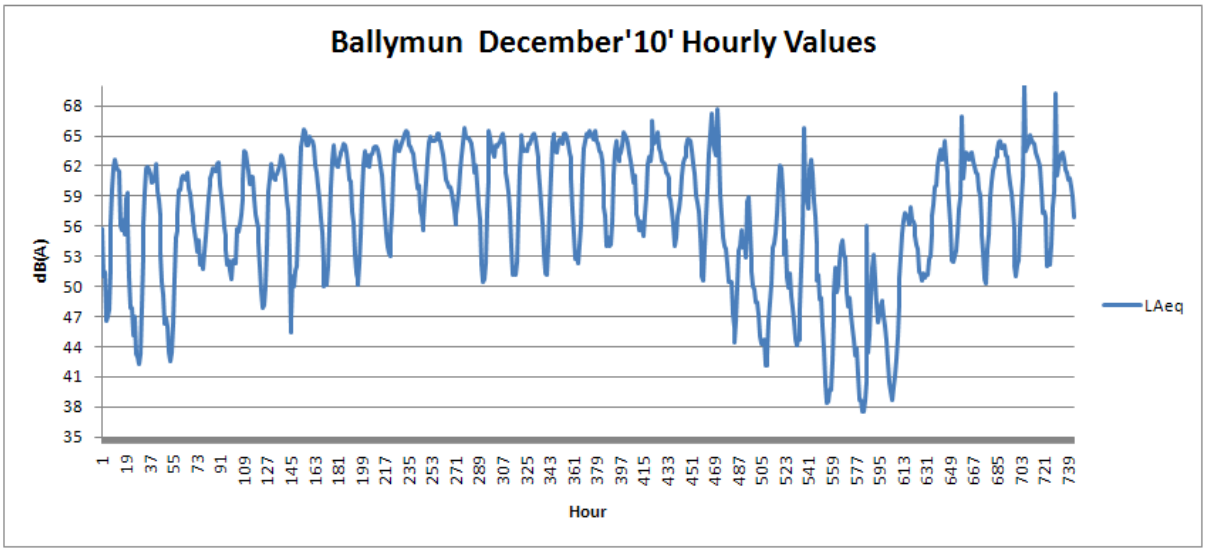
Hour
LAeq


Ballymun December'10' Hourly Values
dB(A)
68
65
62
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44
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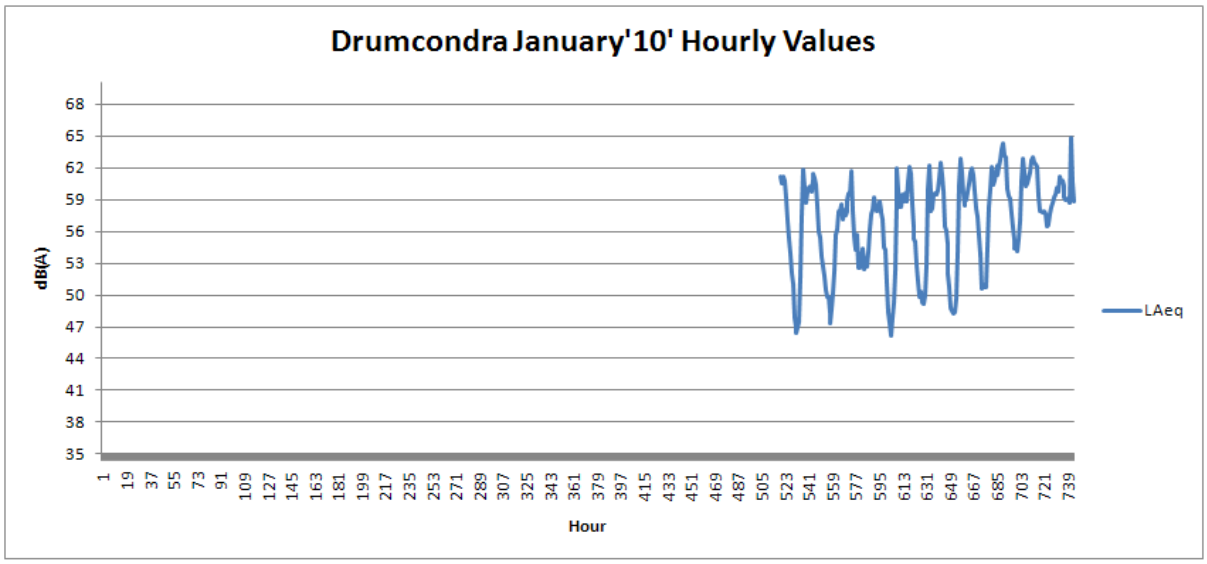
38
35
Hour
LAeq

DRUMCONDRA LIBRARY

MILLMOUNT AVENUE

DUBLIN 9


Drumcondra January'10' Hourly Values
dB(A)
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65
62
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56
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50
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44
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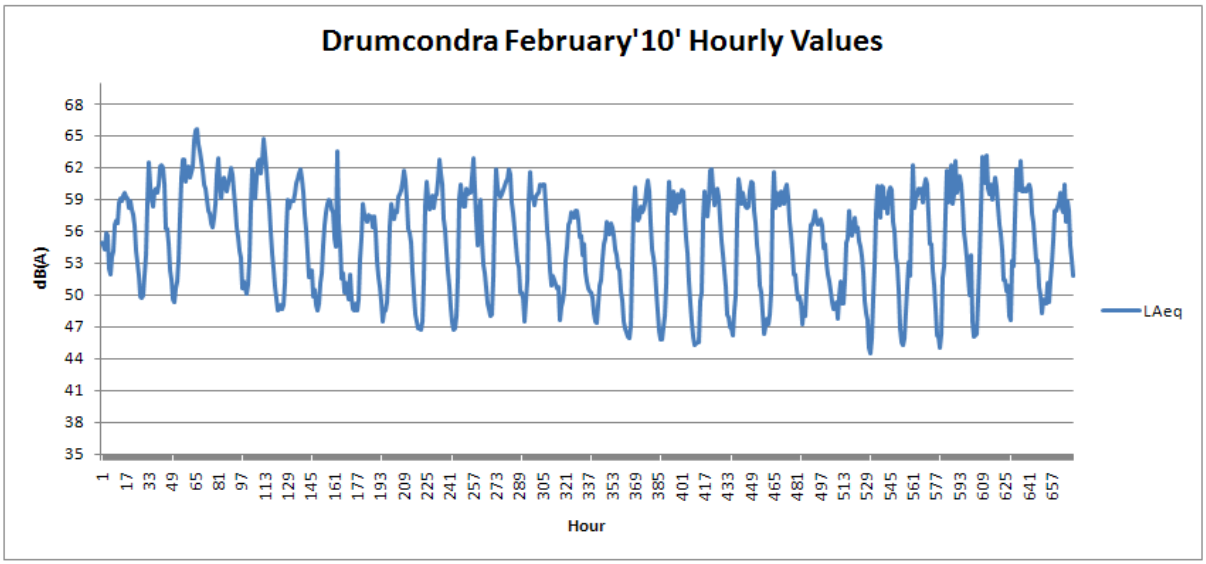
38
35
Hour
LAeq


Drumcondra February'10' Hourly Values
dB(A)
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62
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44
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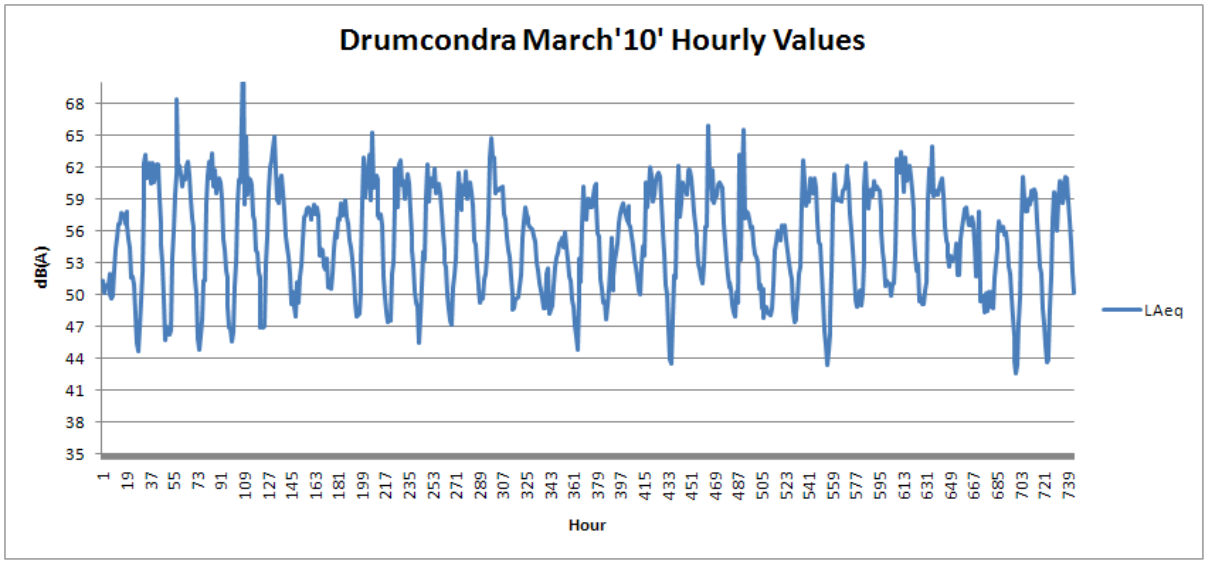
38
35
Hour
LAeq


Drumcondra March'10' Hourly Values
dB(A)
68
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62
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56
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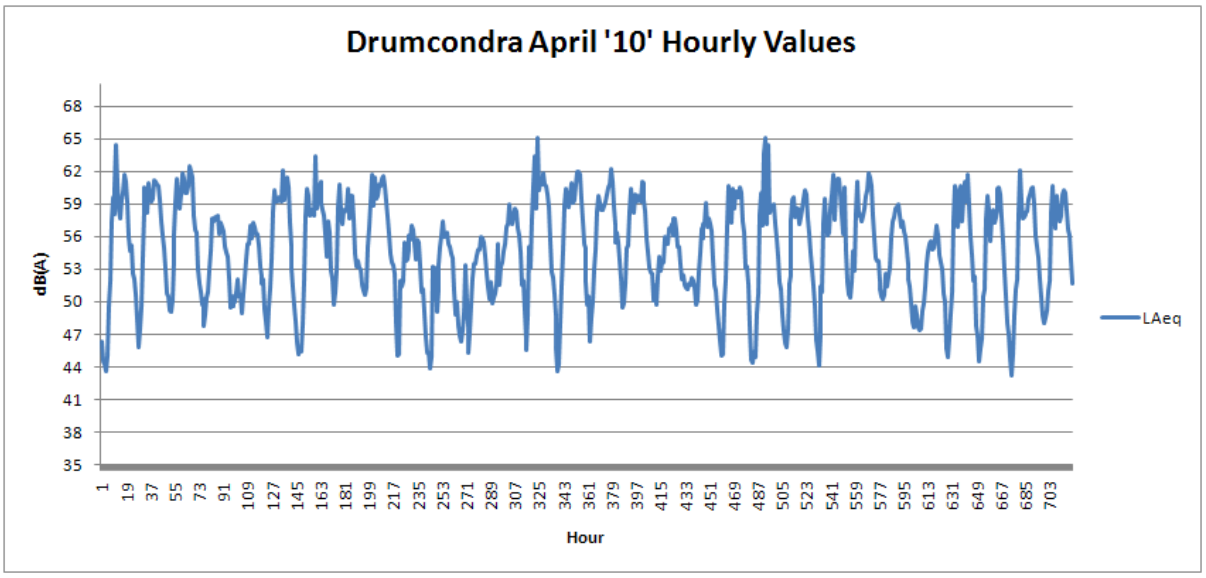
50
47
44
41
38
35
Hour
LAeq


Drumcondra April '10' Hourly Values
dB(A)
68
65
62
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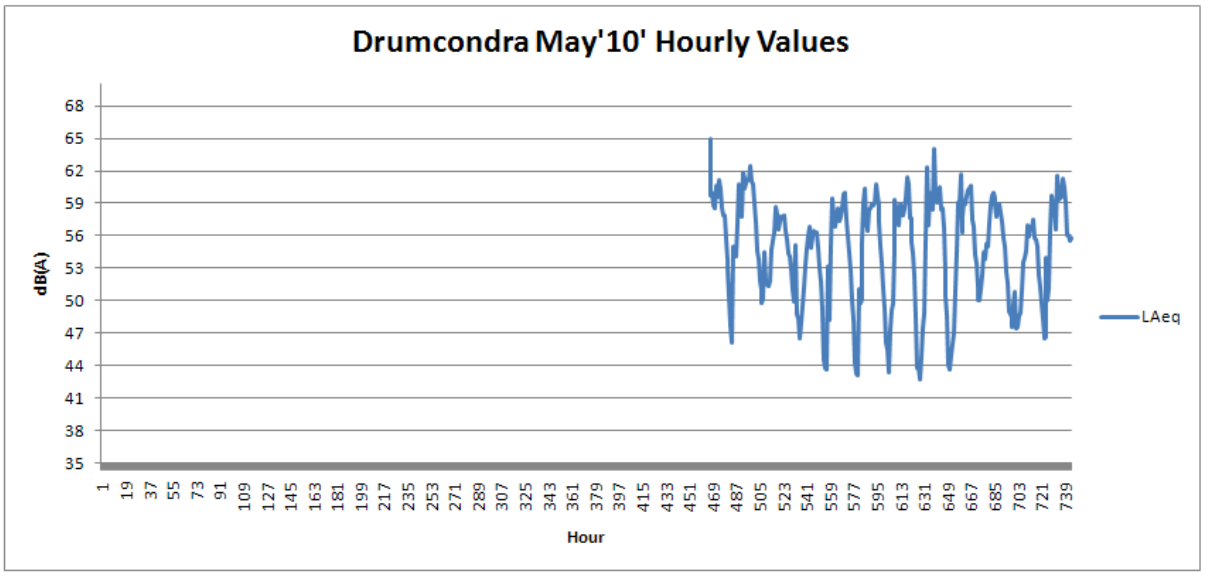
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Drumcondra May'10' Hourly Values
dB(A)
68
65
62
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56
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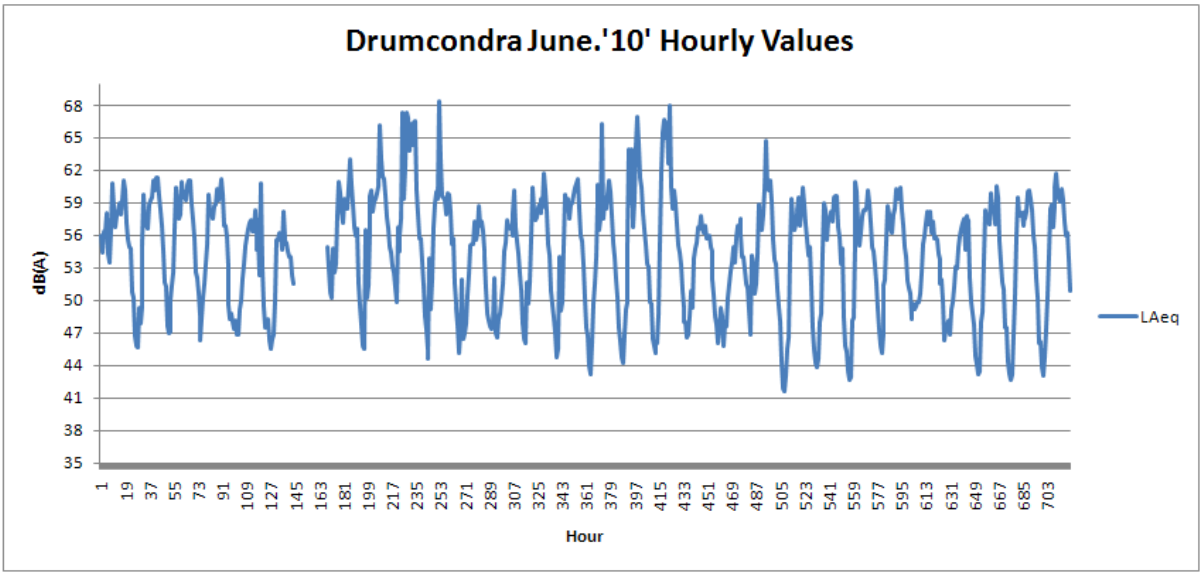
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq


Drumcondra June.'10' Hourly Values
dB(A)
68
65
62
59
56
53
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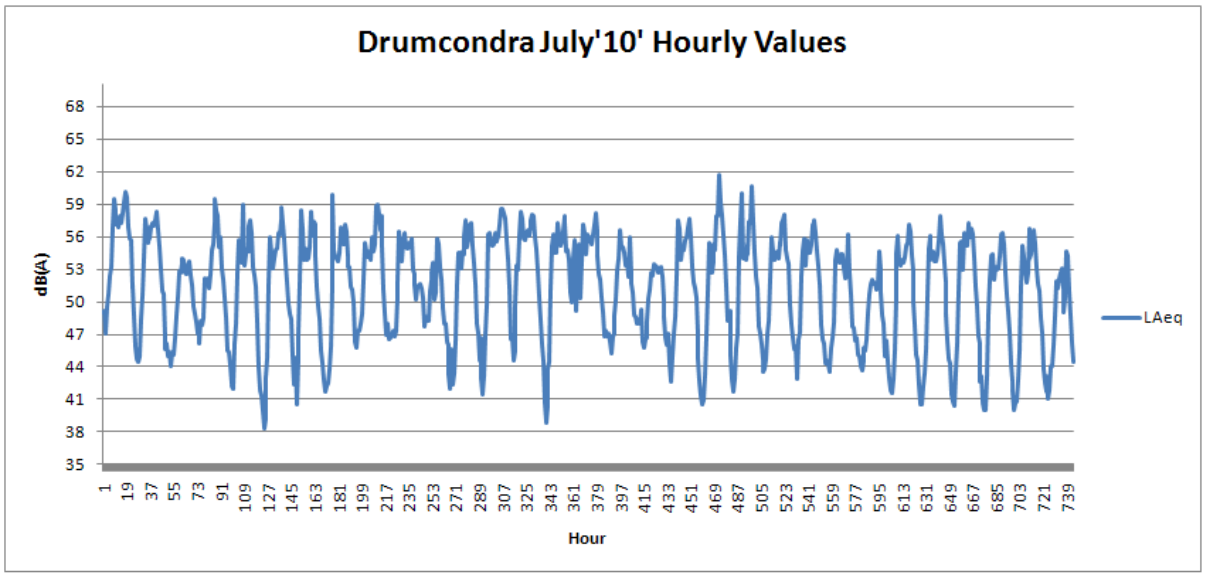
Hour
LAeq


Drumcondra July'10' Hourly Values
dB(A)
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65
62
59
56
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50
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44
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38
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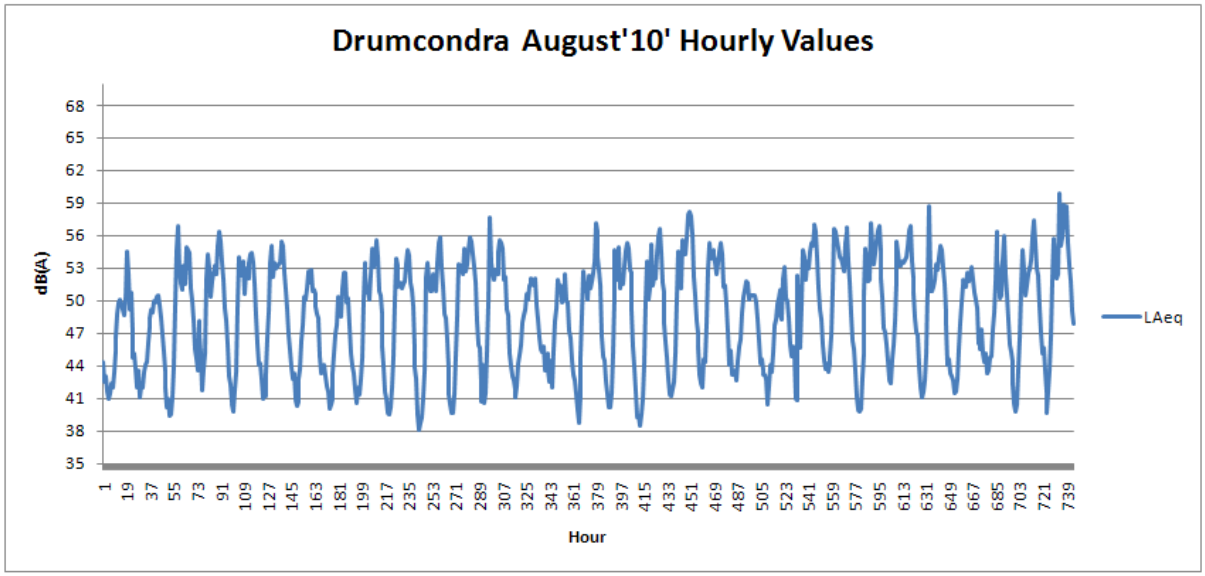
Hour
LAeq


Drumcondra August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
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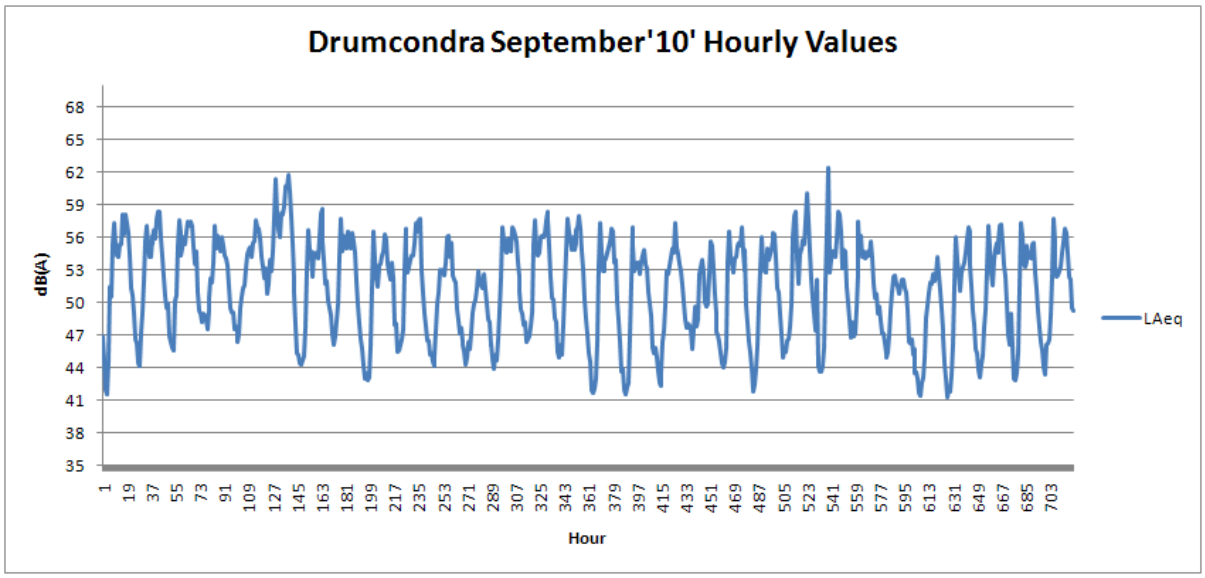
Hour
LAeq


Drumcondra September'10' Hourly Values
dB(A)
68
65
62
59
56
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50
47
44
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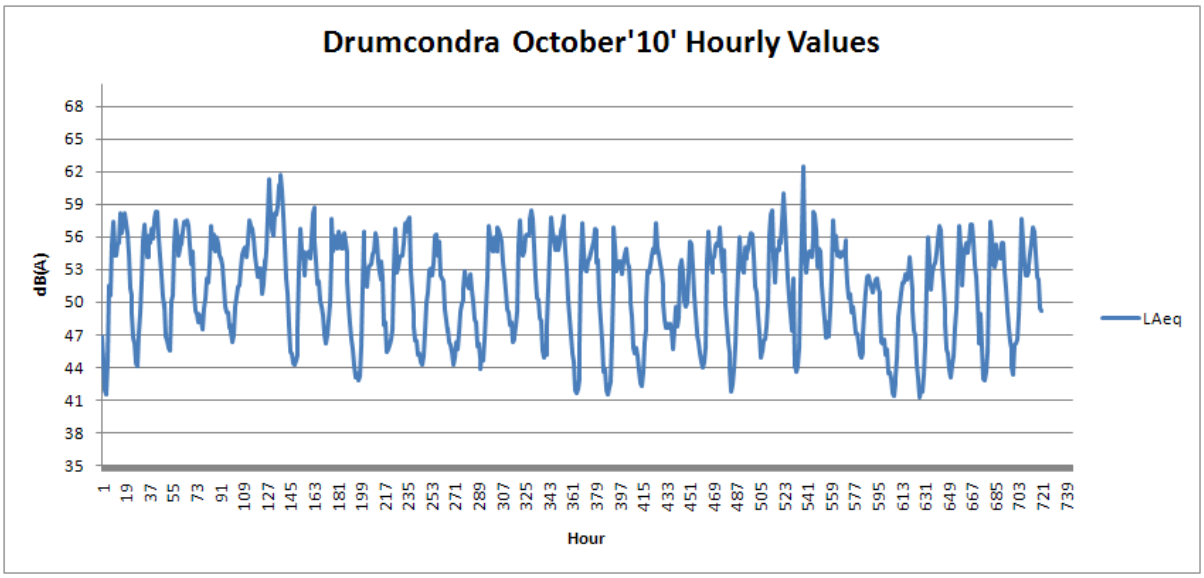
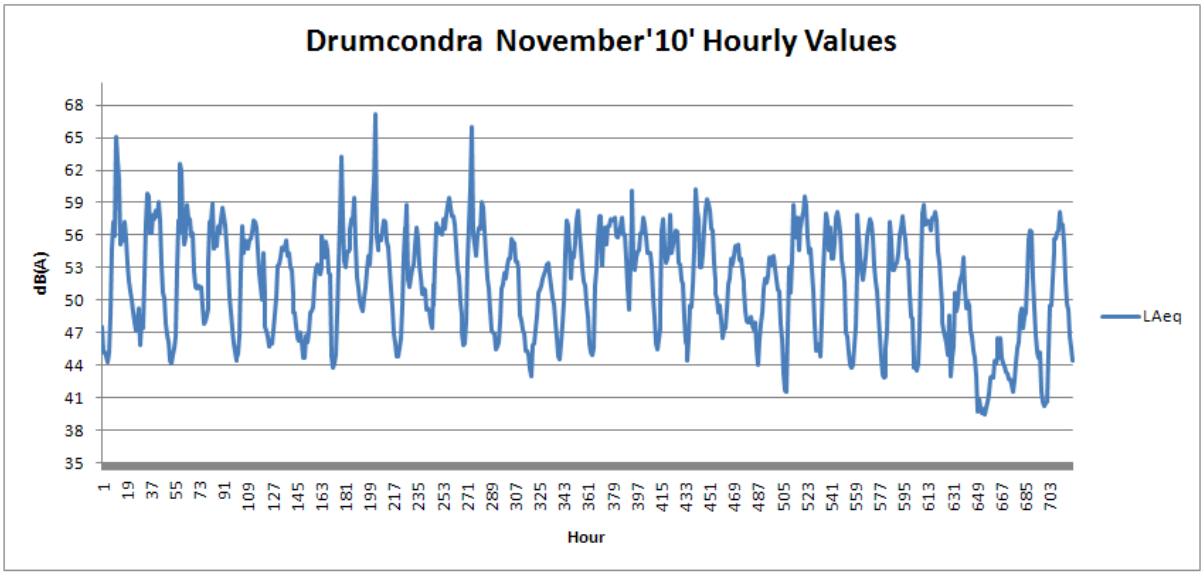
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Drumcondra October'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq


Drumcondra November'10' Hourly Values
dB(A)
68
65
62
59
56
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50
47
44
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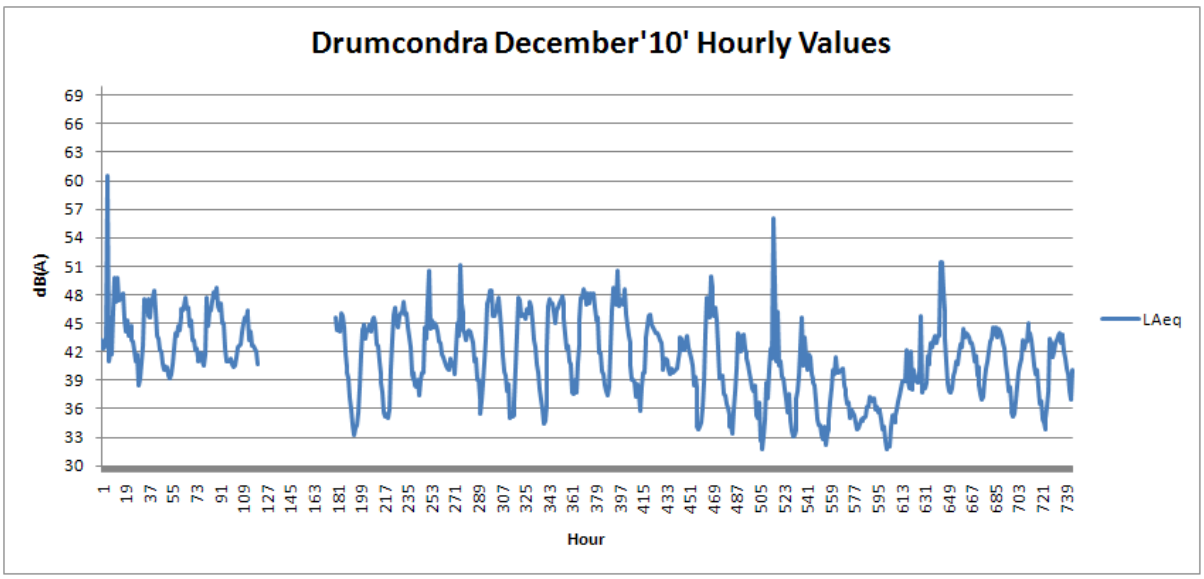
Hour
LAeq


Drumcondra December'10' Hourly Values
dB(A)
69
66
63
60
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51
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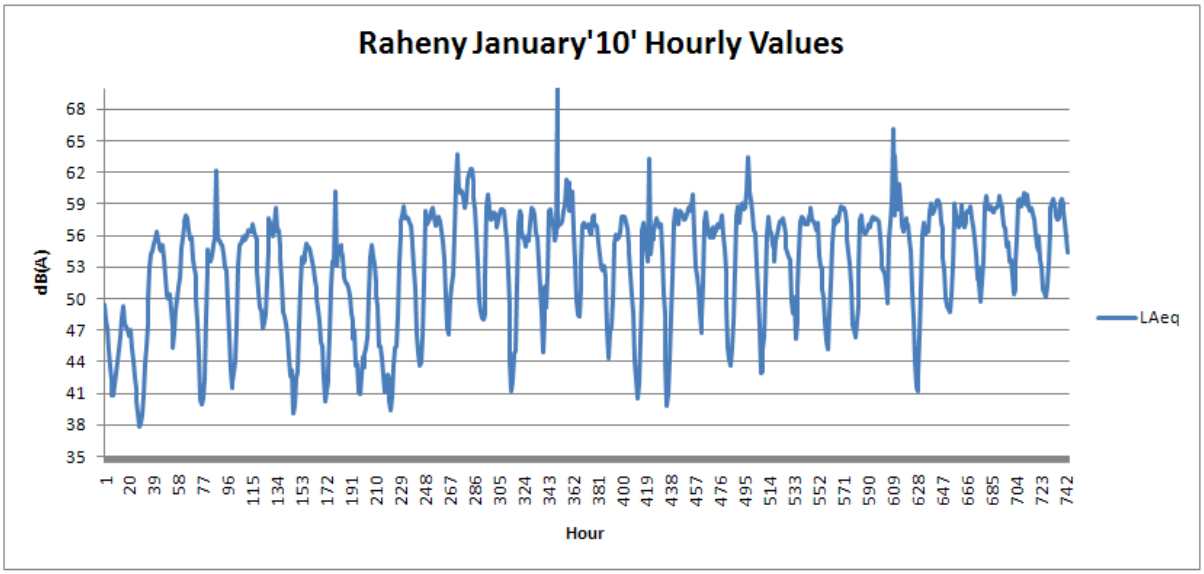
42
39
36
33
30
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq

RAHENY LIBRARY

HOWTH ROAD

DUBLIN 5


Raheny January'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
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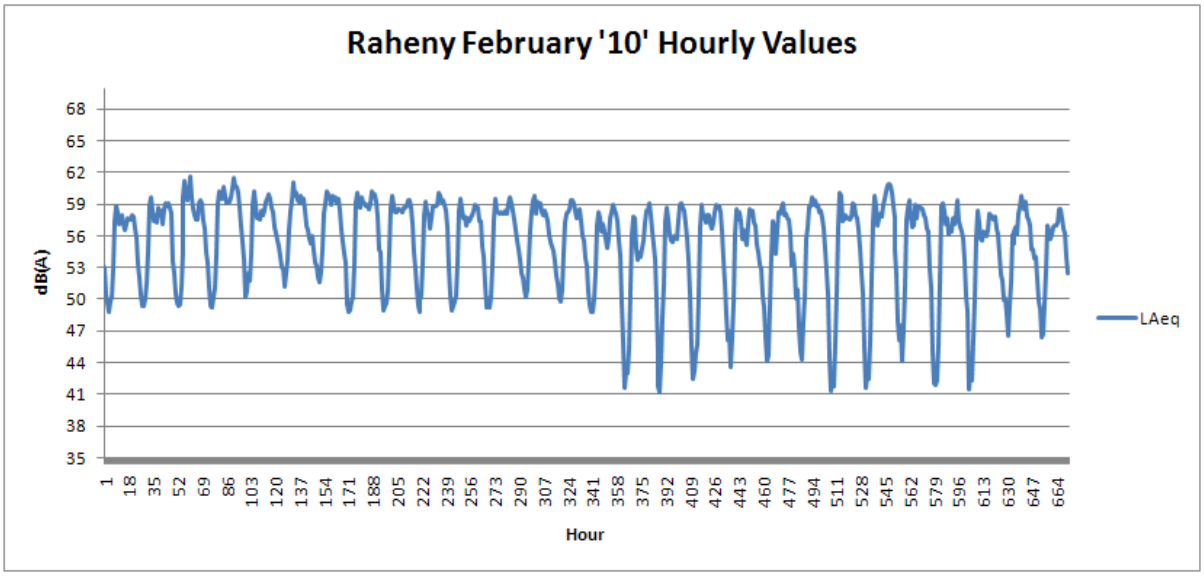
Hour
LAeq


Raheny February '10' Hourly Values
dB(A)
68
65
62
59
56
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50
47
44
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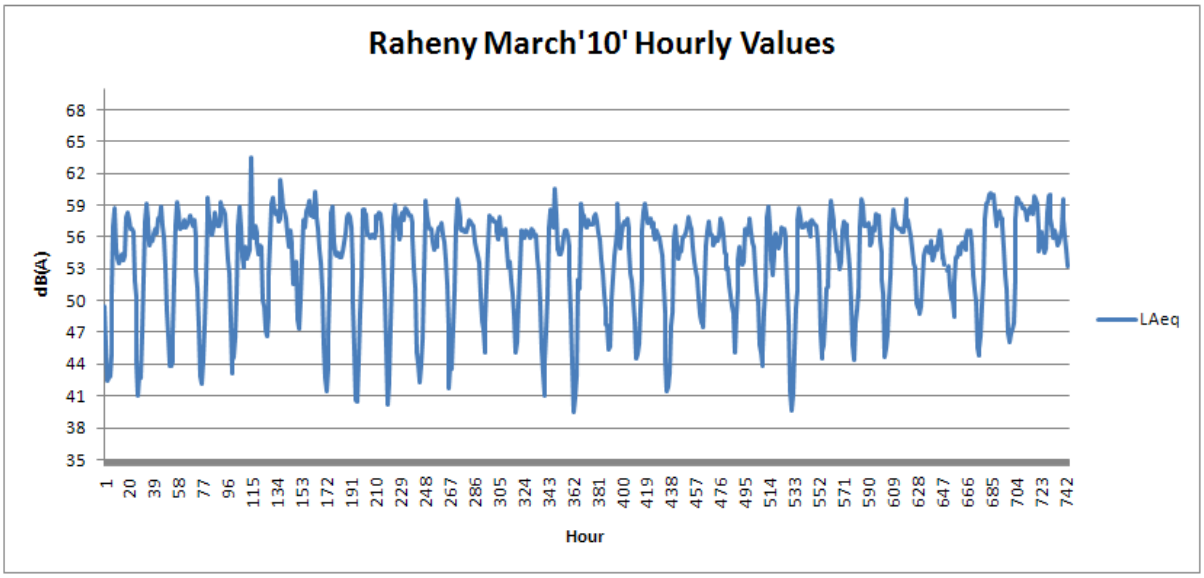
Hour
LAeq


Raheny March'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
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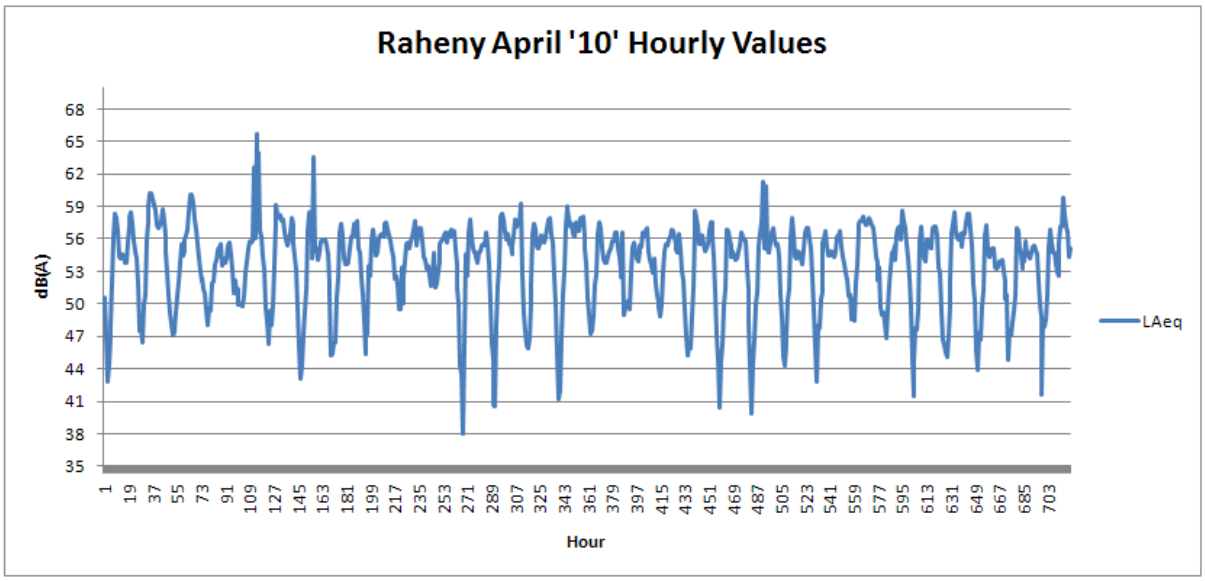
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Raheny April '10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
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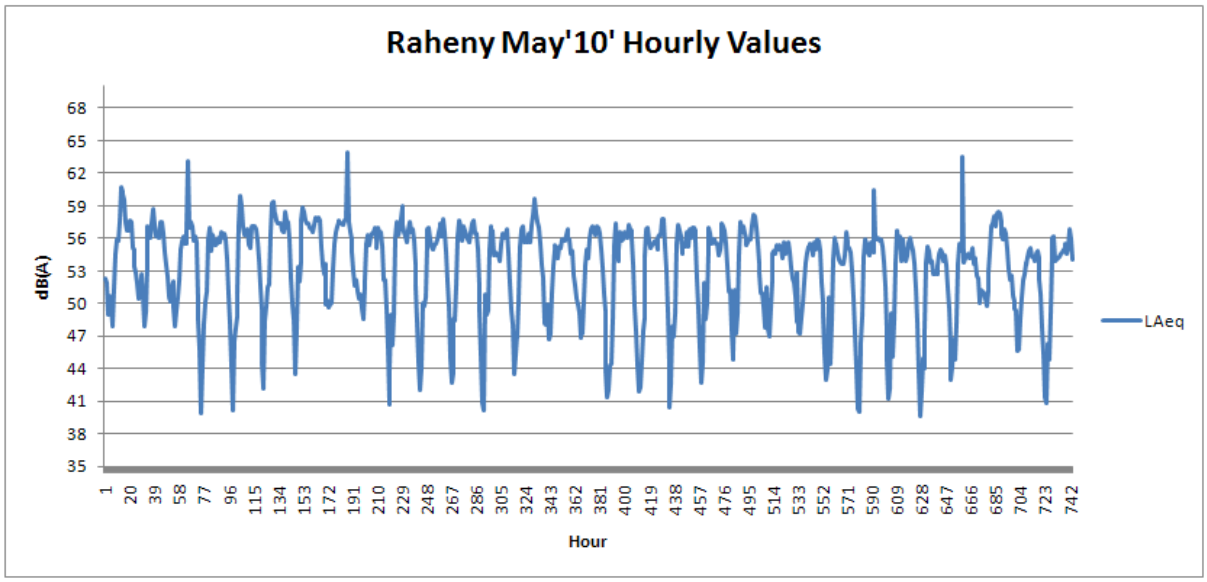
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Raheny May'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
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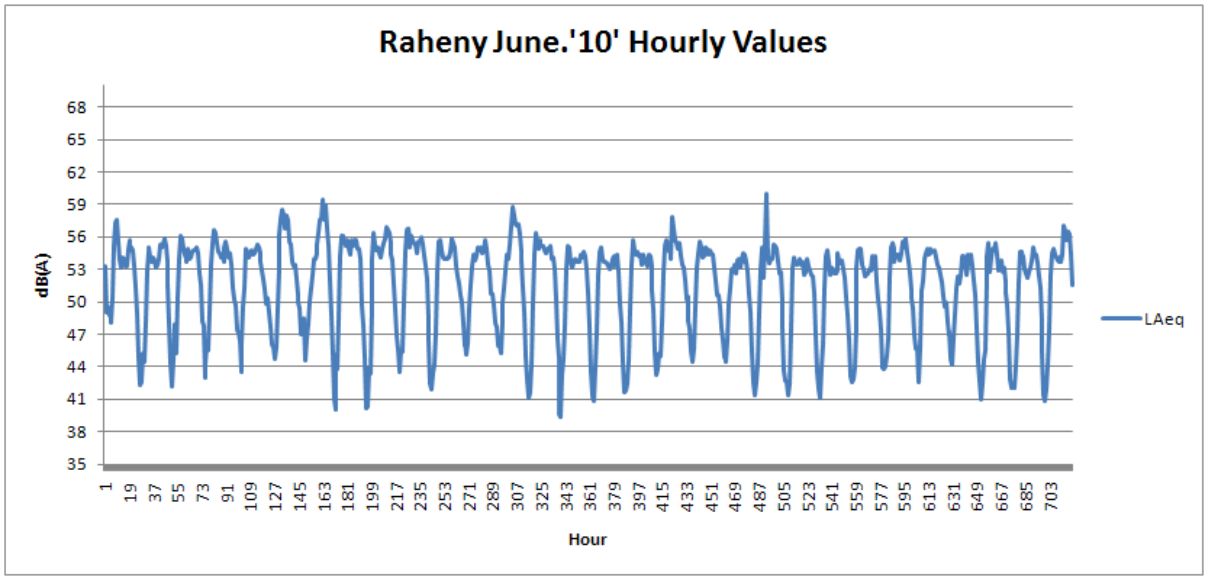
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Raheny June.'10' Hourly Values
dB(A)
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62
59
56
53
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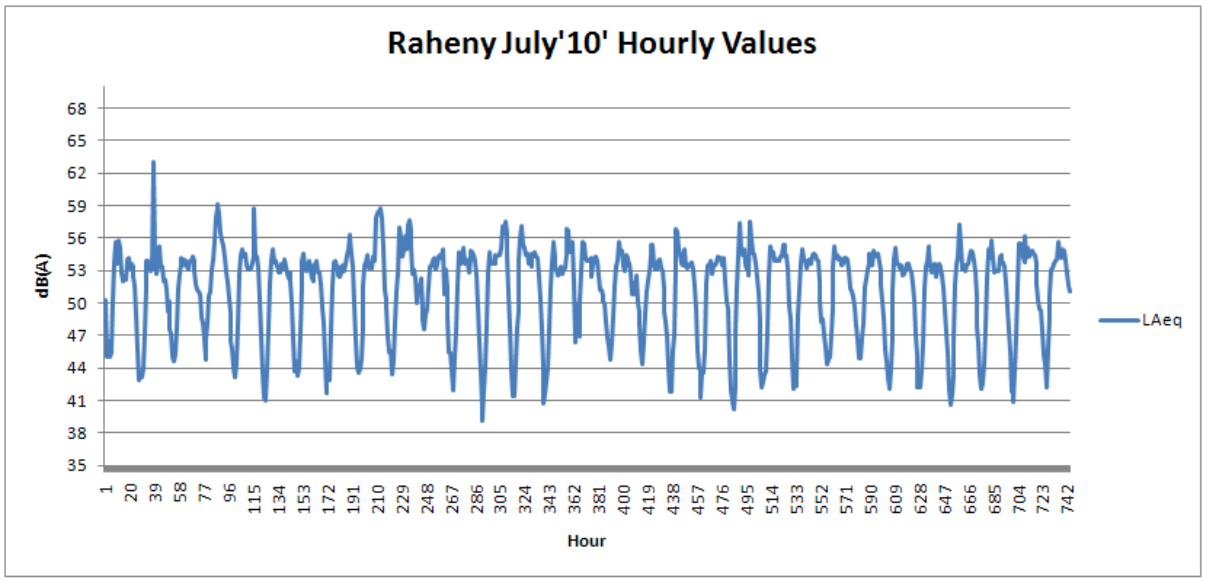
Hour
LAeq


Raheny July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
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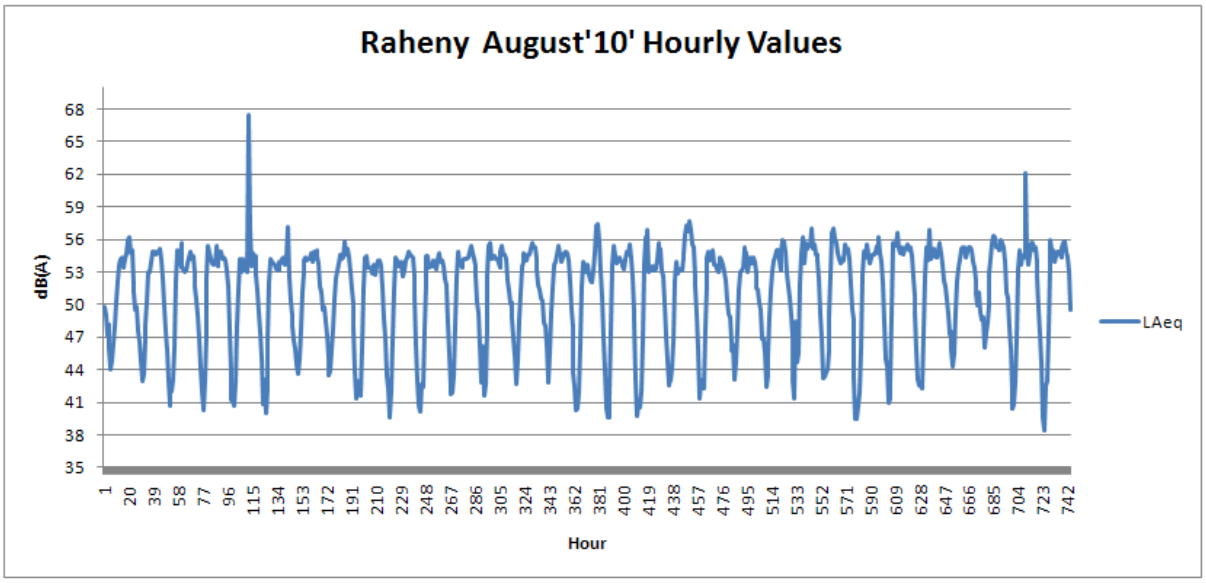
Hour
LAeq


Raheny August'10' Hourly Values
dB(A)
68
65
62
59
56
53
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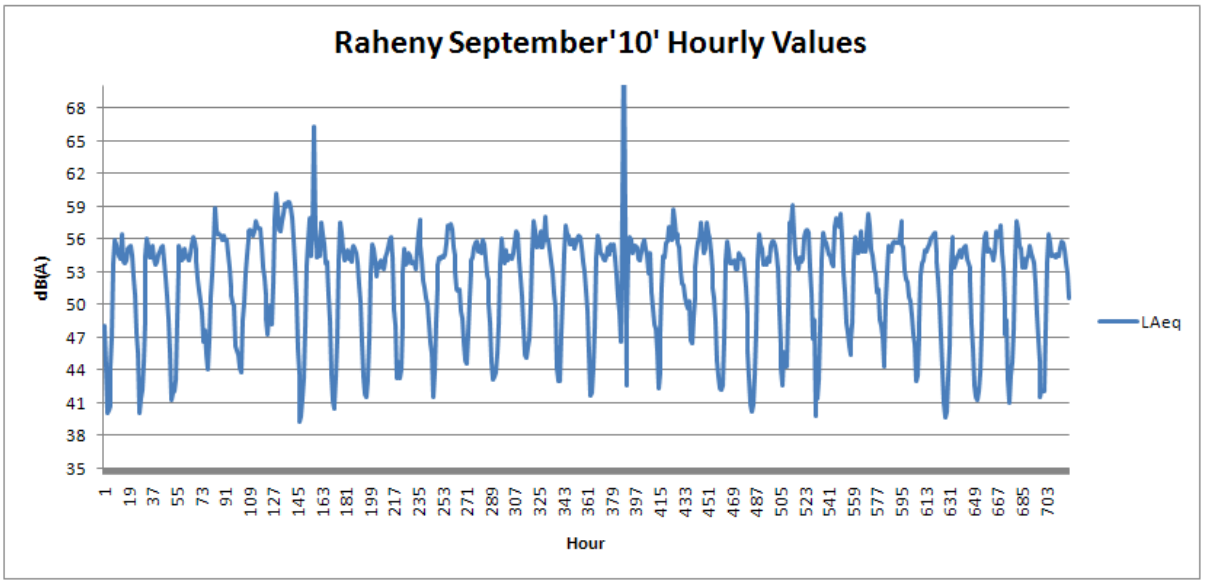
Hour
LAeq


Raheny September'10' Hourly Values
dB(A)
68
65
62
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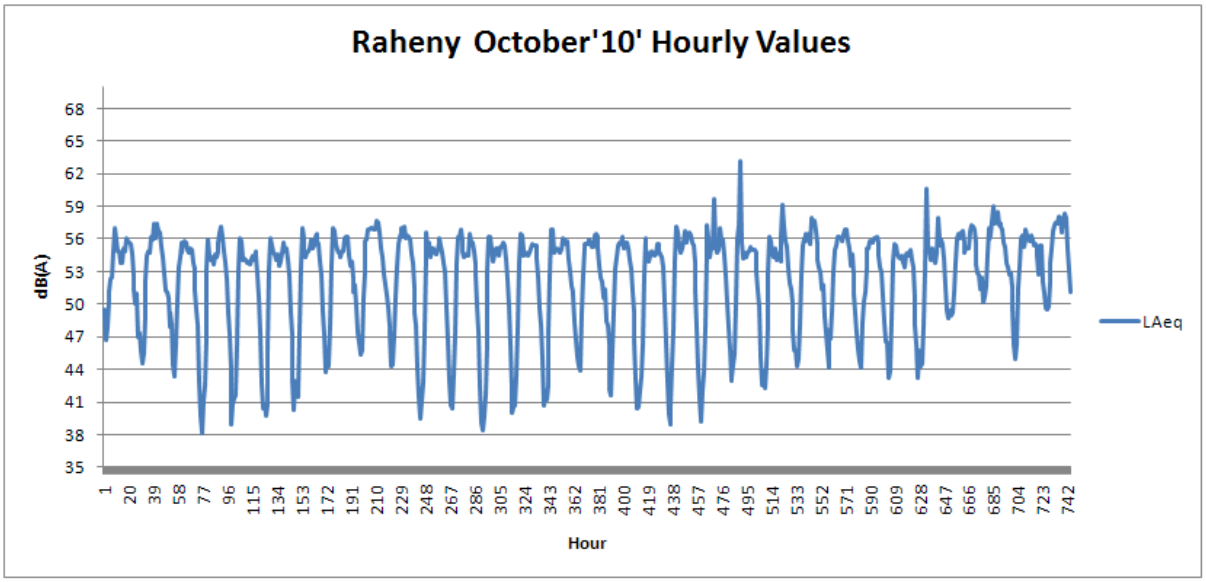
Hour
LAeq


Raheny October'10' Hourly Values
dB(A)
68
65
62
59
56
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50
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44
41
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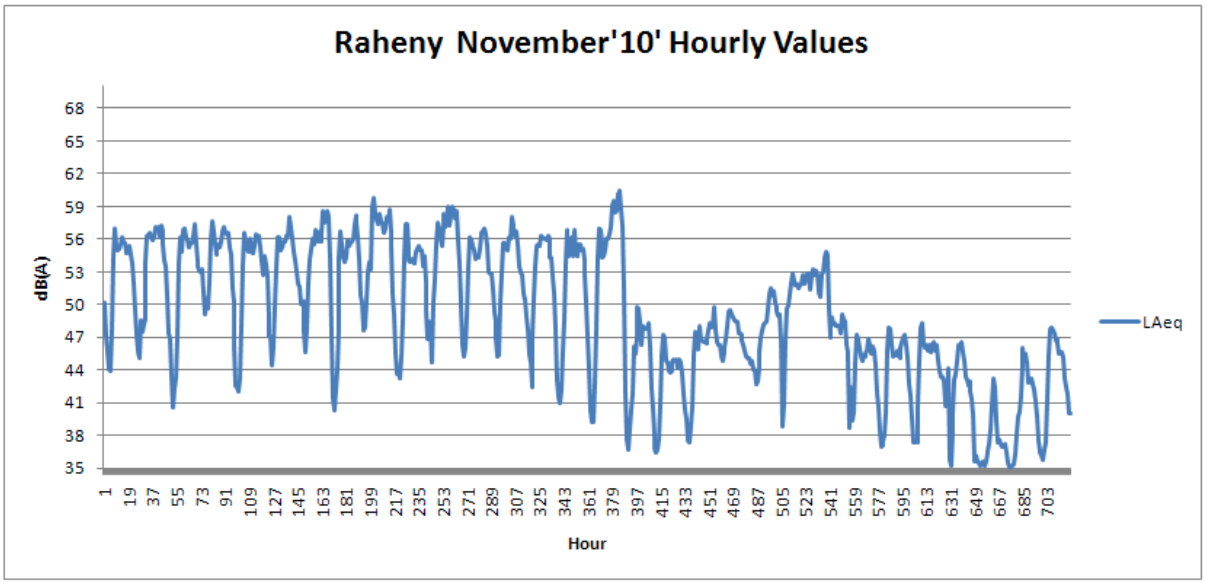
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Raheny November'10' Hourly Values
dB(A)
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62
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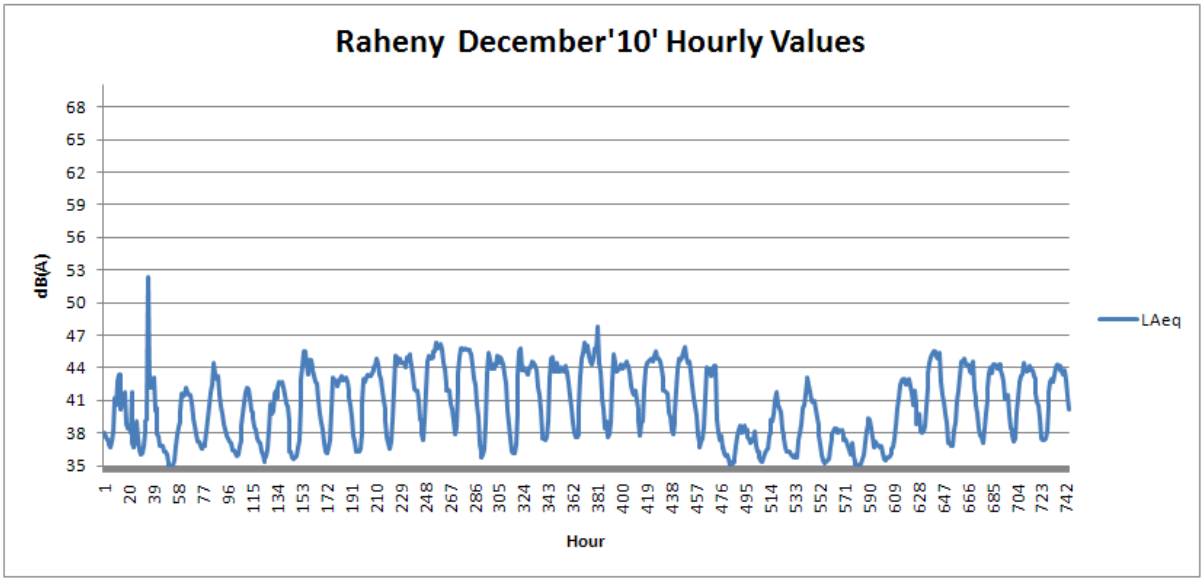
Hour
LAeq


Raheny December'10' Hourly Values
dB(A)
68
65
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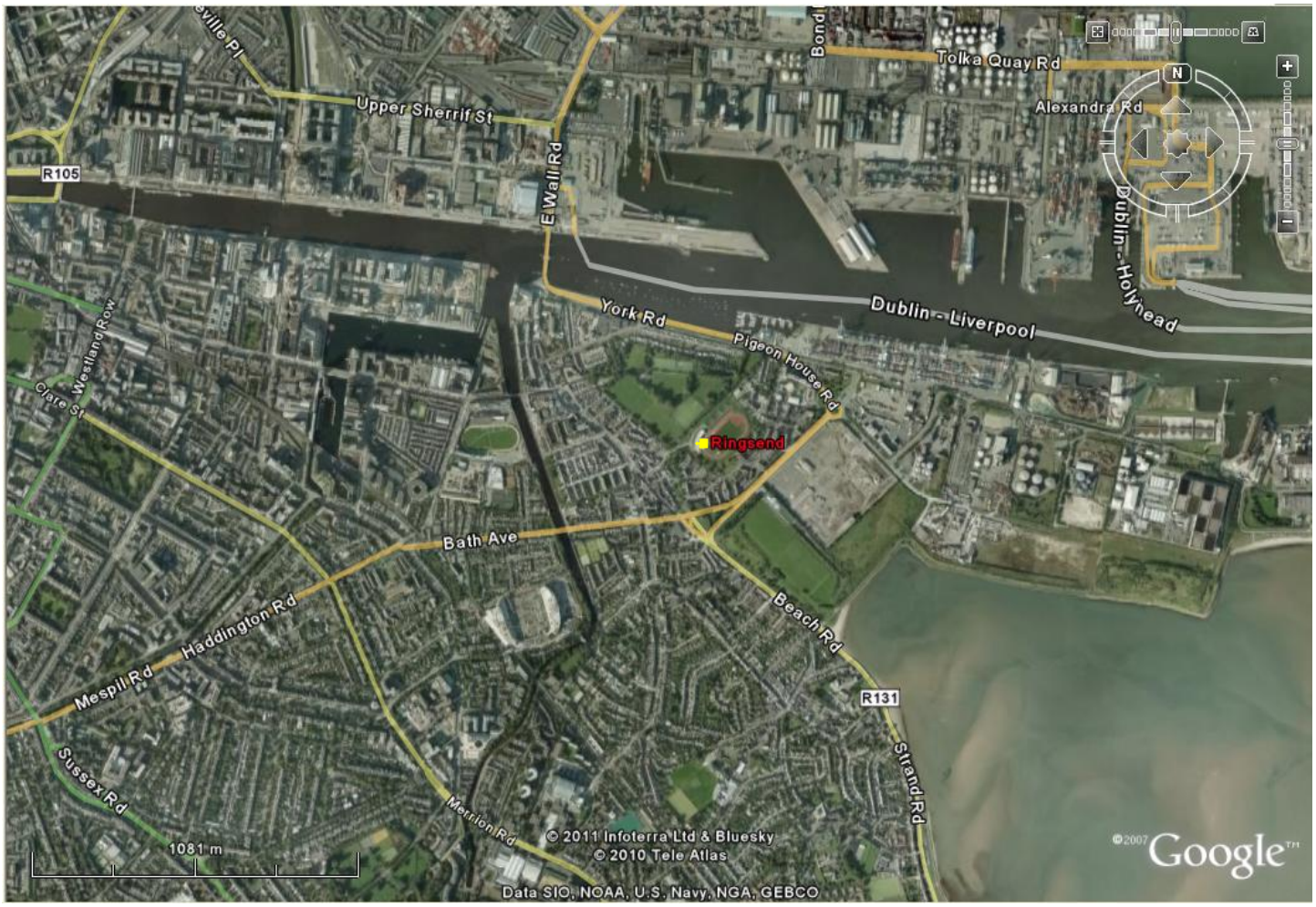
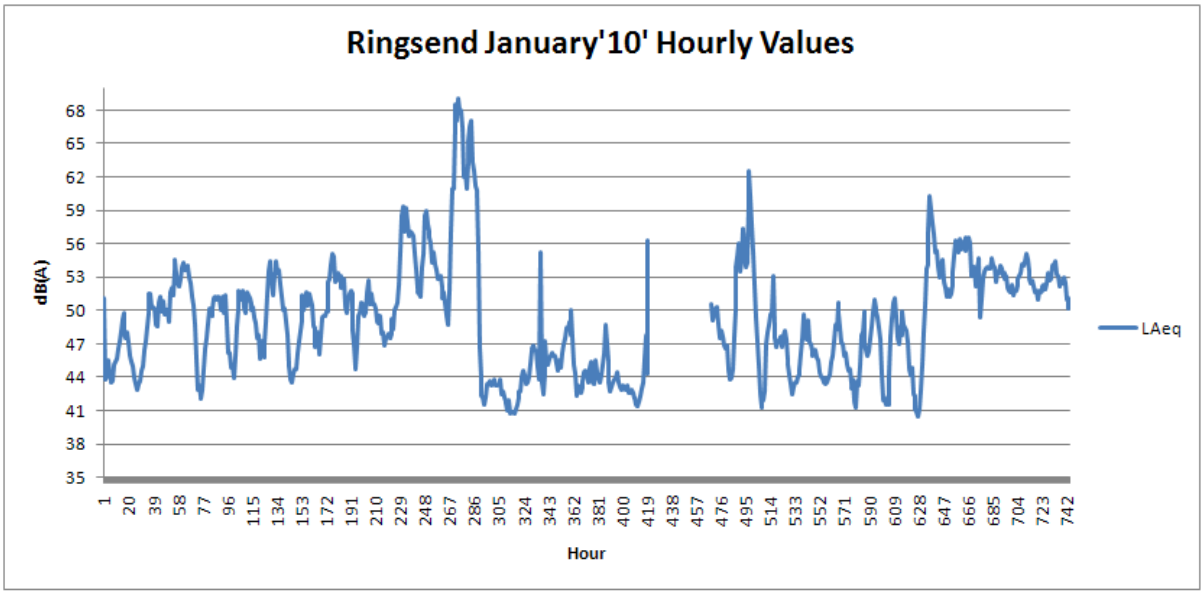
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

IRISHTOWN SPORTS CENTRE

RINGSEND

DUBLIN 4




Ringsend January'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
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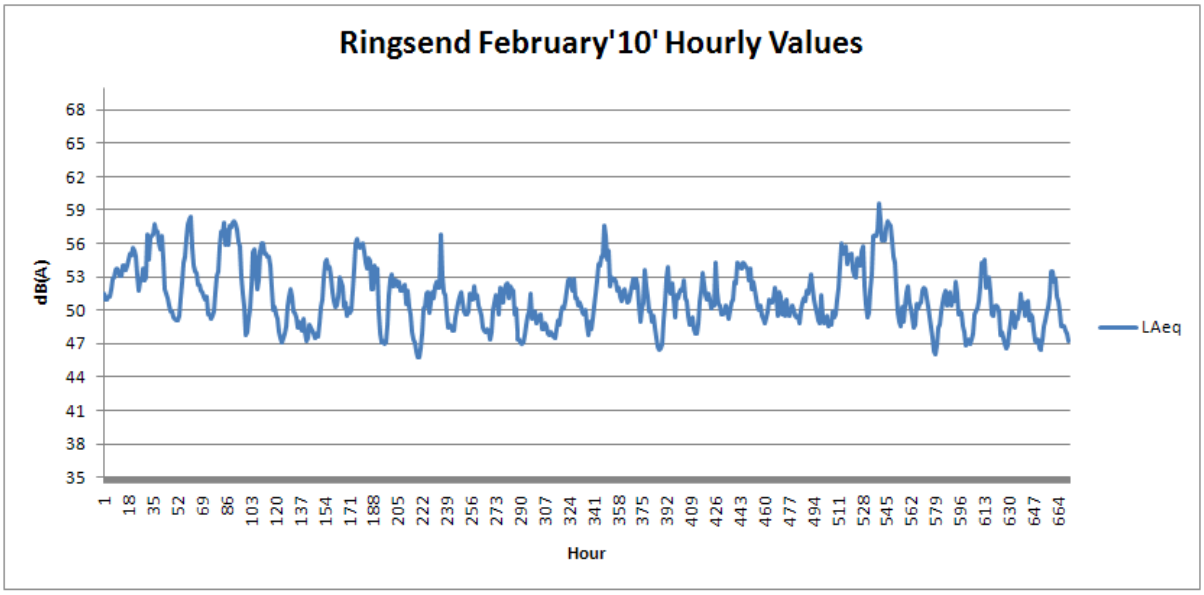
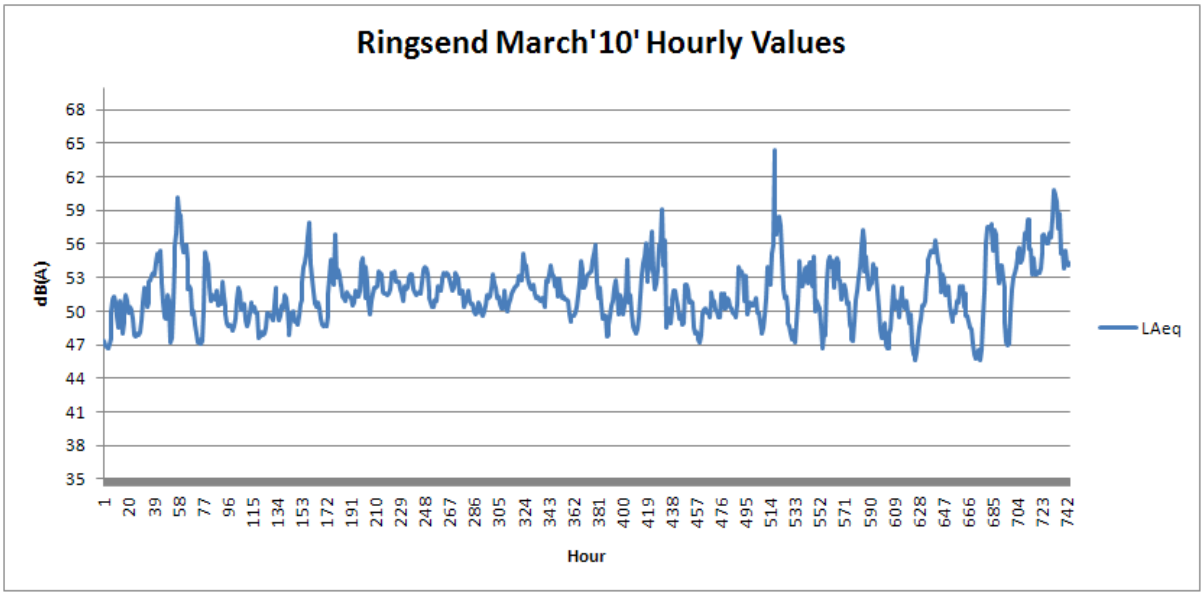
Hour
LAeq


Ringsend February'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 18 35 52 69 86 103 120 137 154 171 188 205 222 239 256 273 290 307 324 341 358 375 392 409 426 443 460 477 494 511 528 545 562 579 596 613 630 647 664
Hour
LAeq


Ringsend March'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
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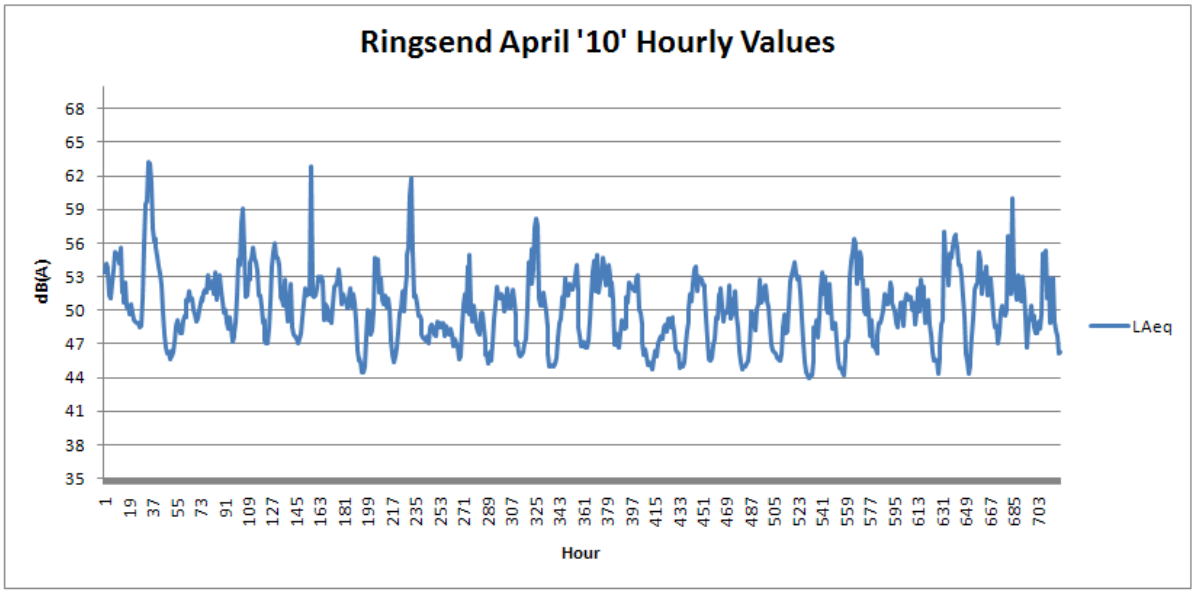
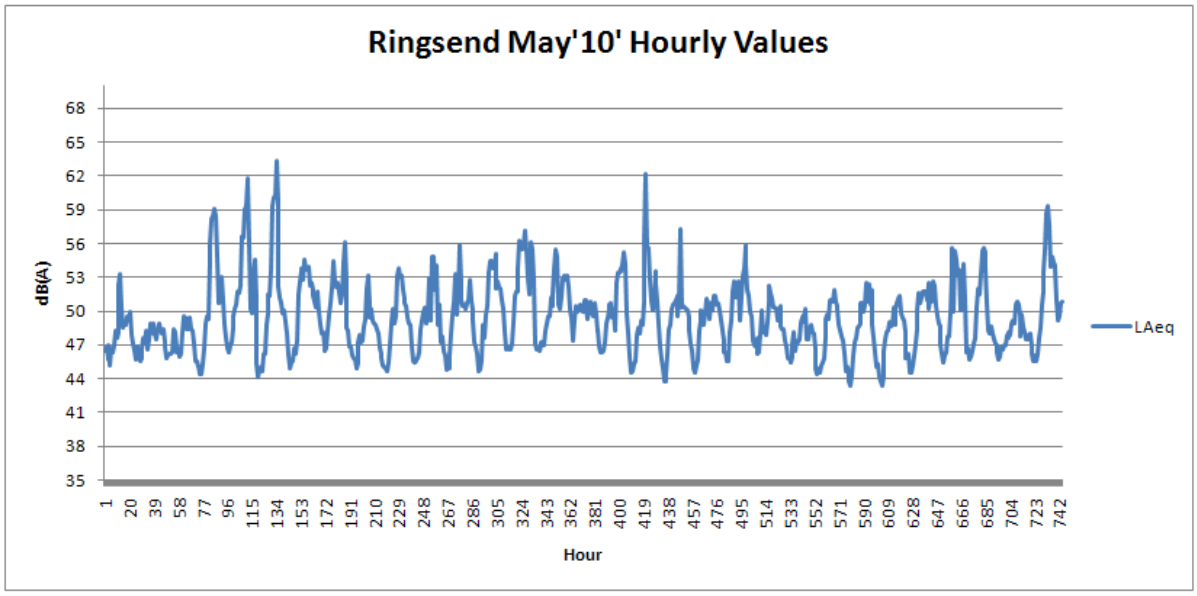
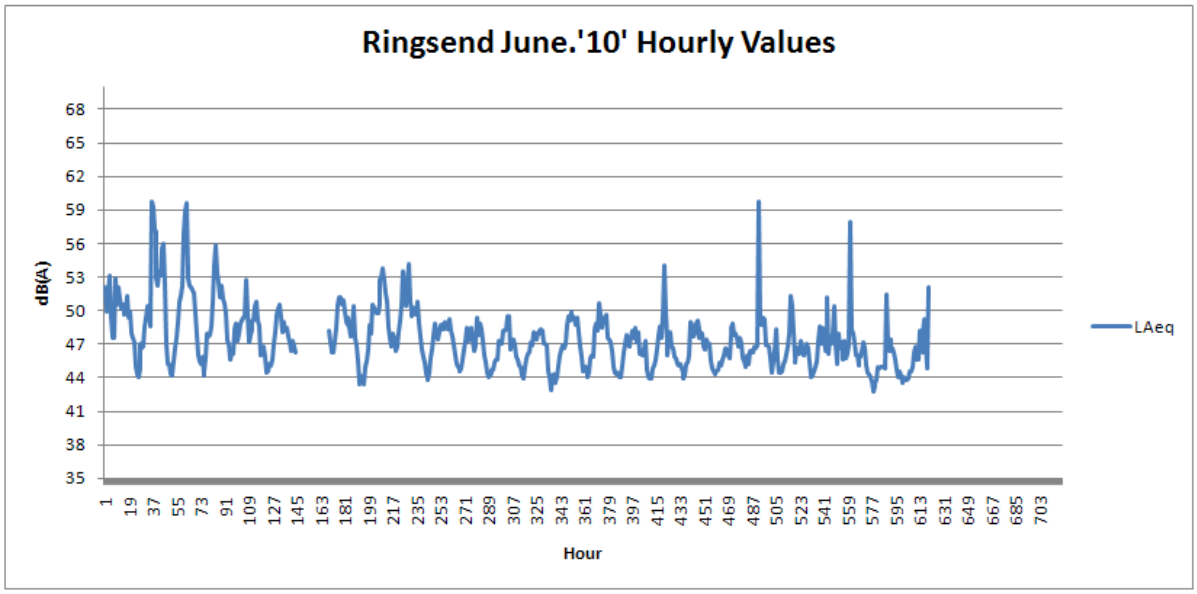
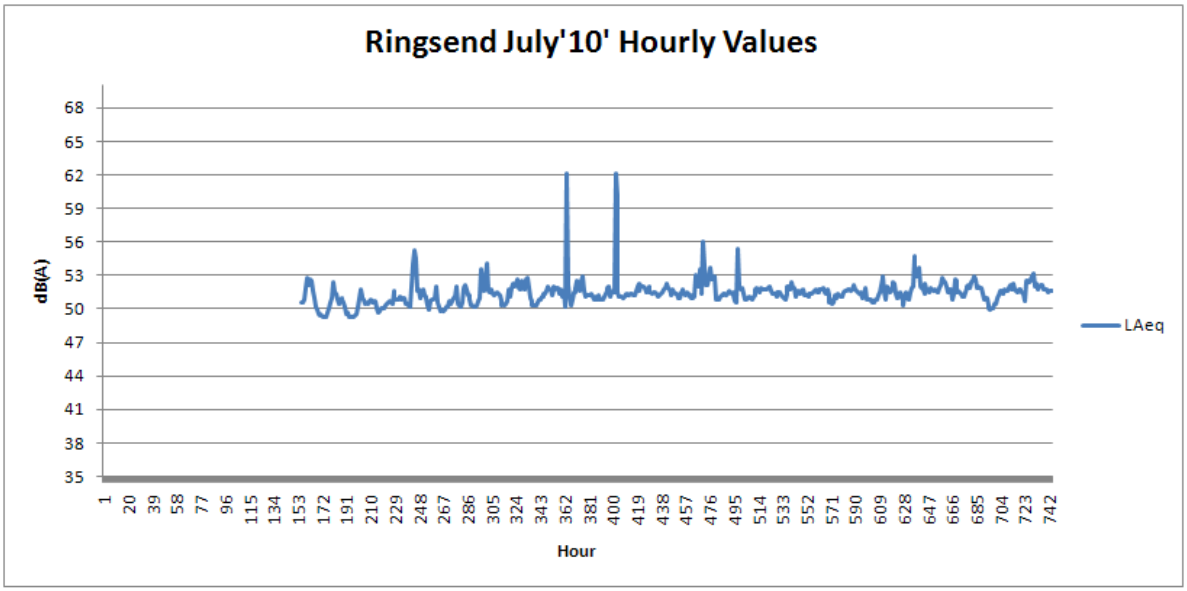
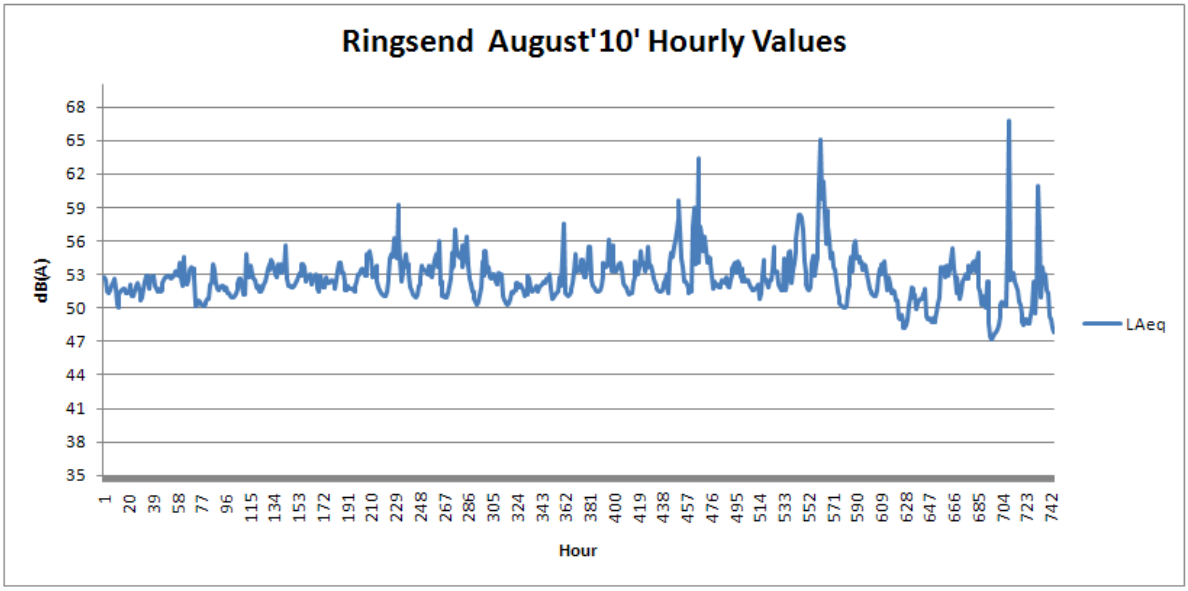
Hour
LAeq

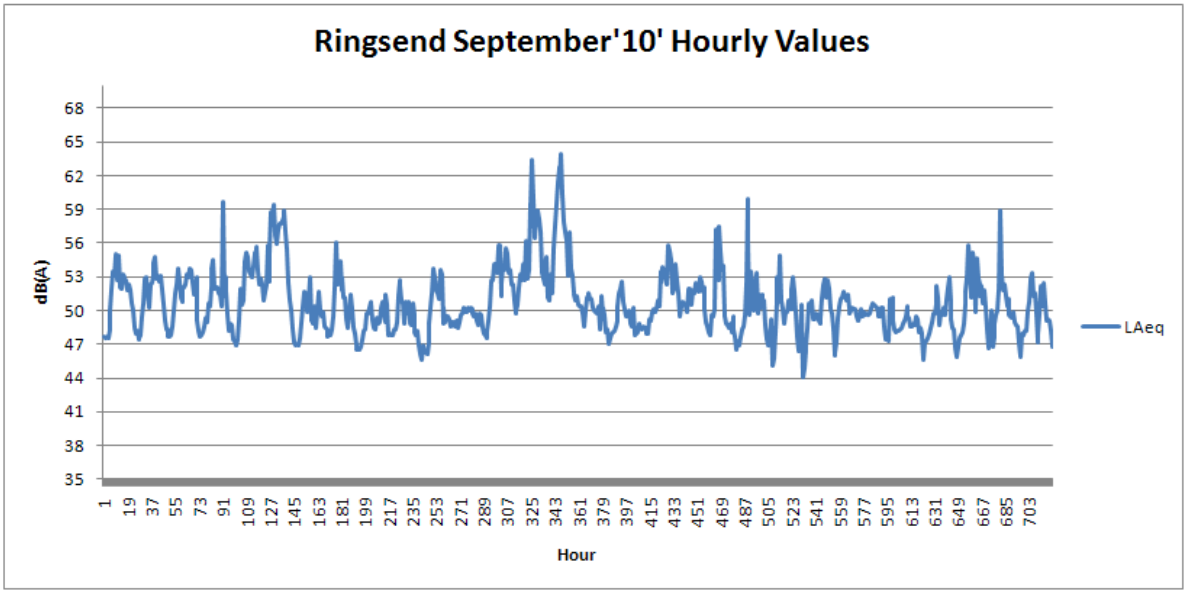

Ringsend April '10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

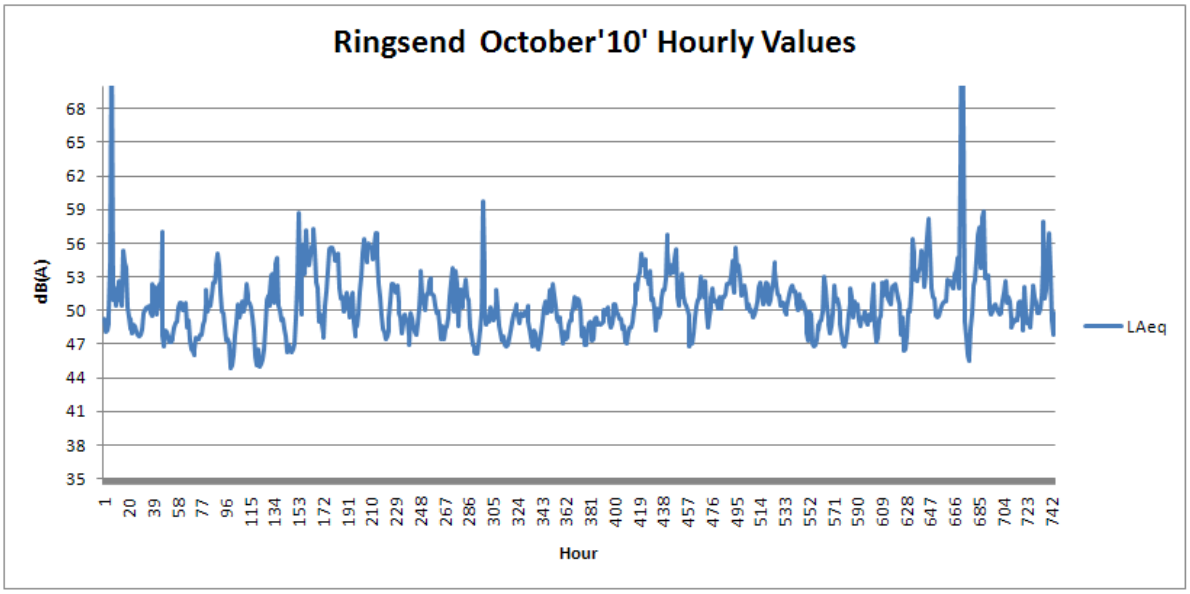

Ringsend May'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

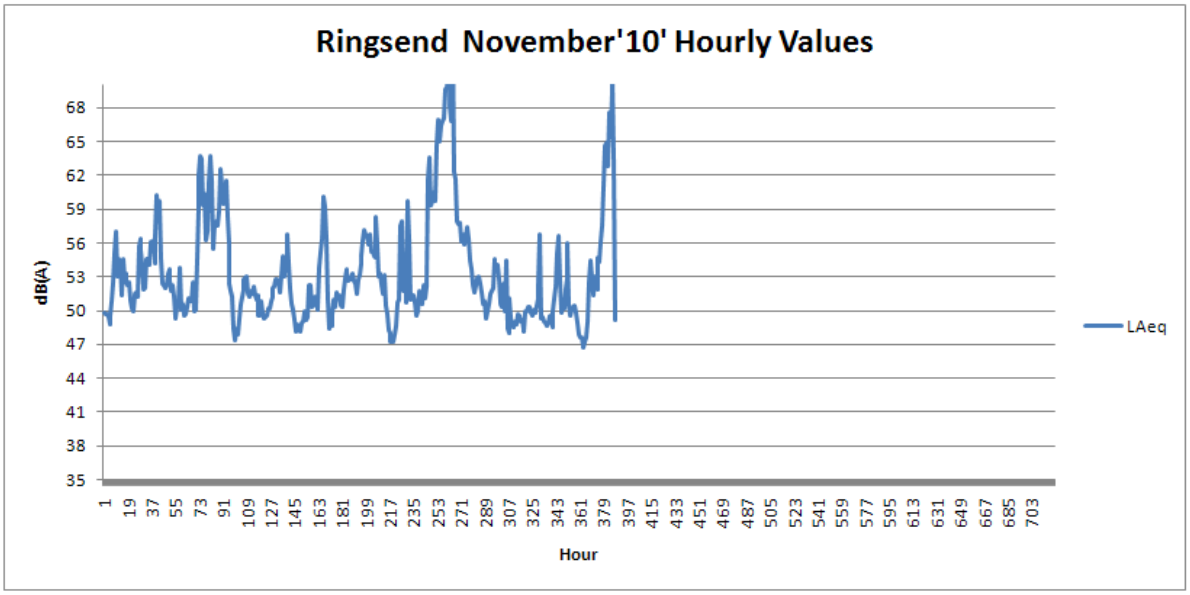

Ringsend June.'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

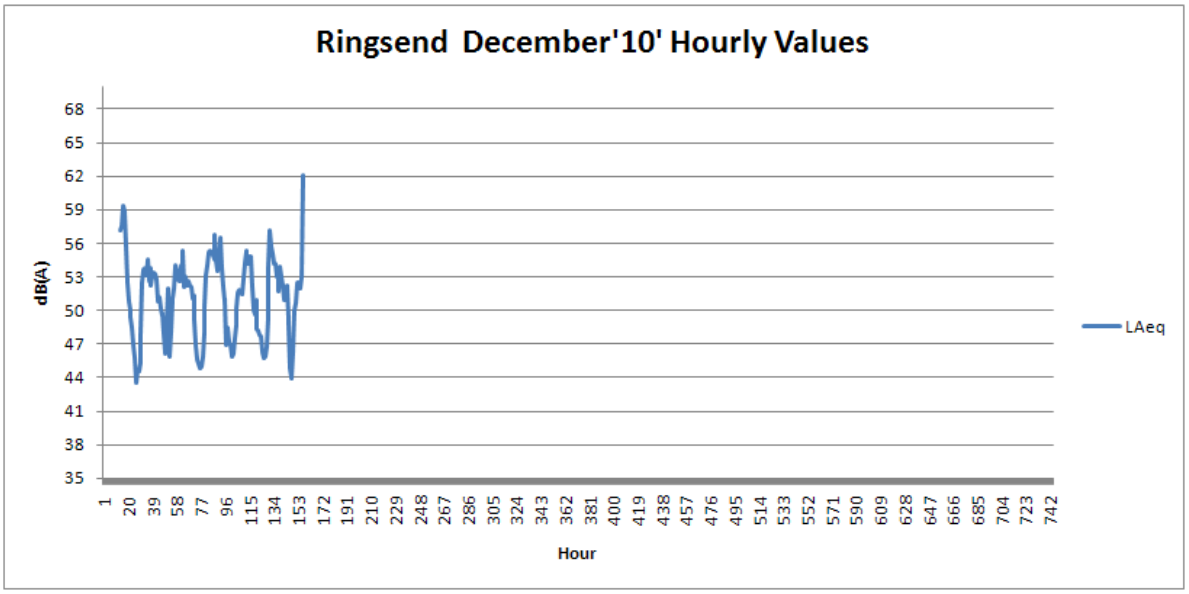

Ringsend July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Ringsend August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Ringsend September'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Ringsend October'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

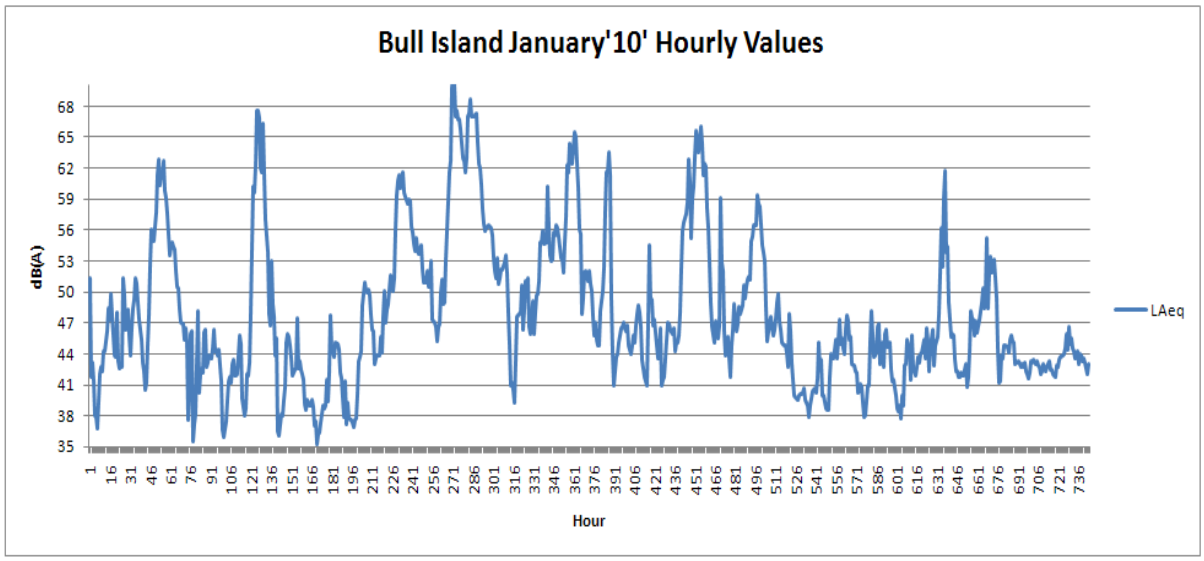

Ringsend November'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

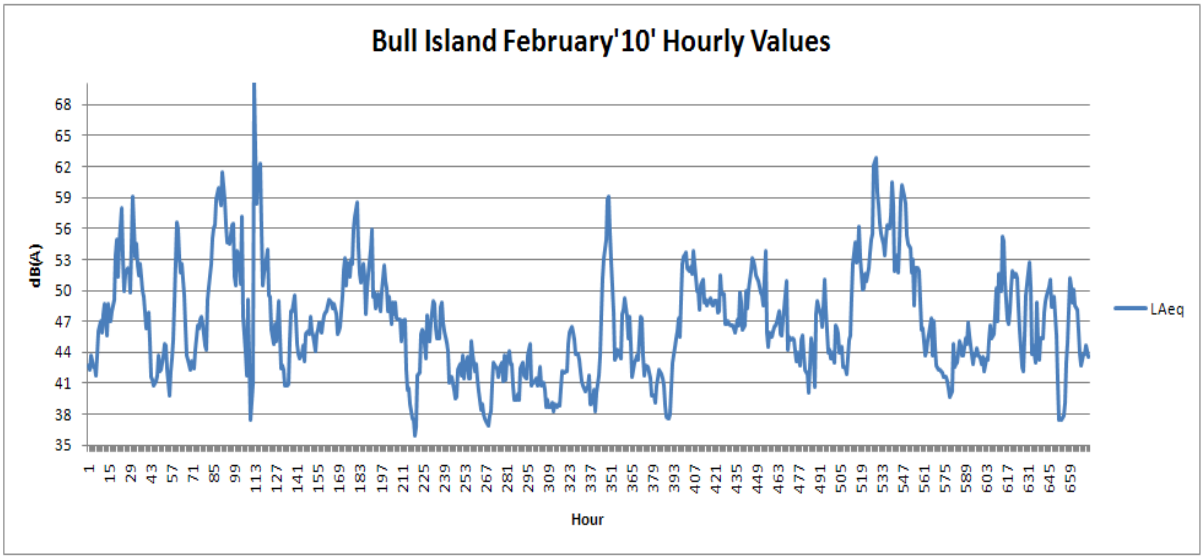

Ringsend December'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq

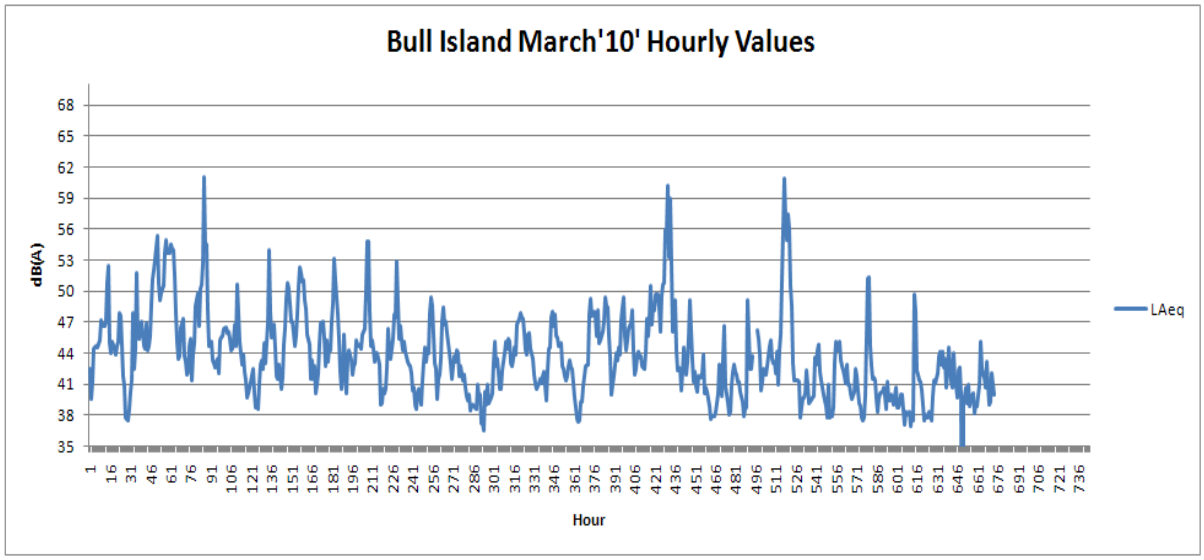
BULL ISLAND INTERPRETATIVE CENTRE

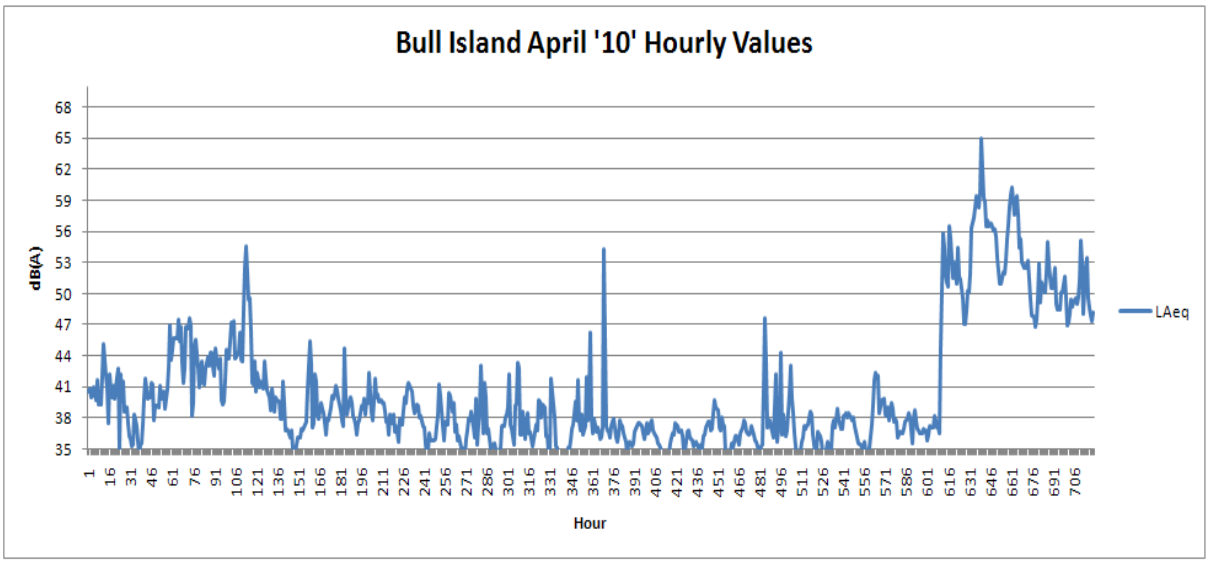
BULL ISLAND

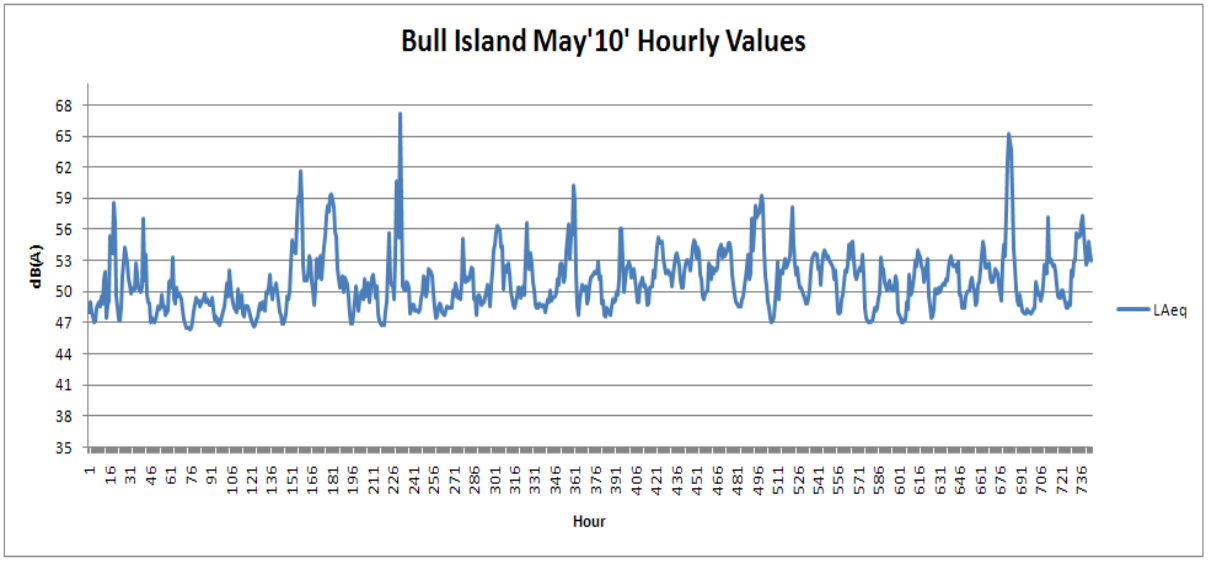
DUBLIN 3

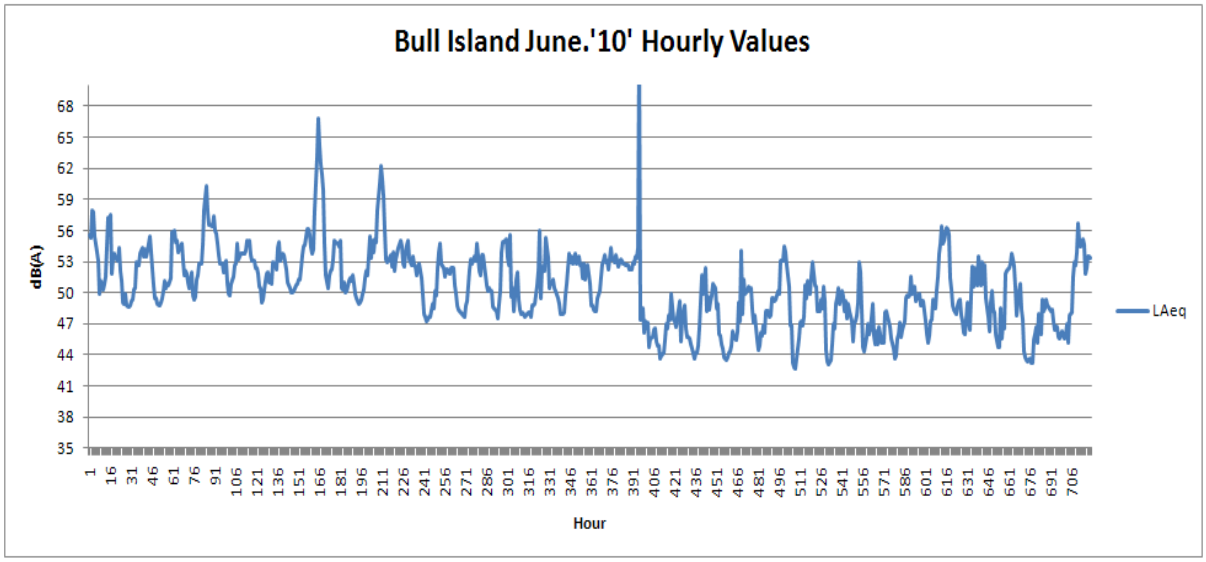

Bull Island January'10' Hourly Values
dB(A)
Hour
LAeq

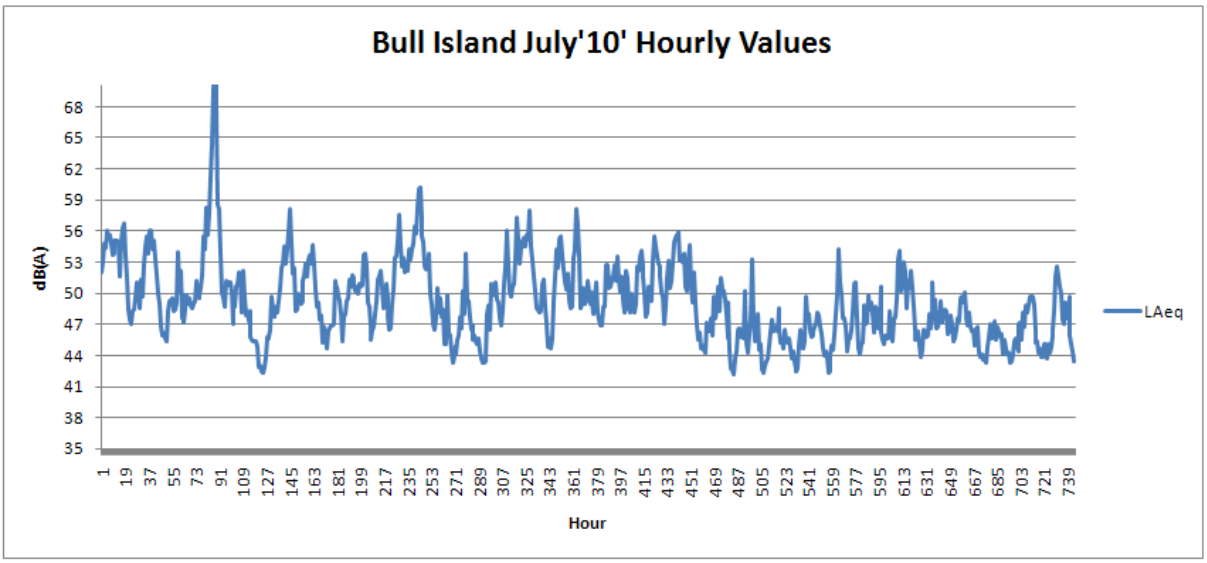

Bull Island February'10' Hourly Values
dB(A)
Hour
LAeq

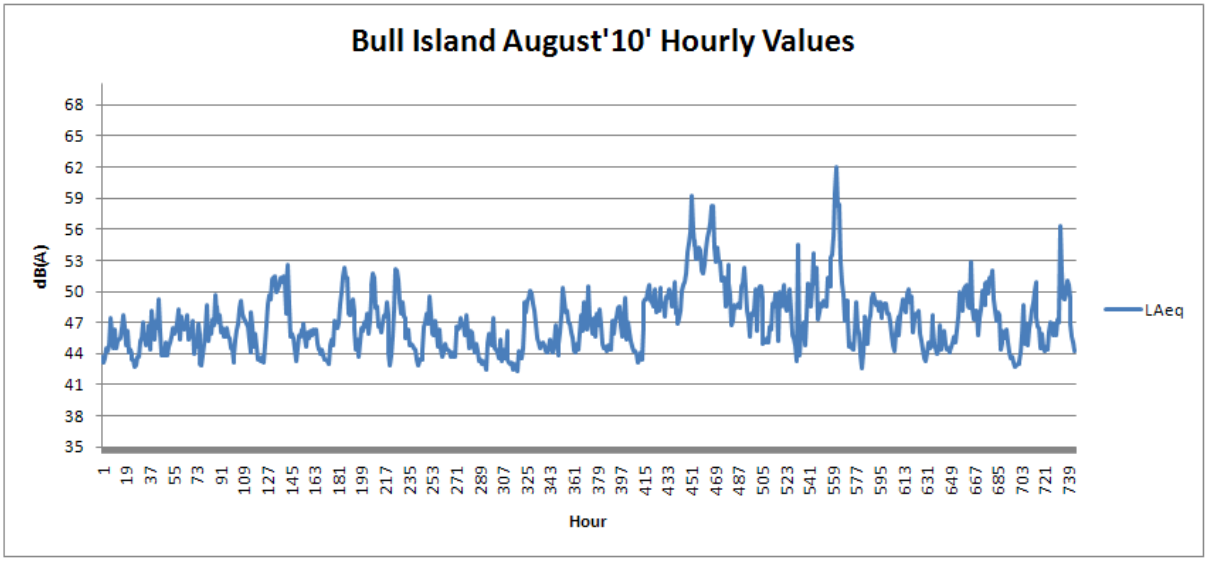

Bull Island March'10' Hourly Values
dB(A)
Hour
LAeq

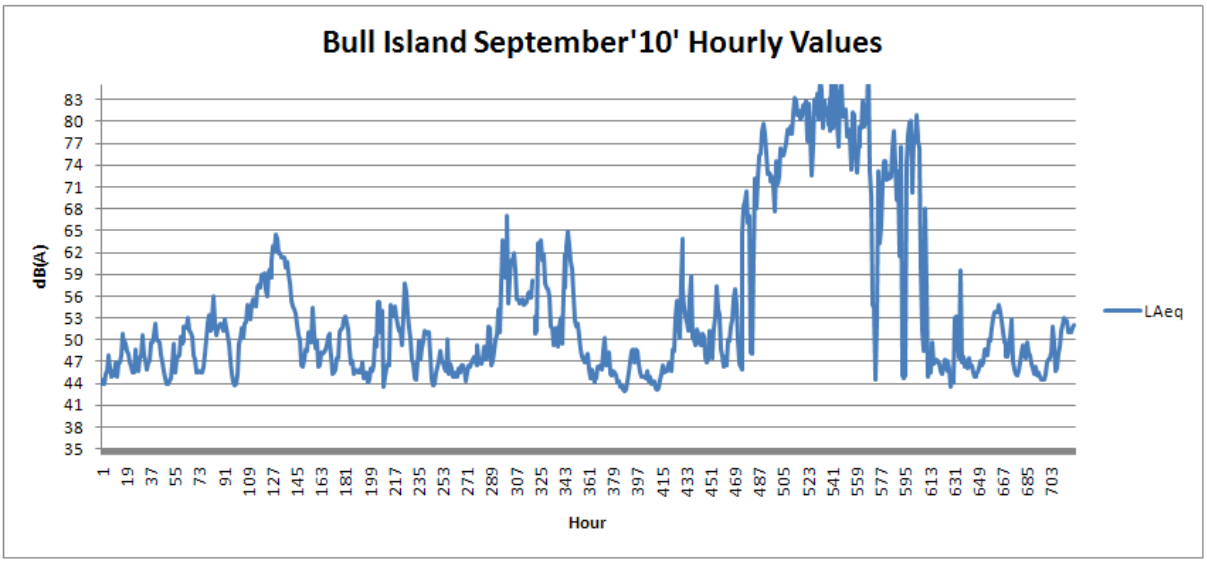

Bull Island April '10' Hourly Values
dB(A)
Hour
LAeq

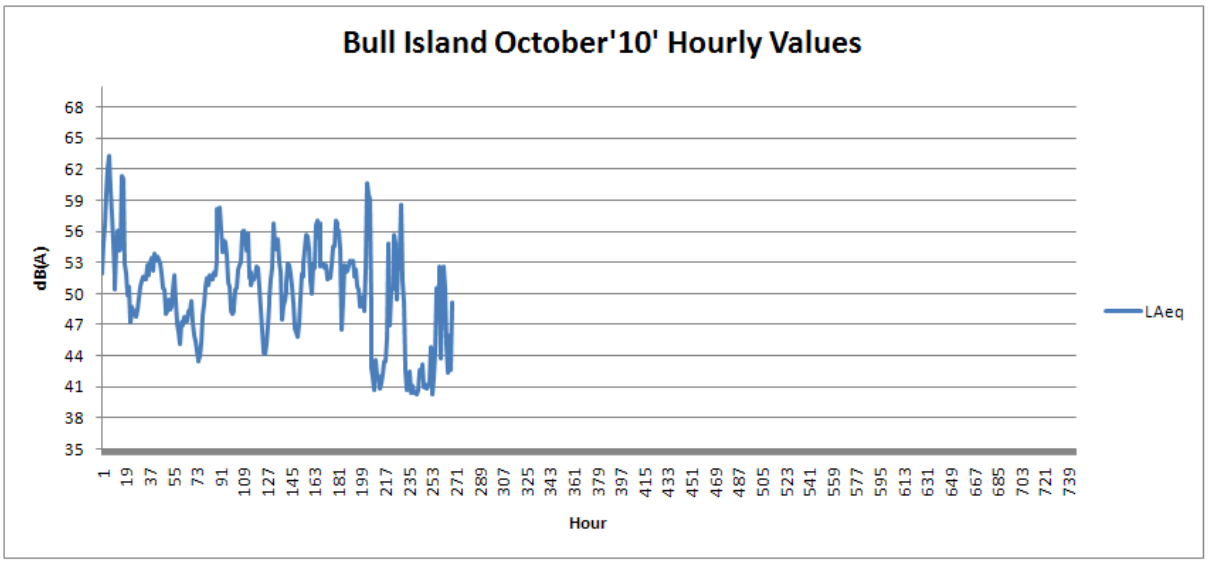

Bull Island May'10' Hourly Values
dB(A)
Hour
LAeq

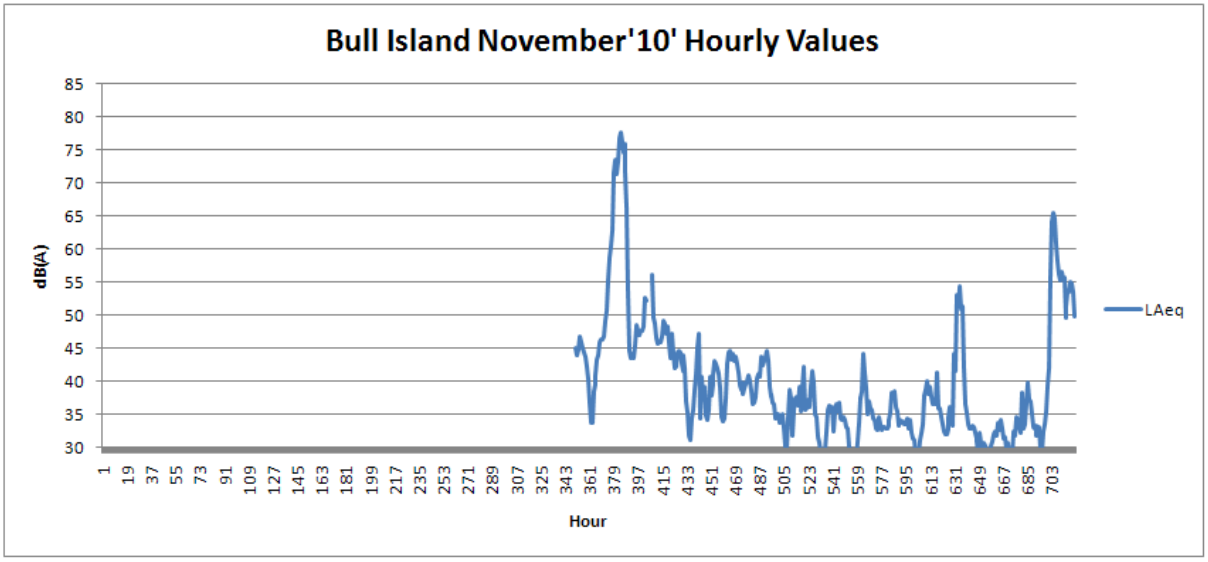

Bull Island June.'10' Hourly Values
dB(A)
Hour
LAeq

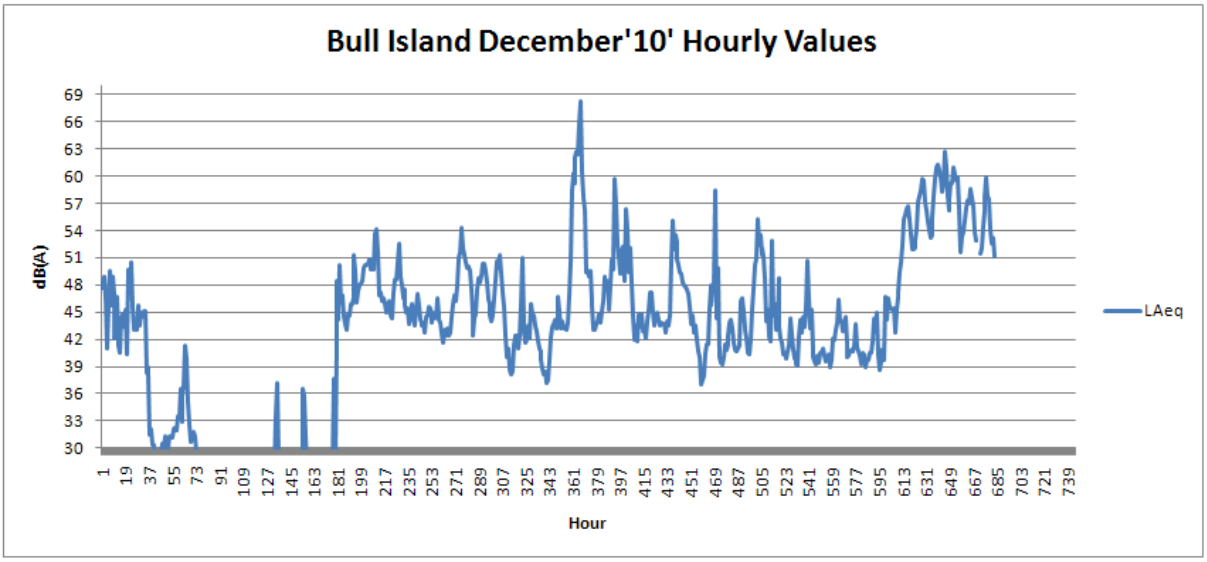

Bull Island July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq


Bull Island August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq


Bull Island September'10' Hourly Values
dB(A)
83
80
77
74
71
68
65
62
59
56
53
50
47
44
41
38
35
Hour
LAeq


Bull Island October'10' Hourly Values
dB(A)
Hour
LAeq

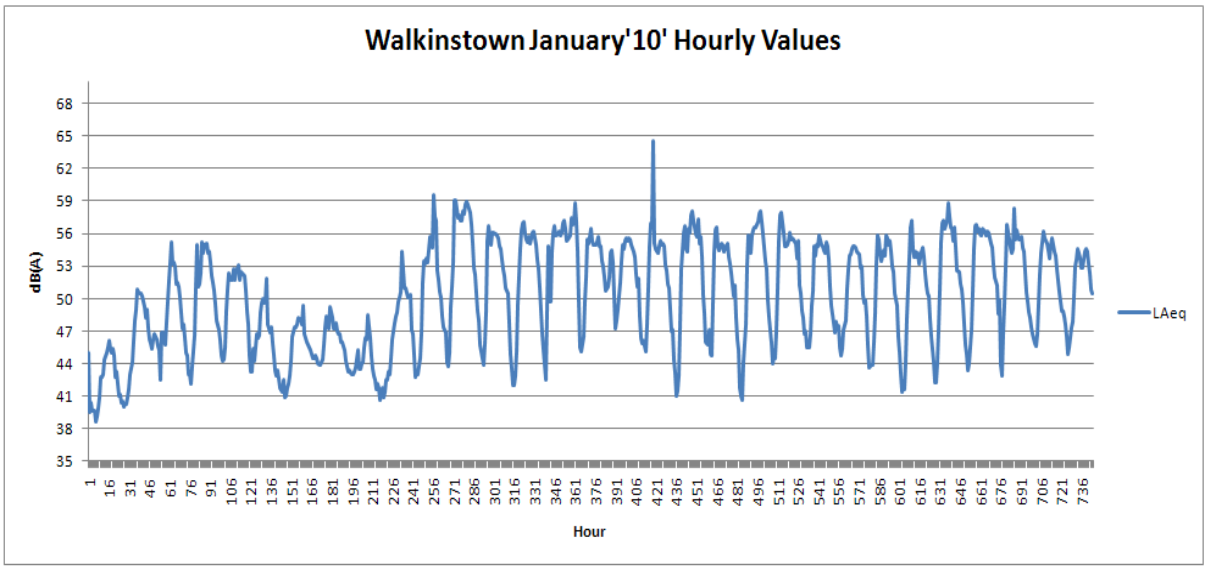

Bull Island November'10' Hourly Values
dB(A)
Hour
LAeq

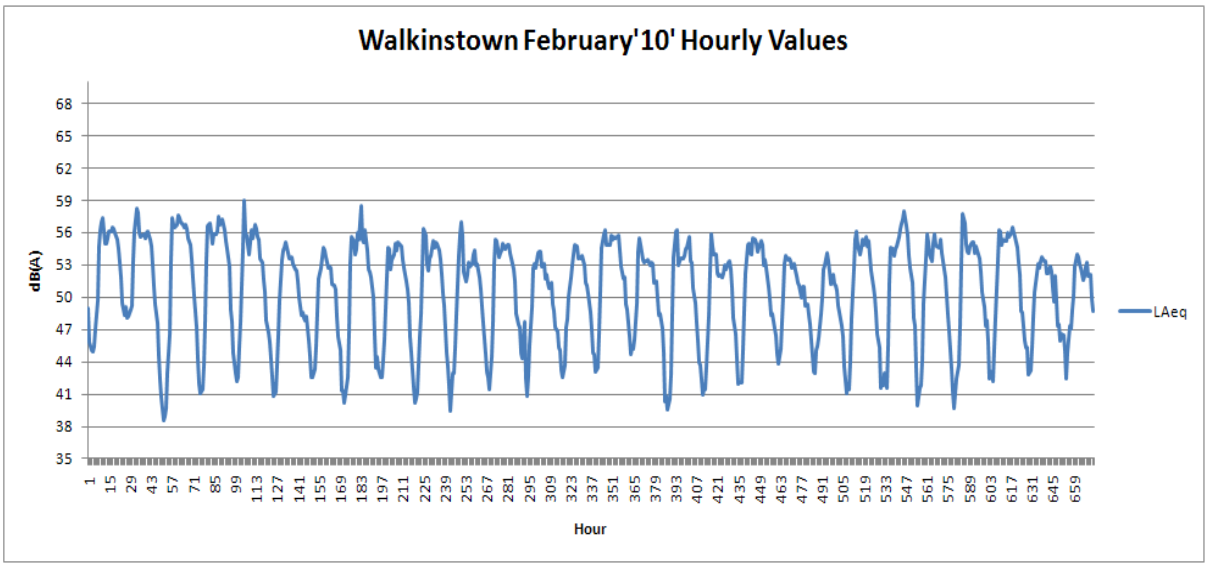

Bull Island December'10' Hourly Values
dB(A)
Hour
LAeq

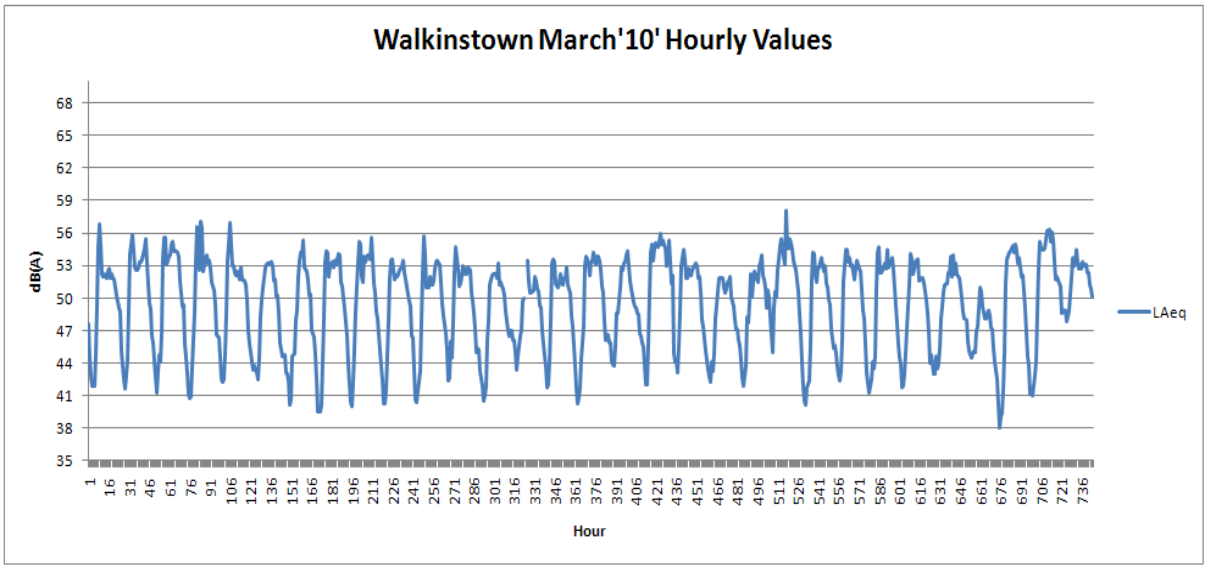
WALKINSTOWN LIBRARY

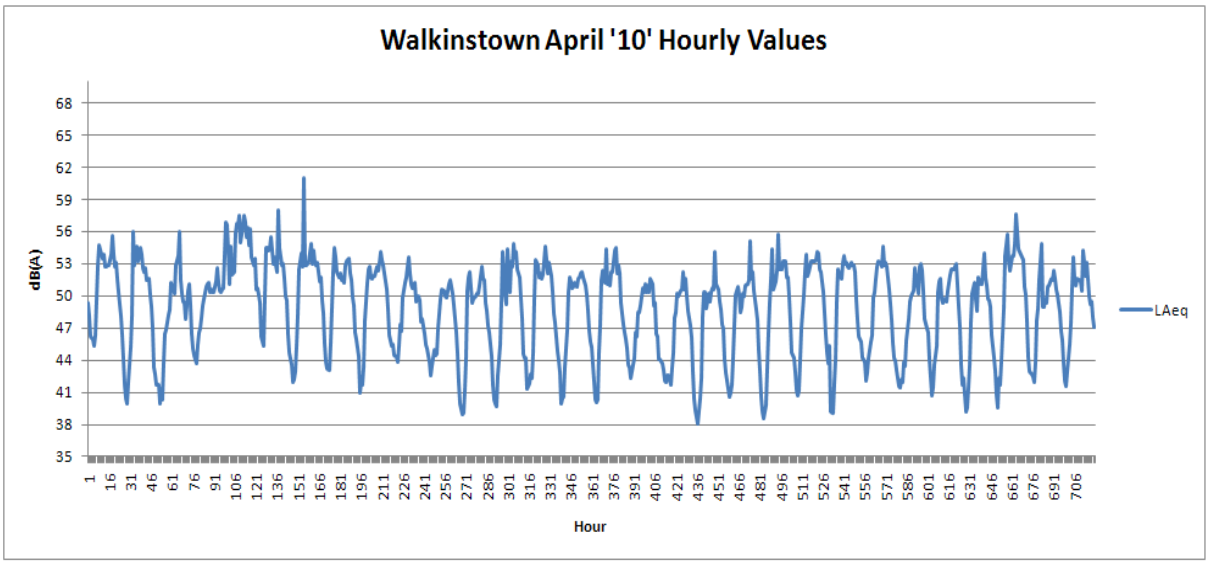
PERCY FRENCH ROAD

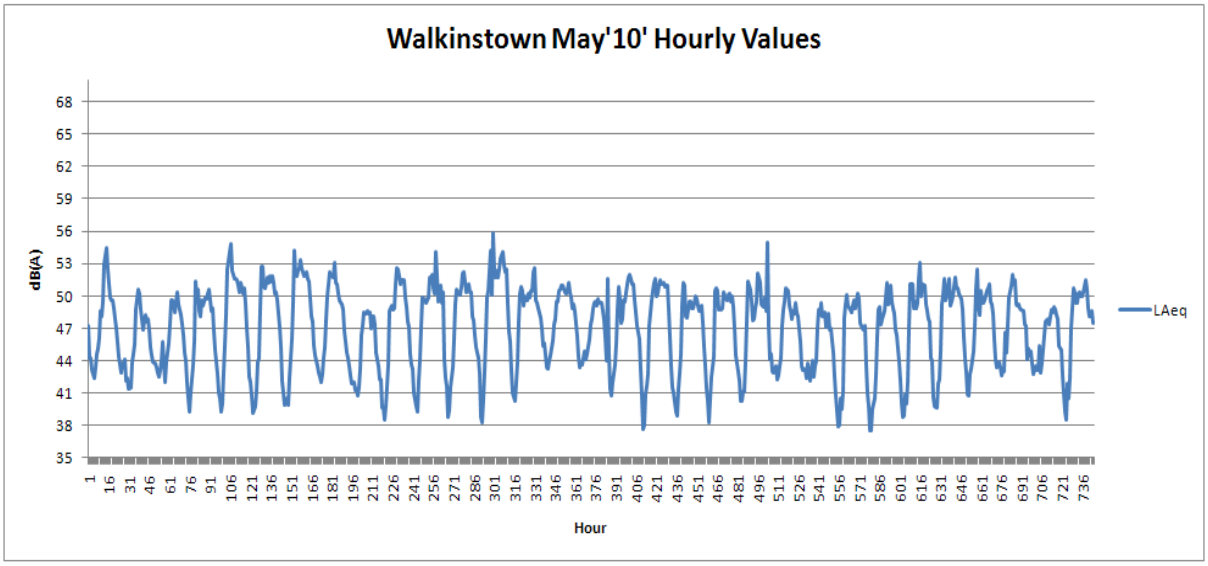
DUBLIN 12

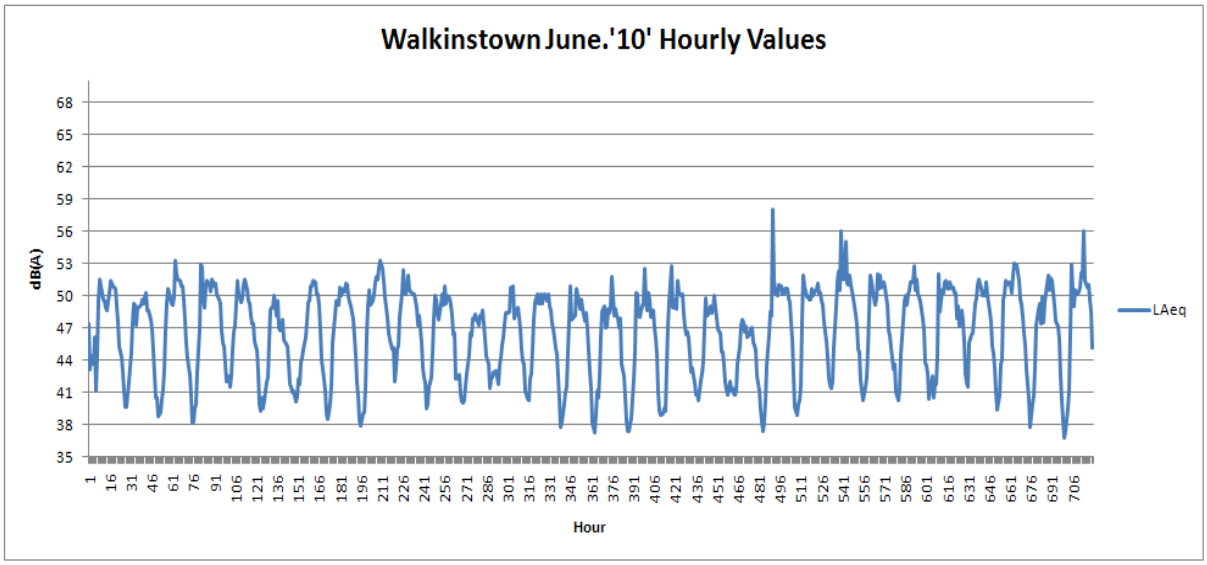

Walkinstown January'10' Hourly Values
dB(A)
Hour
LAeq

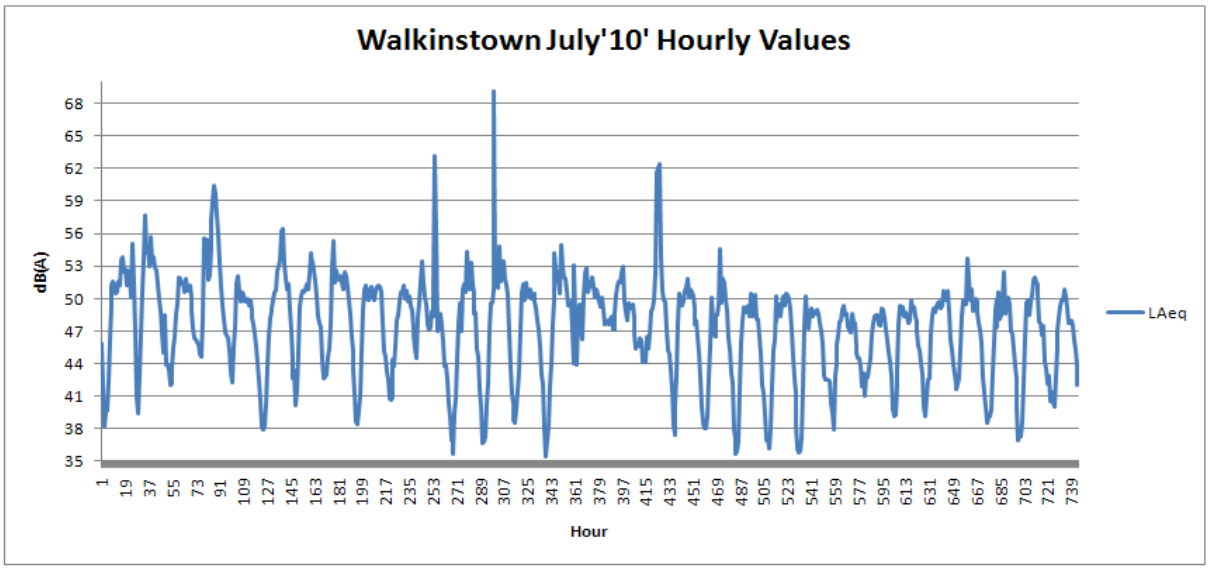

Walkinstown February'10' Hourly Values
dB(A)
Hour
LAeq

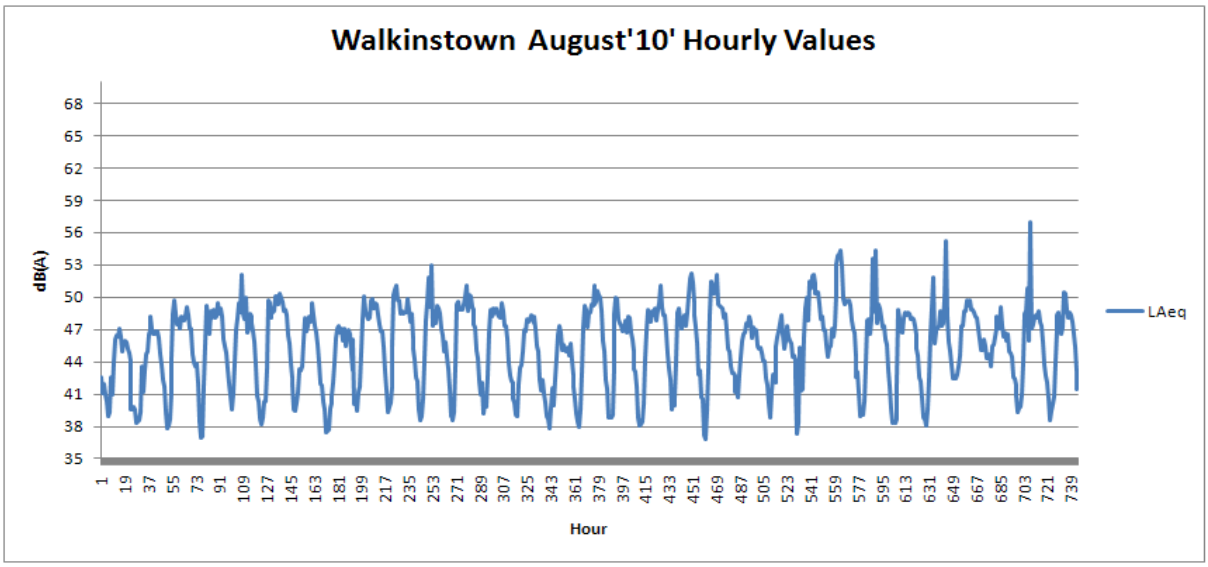

Walkinstown March'10' Hourly Values
dB(A)
Hour
LAeq

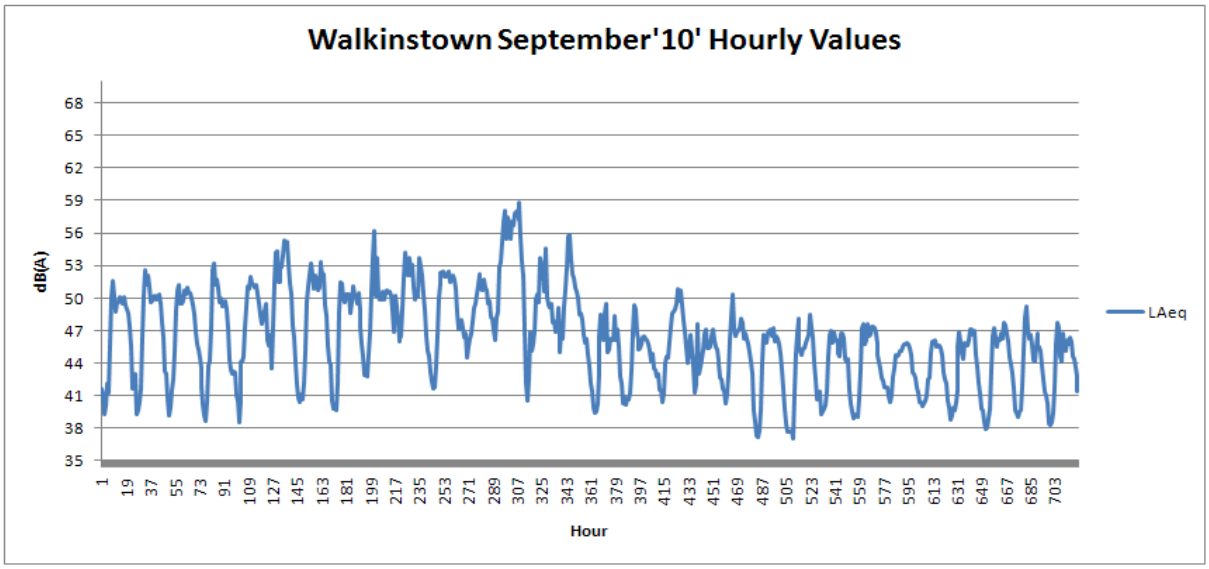

Walkinstown April '10' Hourly Values
dB(A)
Hour
LAeq

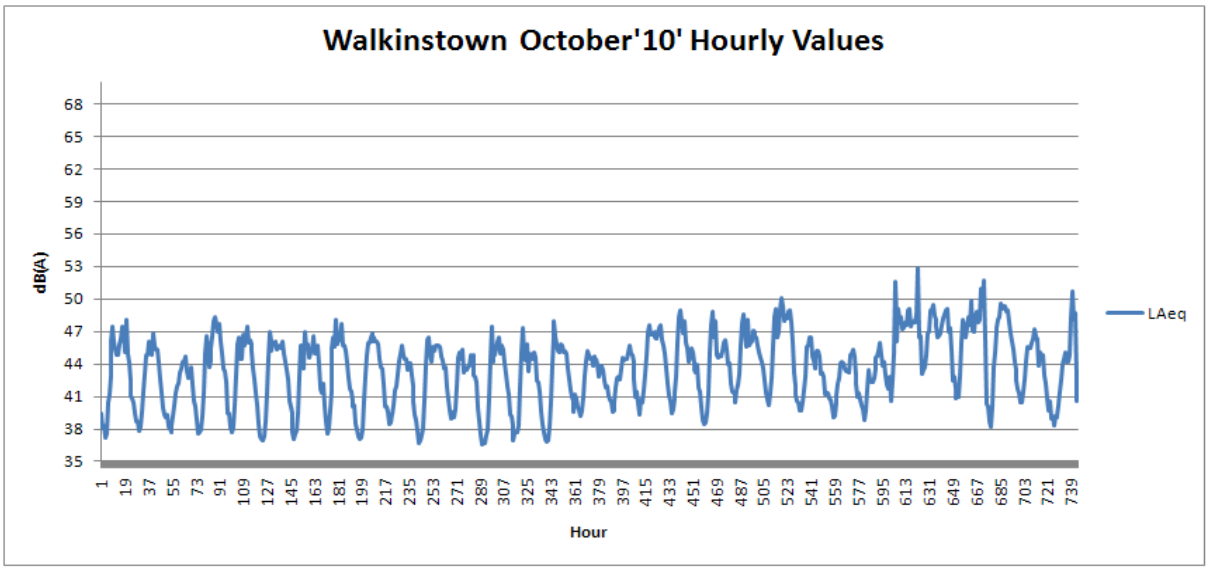

Walkinstown May'10' Hourly Values
dB(A)
Hour
LAeq

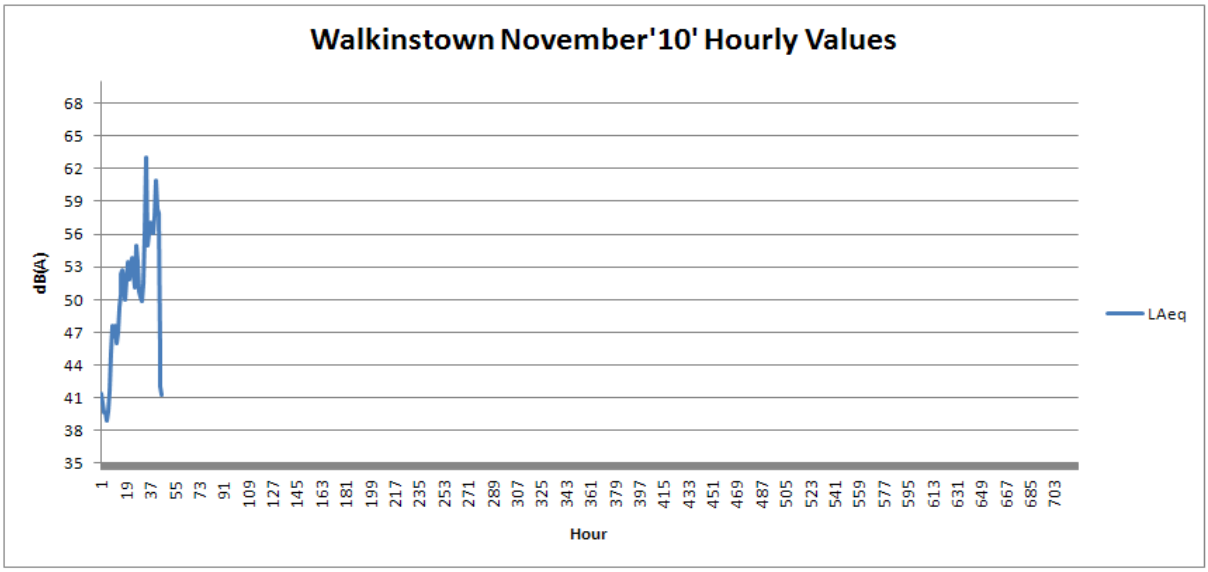

Walkinstown June.'10' Hourly Values
dB(A)
Hour
LAeq

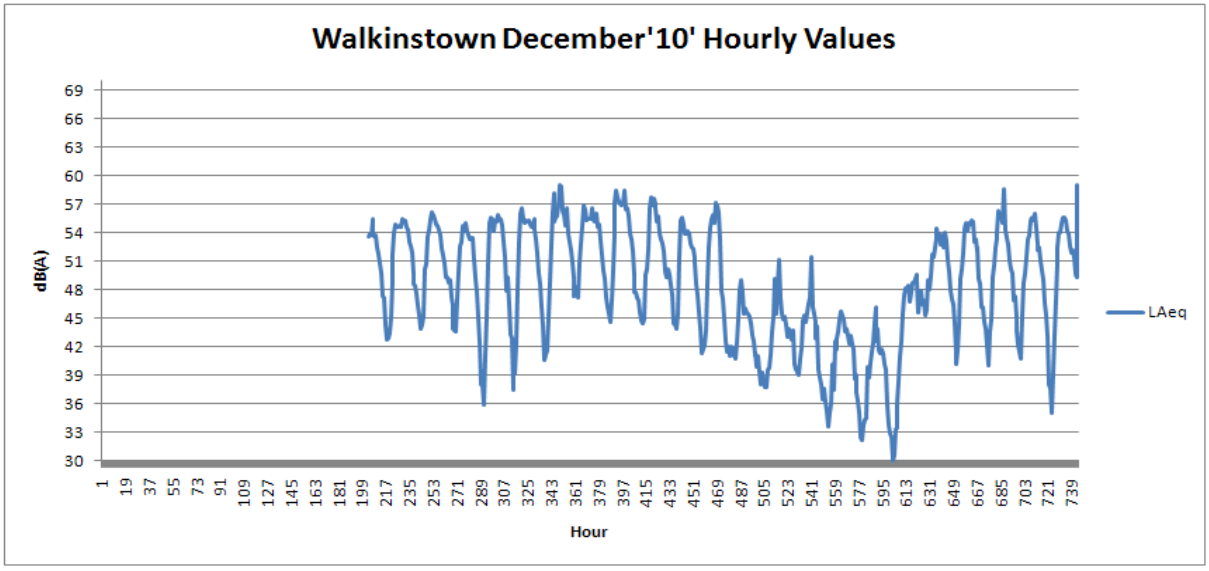

Walkinstown July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq


Walkinstown August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq


Walkinstown September'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Walkinstown October'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq

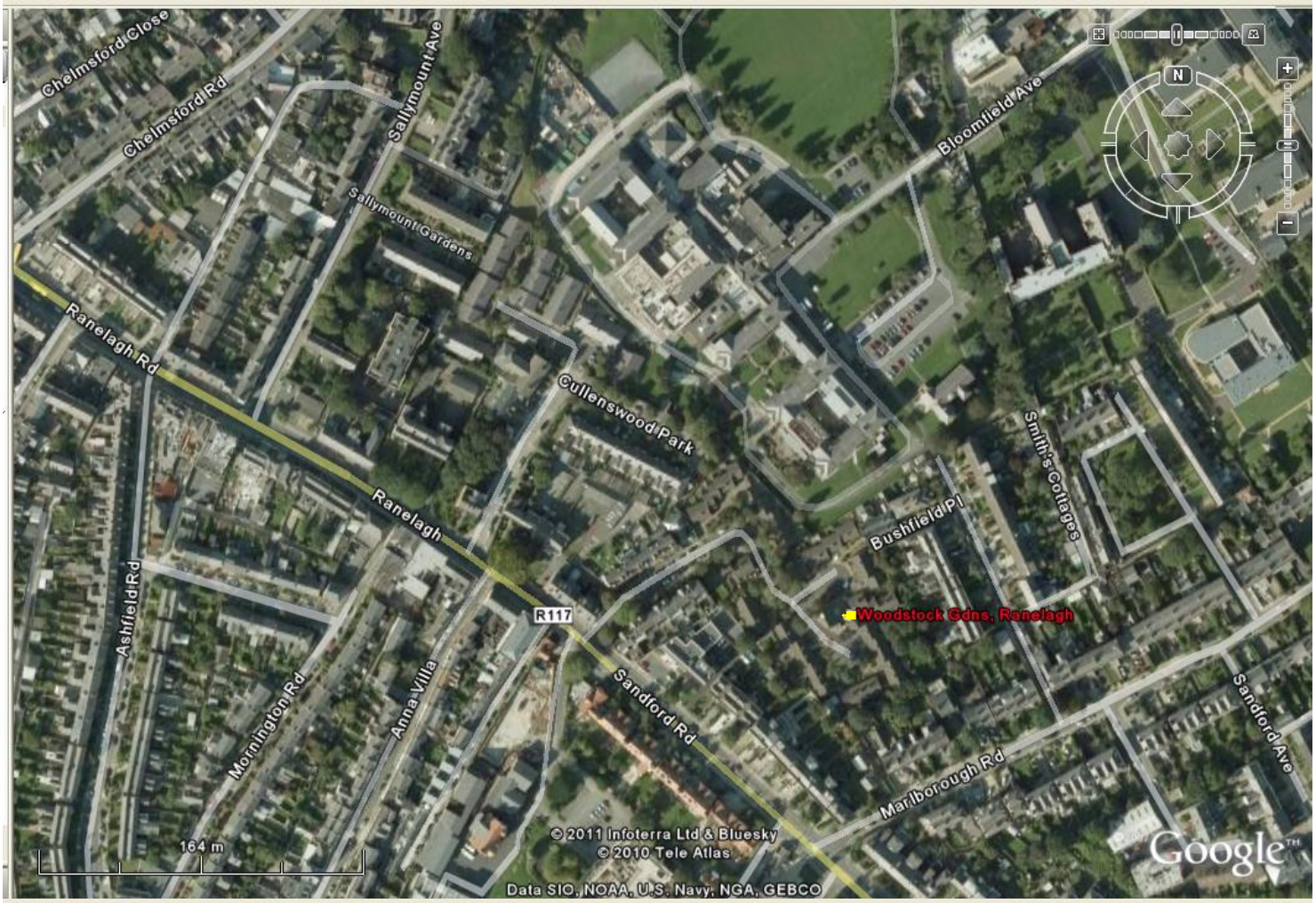

Walkinstown November'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq

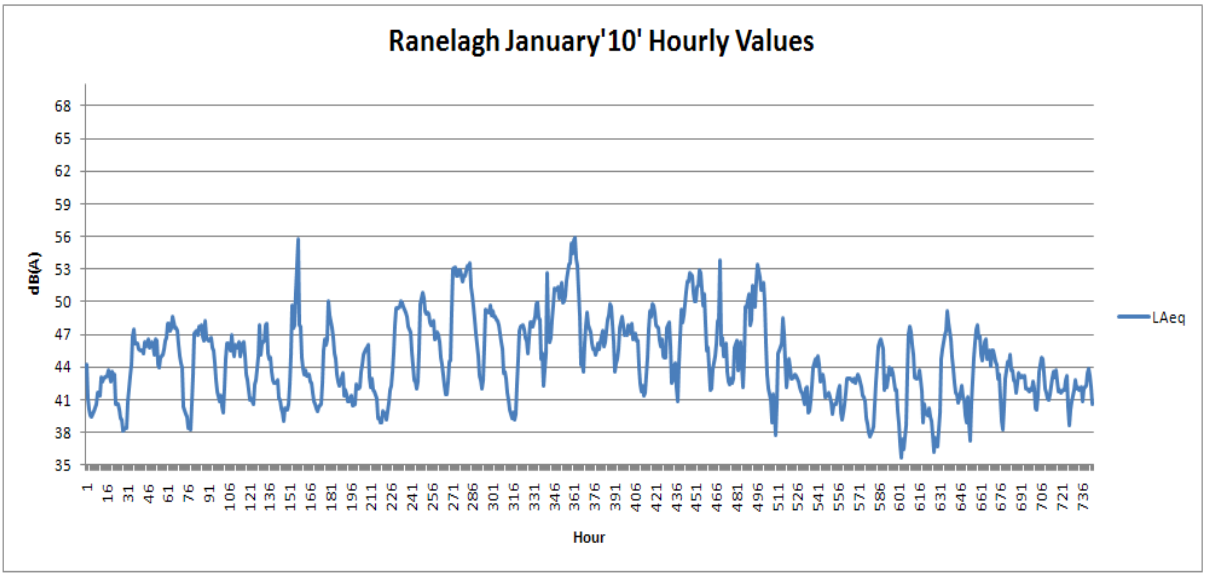

Walkinstown December'10' Hourly Values
dB(A)
69
66
63
60
57
54
51
48
45
42
39
36
33
30
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq

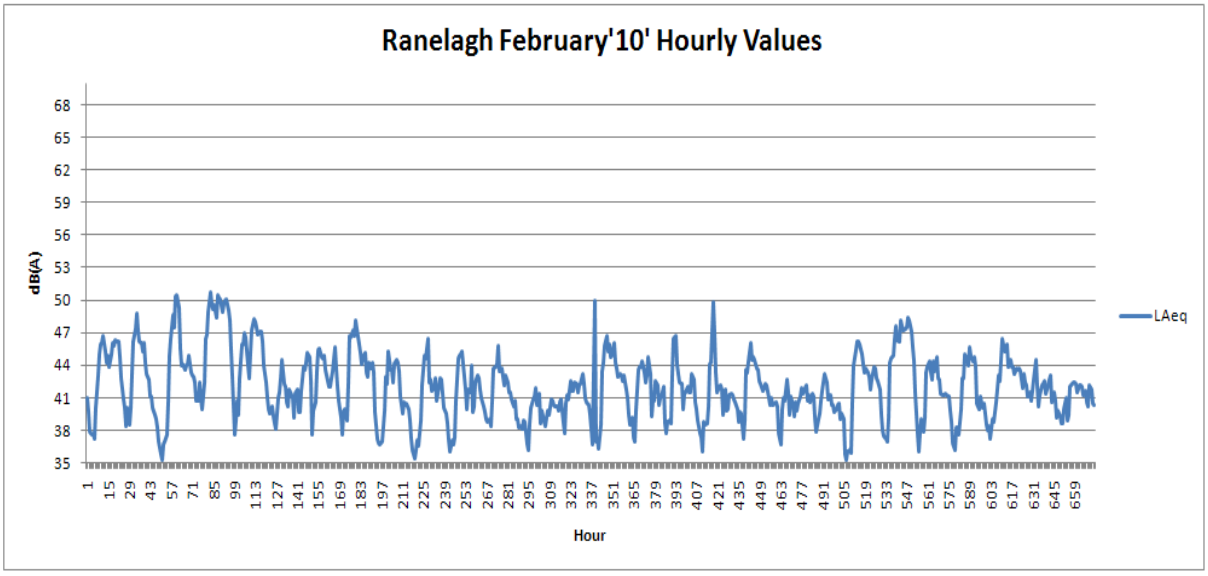
WOODSTOCK STOCK GARDENS

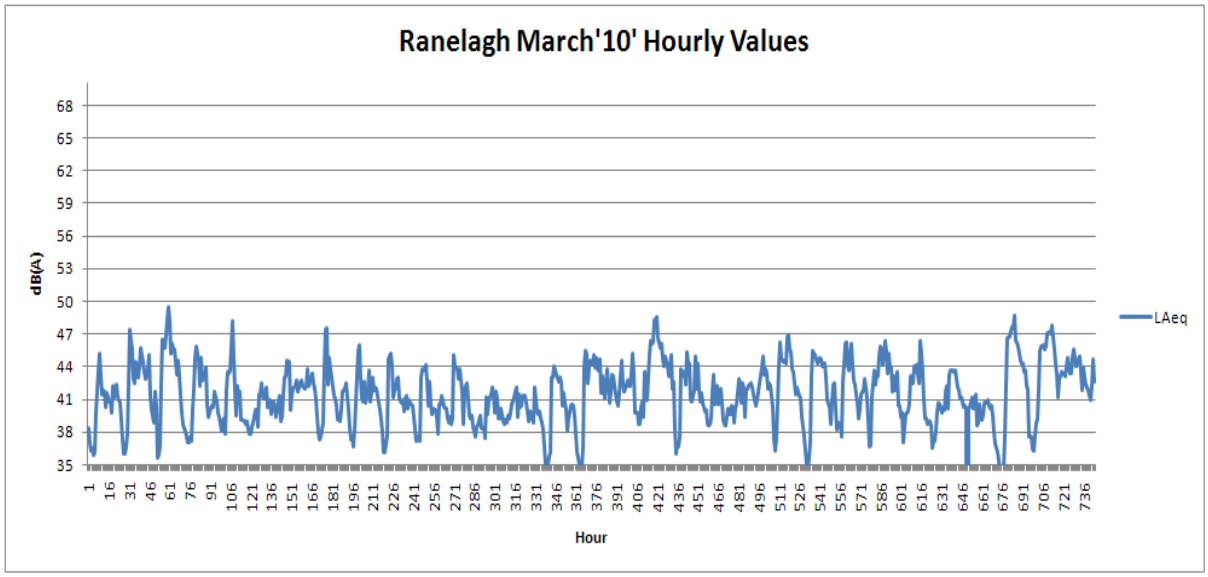
RANELAGH

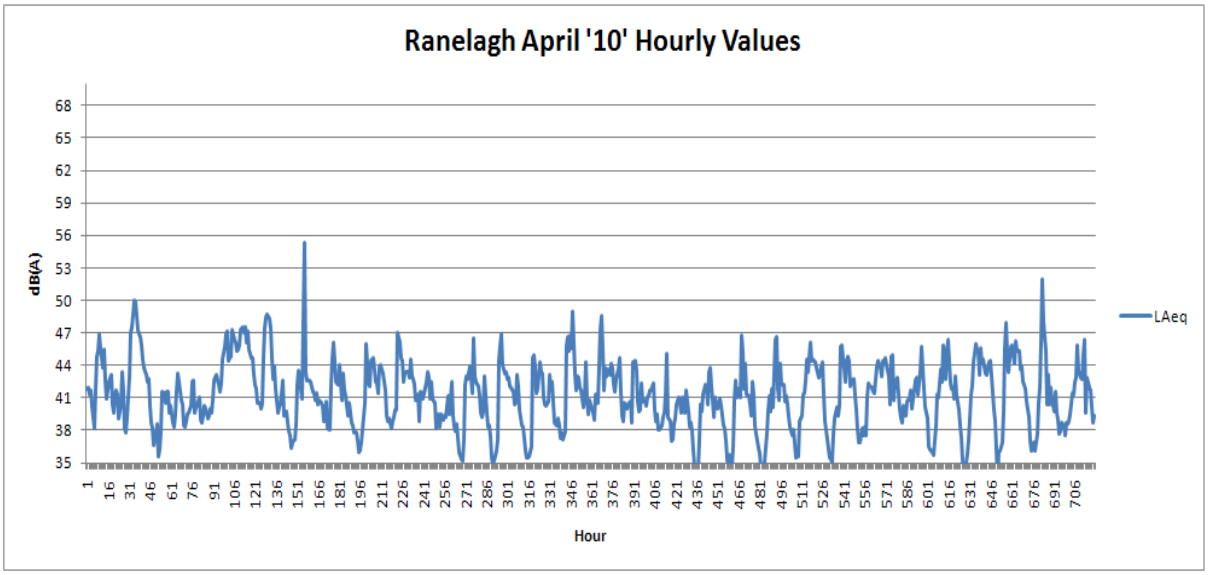
DUBLIN 6

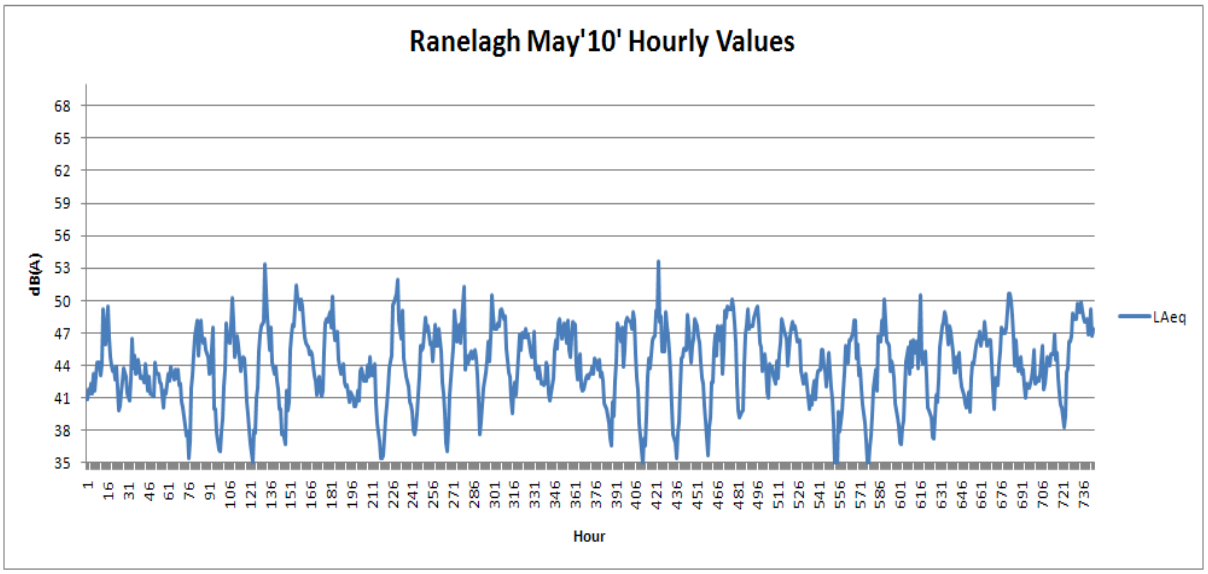


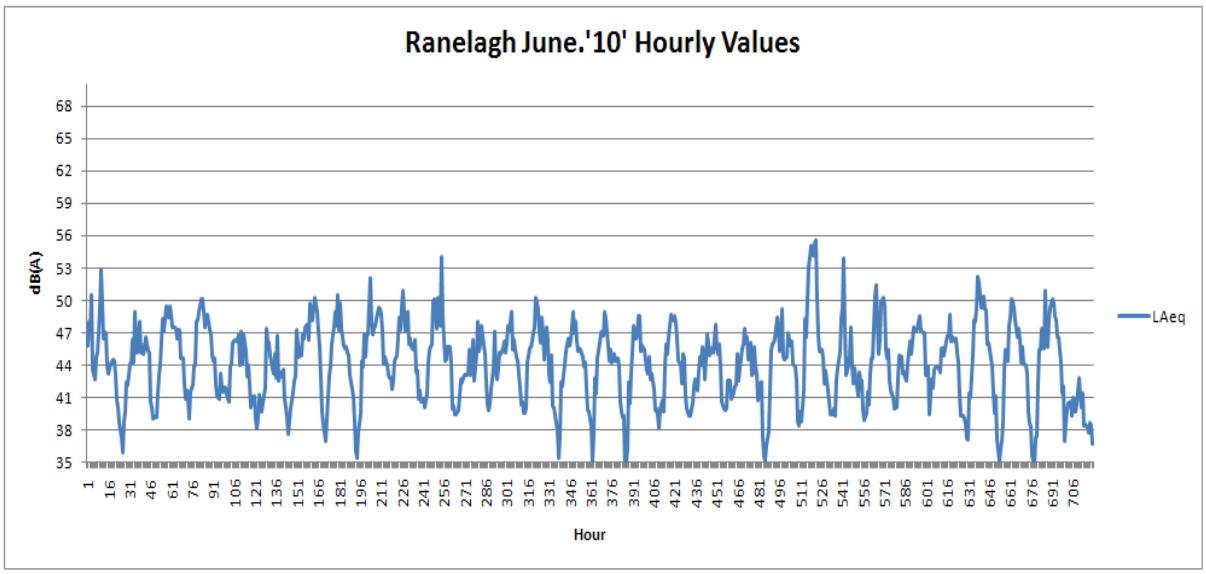

Ranelagh January'10' Hourly Values
dB(A)
Hour
LAeq

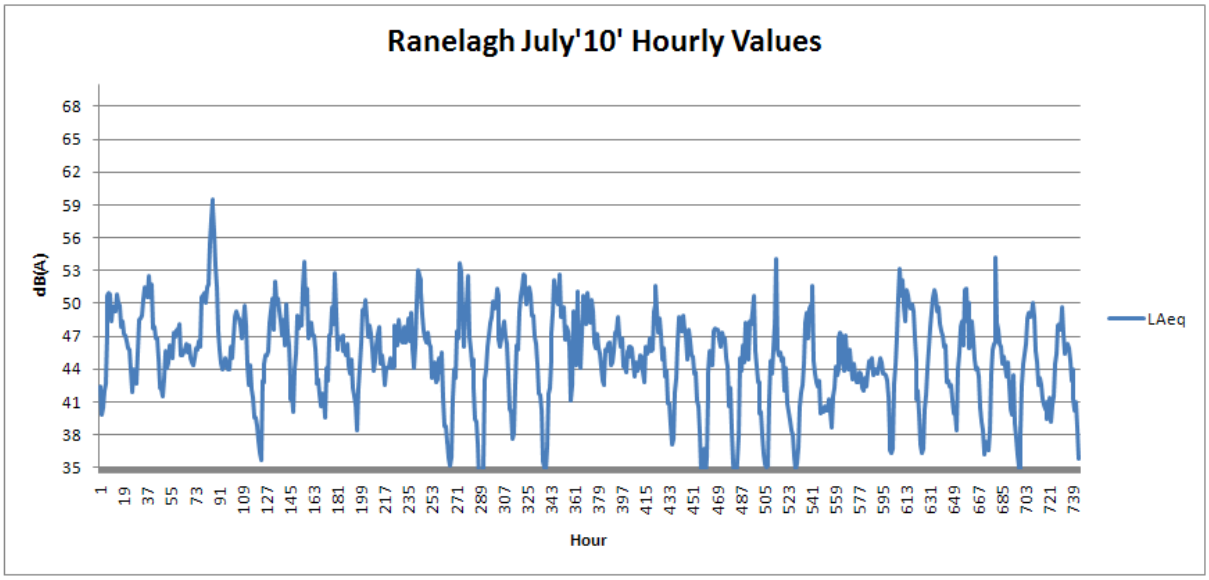

Ranelagh February'10' Hourly Values
dB(A)
Hour
LAeq

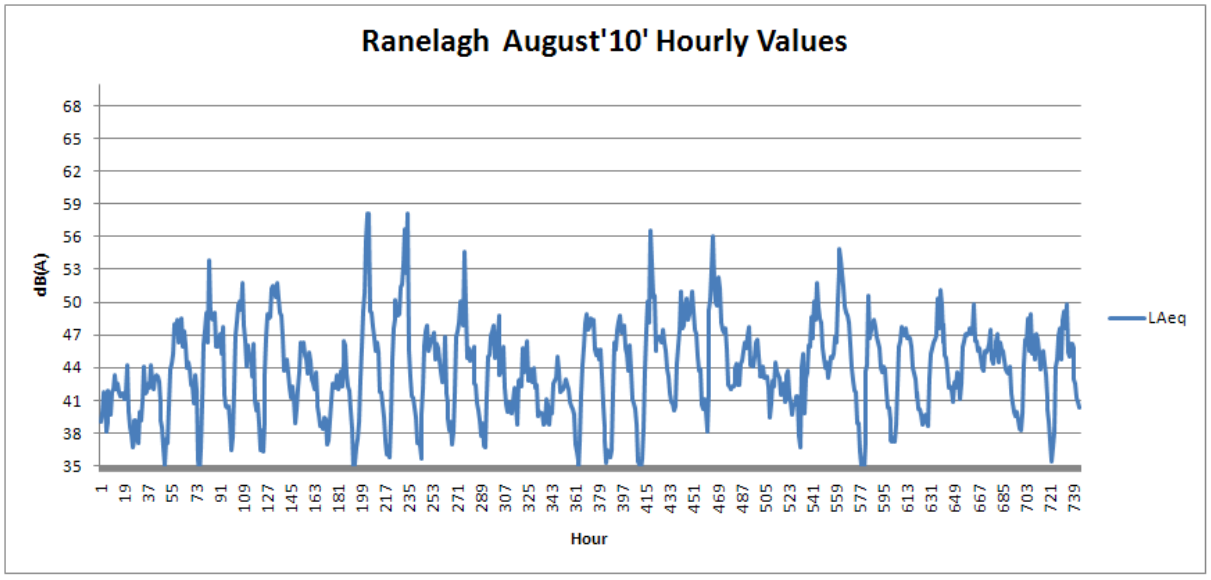

Ranelagh March'10' Hourly Values
dB(A)
Hour
LAeq

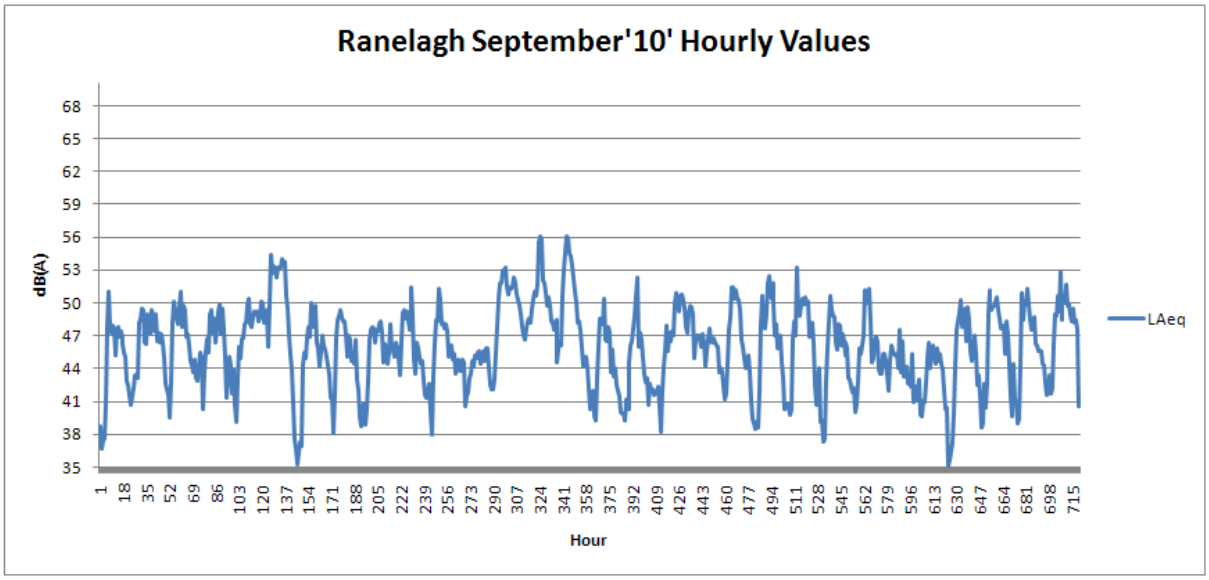

Ranelagh April '10' Hourly Values
dB(A)
Hour
LAeq

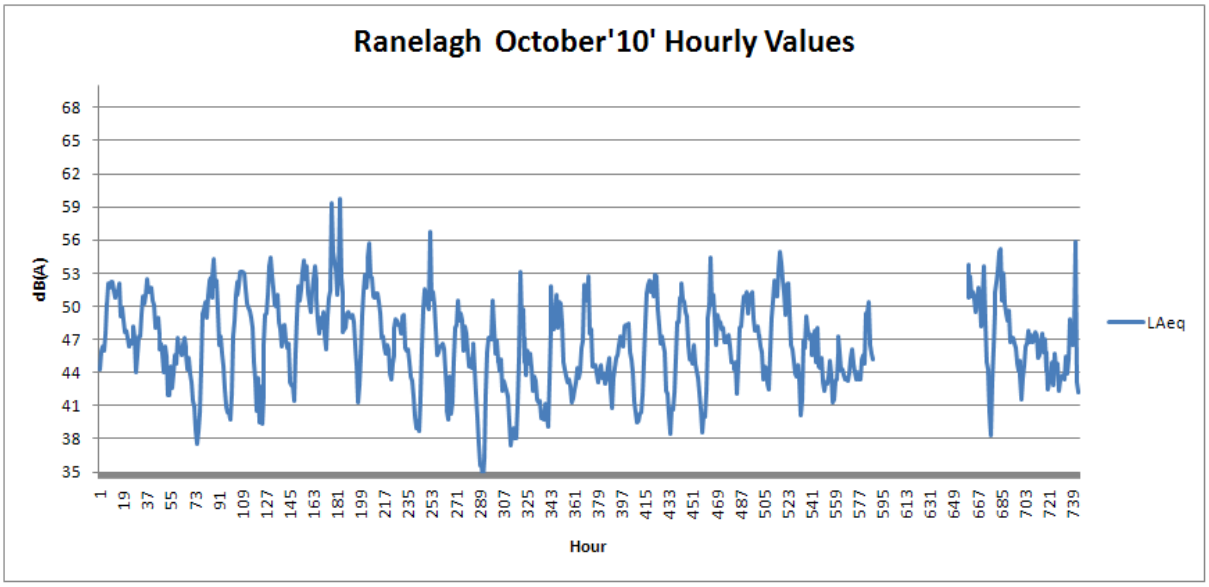

Ranelagh May'10' Hourly Values
dB(A)
Hour
LAeq

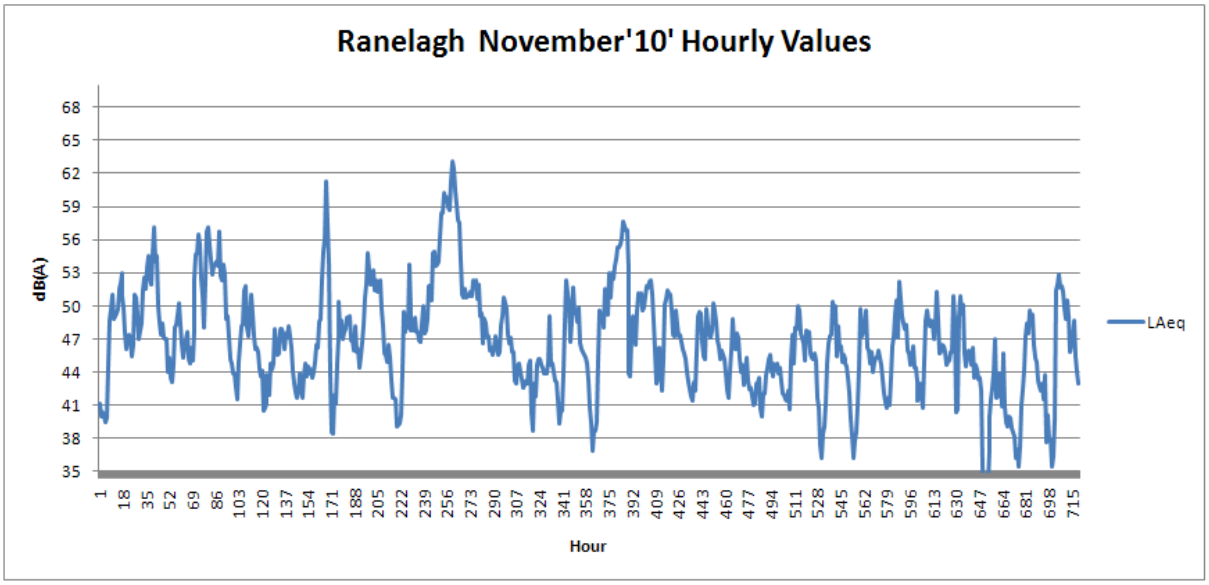

Ranelagh June.'10' Hourly Values
dB(A)
Hour
LAeq

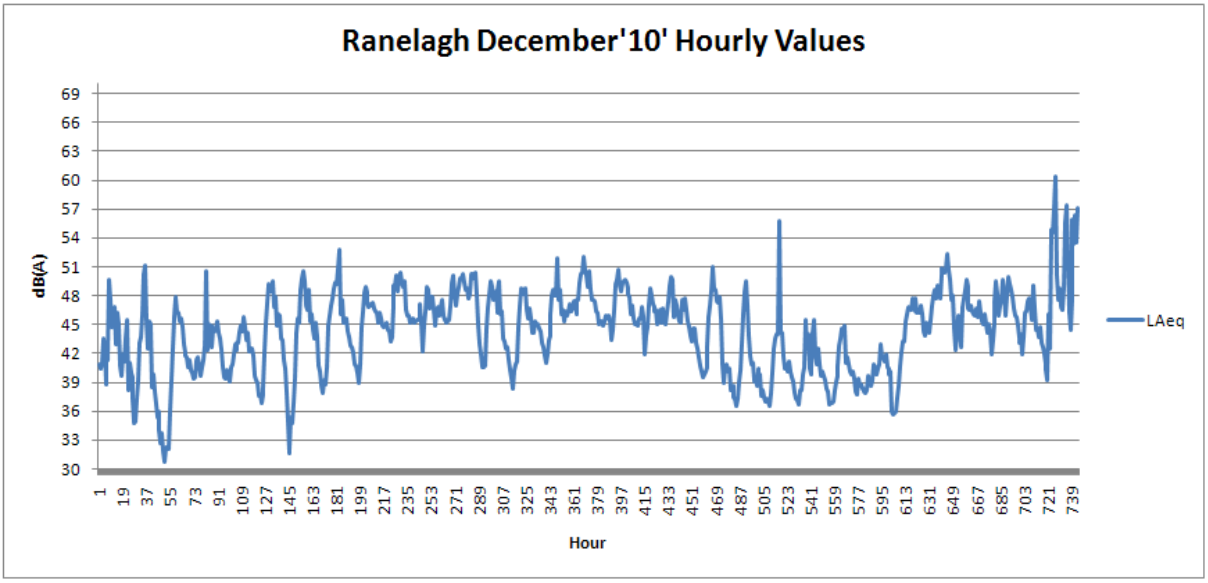

Ranelagh July'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq


Ranelagh August'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703 721 739
Hour
LAeq


Ranelagh September'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 18 35 52 69 86 103 120 137 154 171 188 205 222 239 256 273 290 307 324 341 358 375 392 409 426 443 460 477 494 511 528 545 562 579 596 613 630 647 664 681 698 715
Hour
LAeq


Ranelagh October'10' Hourly Values
dB(A)
Hour
LAeq

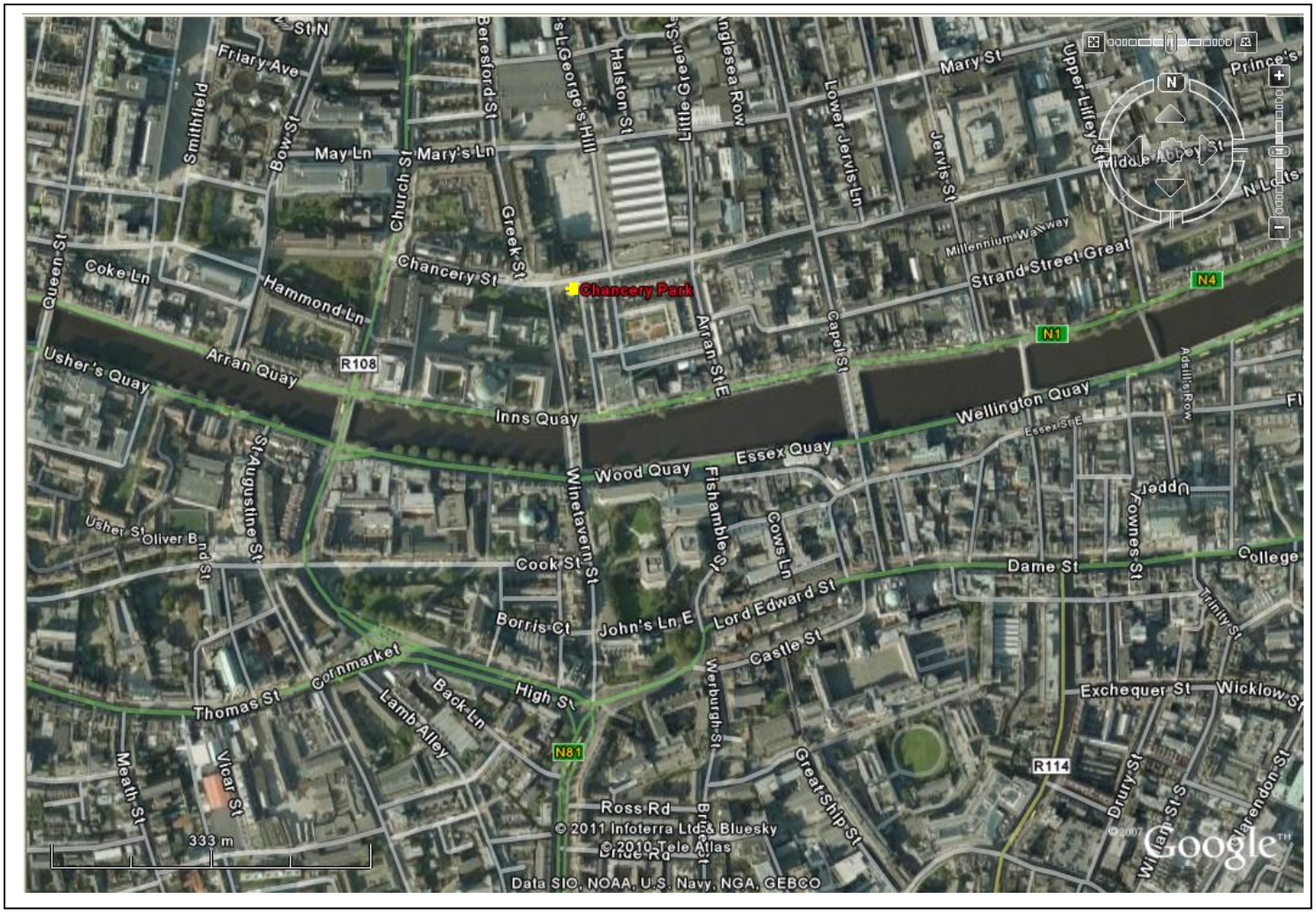

Ranelagh November'10' Hourly Values
dB(A)
Hour
LAeq

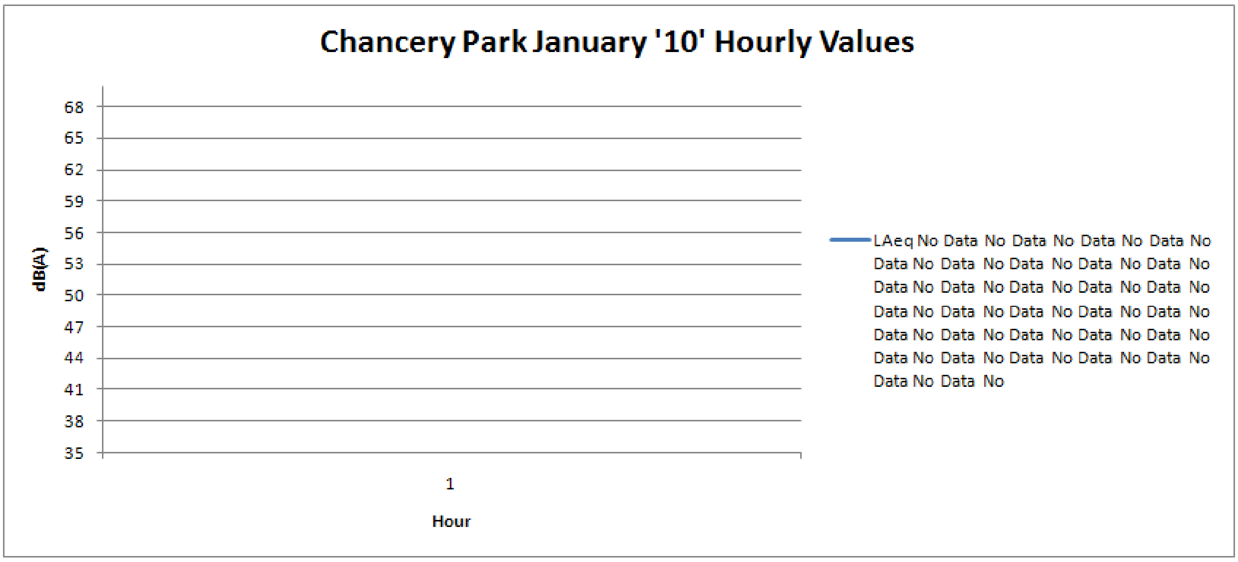

Ranelagh December'10' Hourly Values
dB(A)
Hour
LAeq

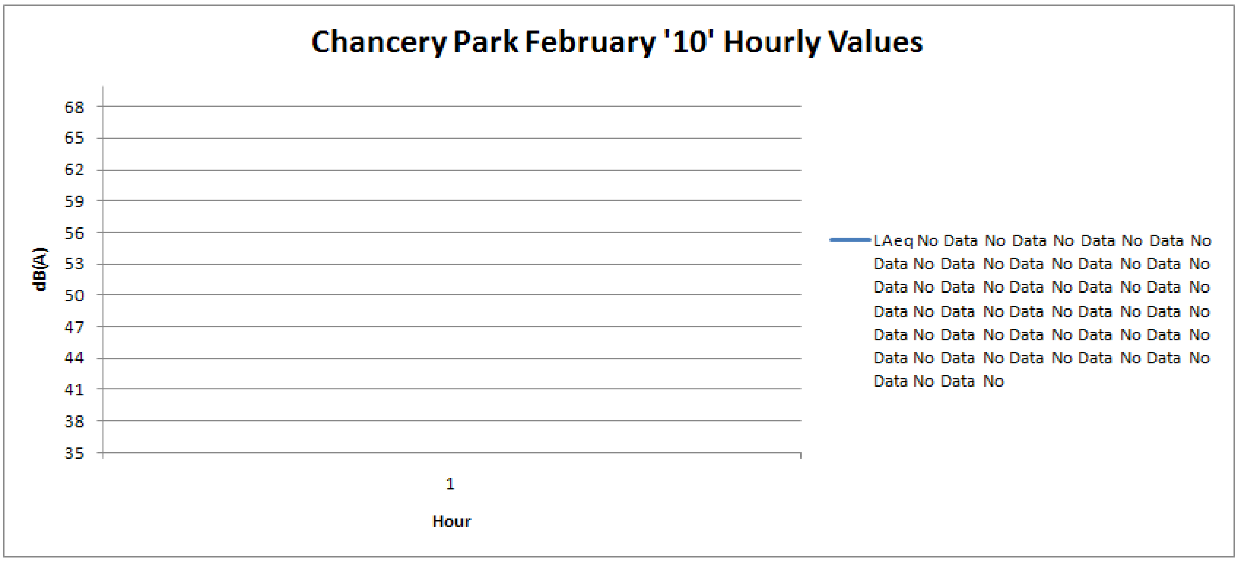
CHANCERY PARK

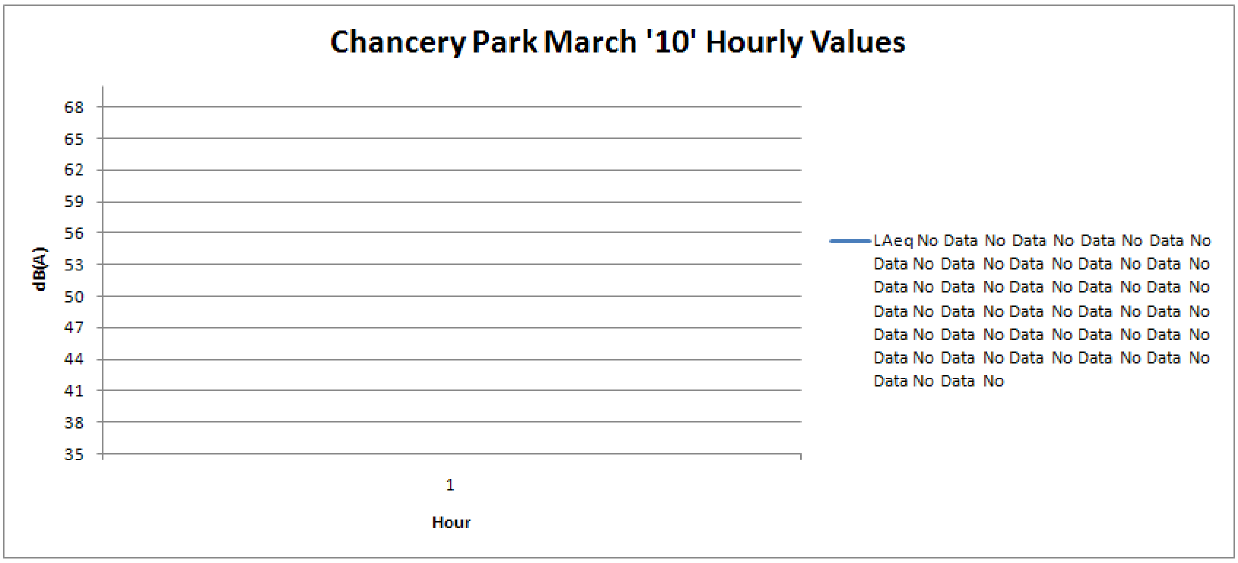
CHANCERY ST.

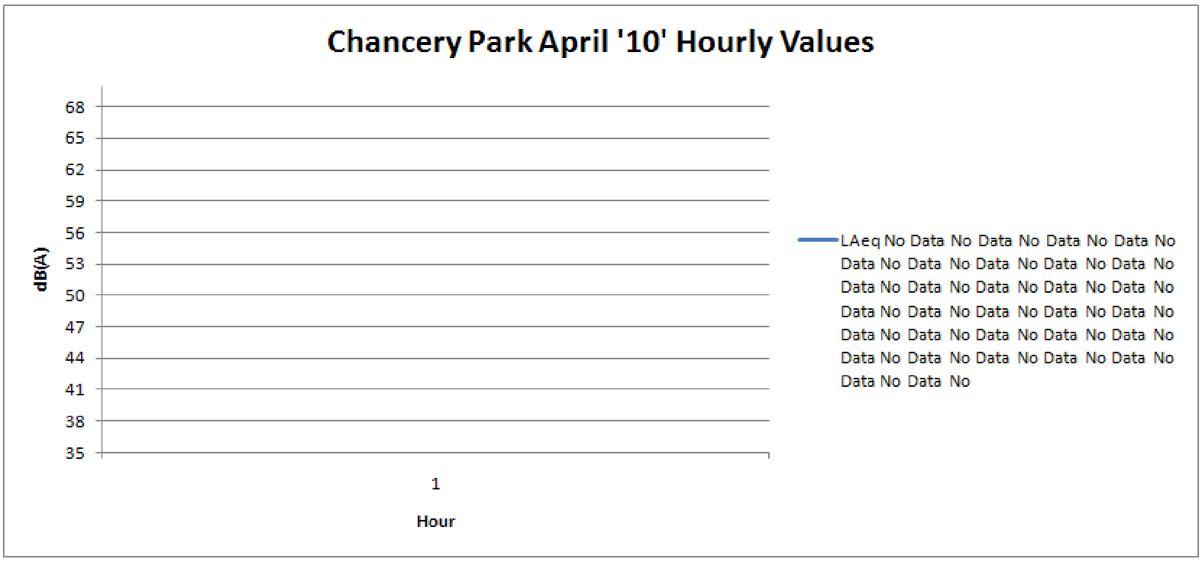
DUBLIN 1

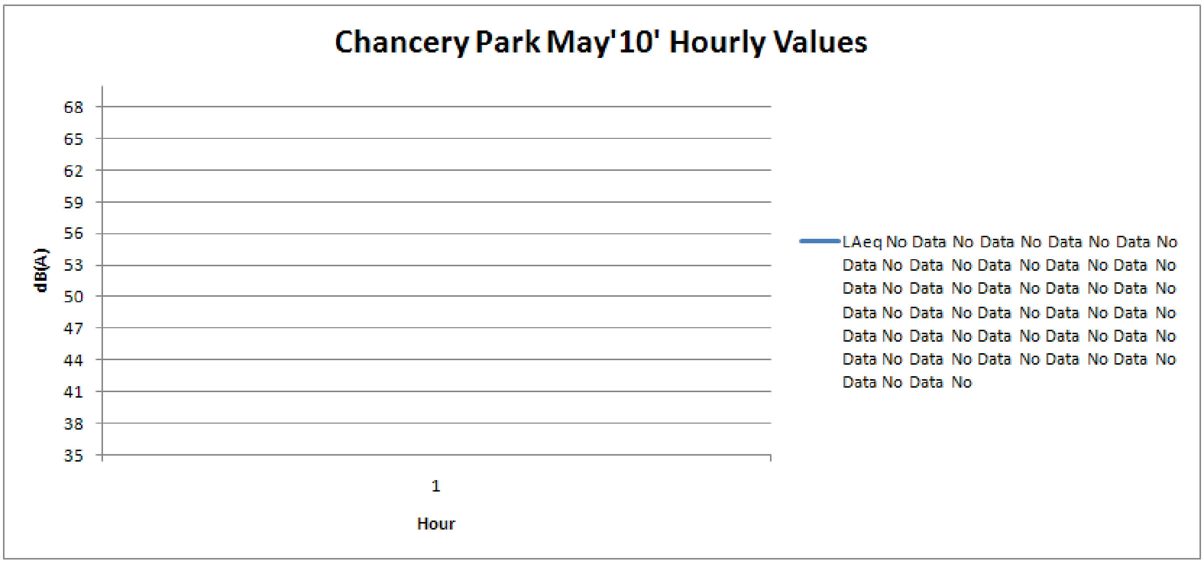


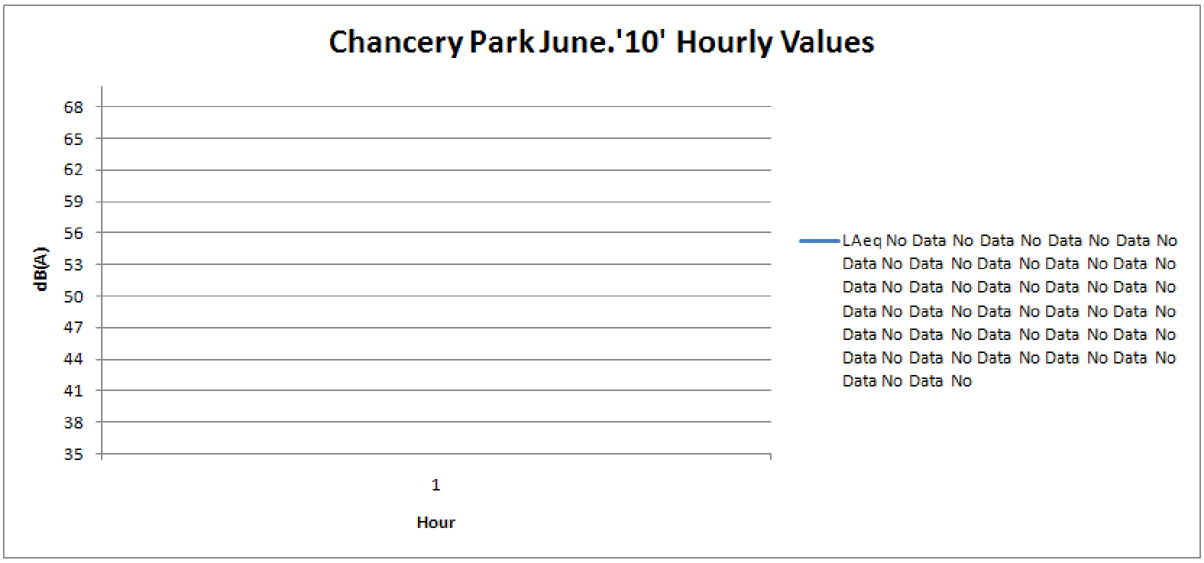

Chancery Park January '10' Hourly Values
68
65
62
59
56
53
50
47
44
41
38
35
dB(A)
1
Hour
LAeq No Data No

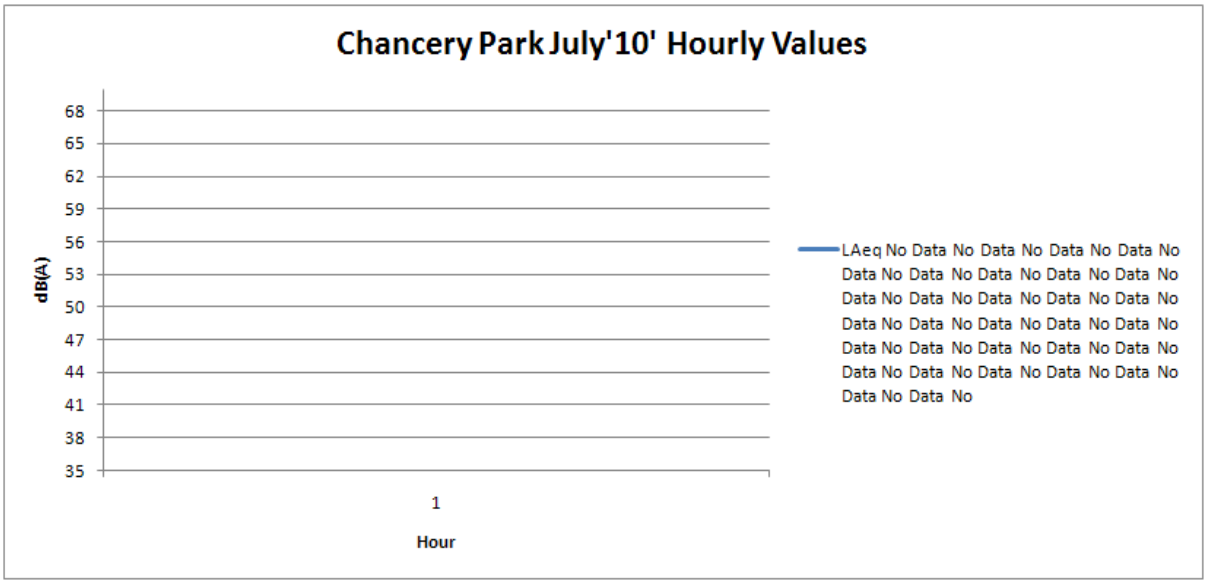

Chancery Park February '10' Hourly Values
68
65
62
59
56
53
50
47
44
41
38
35
dB(A)
1
Hour
LAeq No Data No

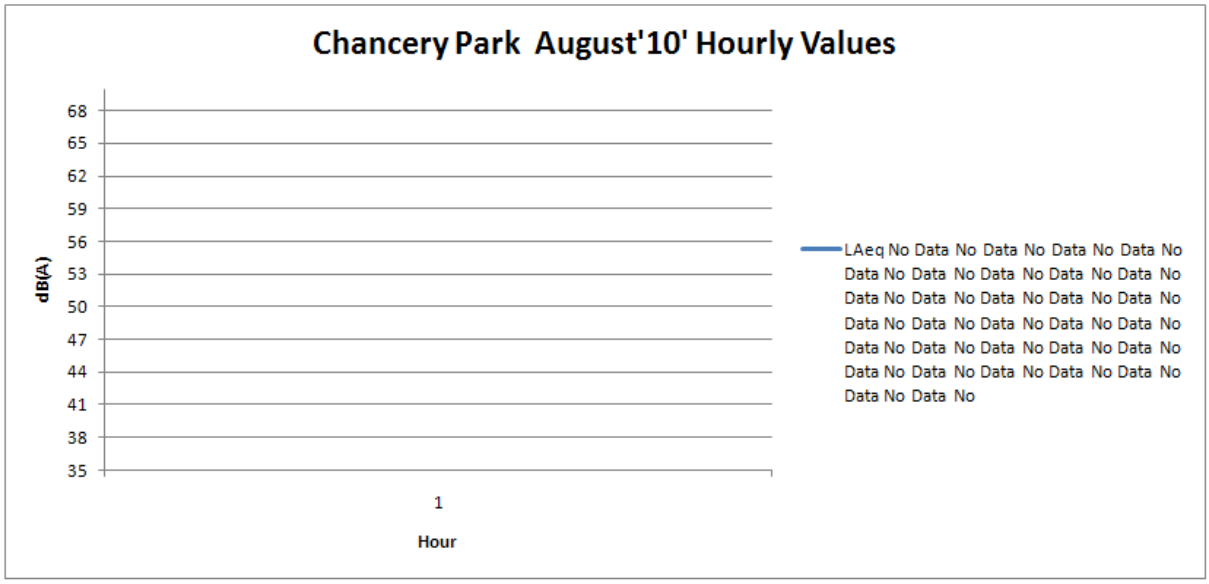

Chancery Park March '10' Hourly Values
68
65
62
59
56
53
50
47
44
41
38
35
dB(A)
1
Hour
LAeq No Data No

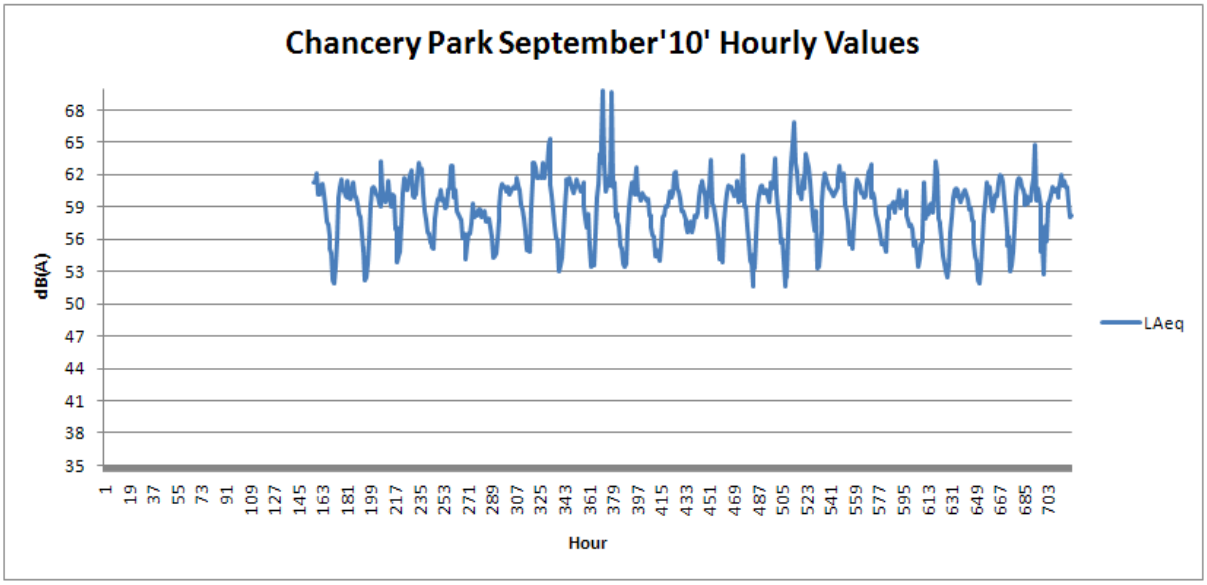

Chancery Park April '10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1
Hour
LAeq No Data No

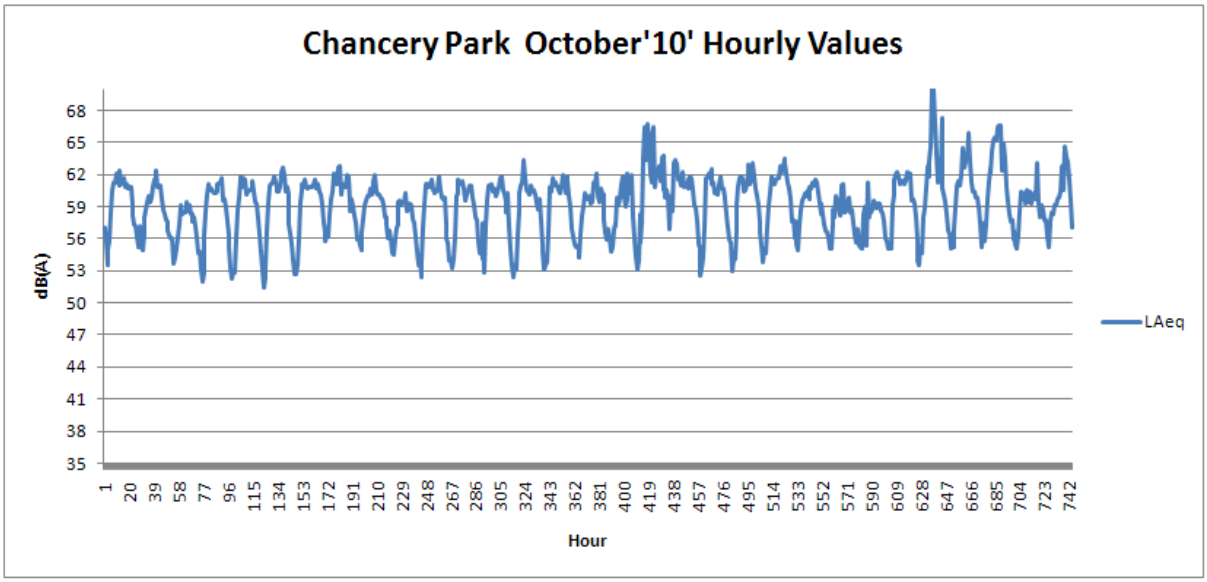

Chancery Park May'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1
Hour
LAeq No Data No

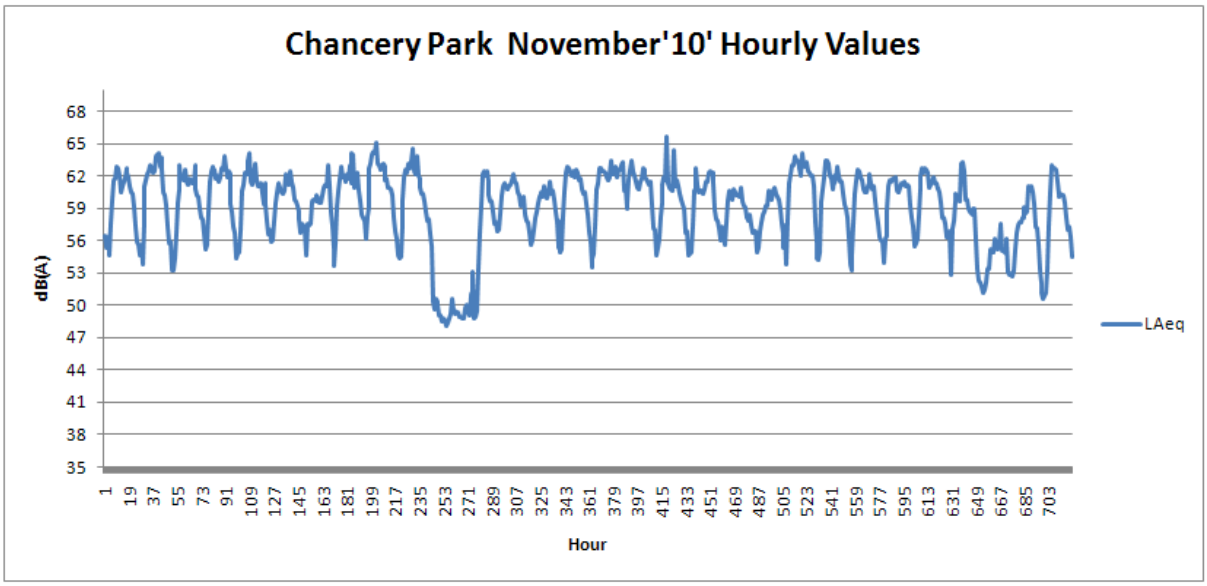

Chancery Park June.'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1
Hour
LAeq No Data No

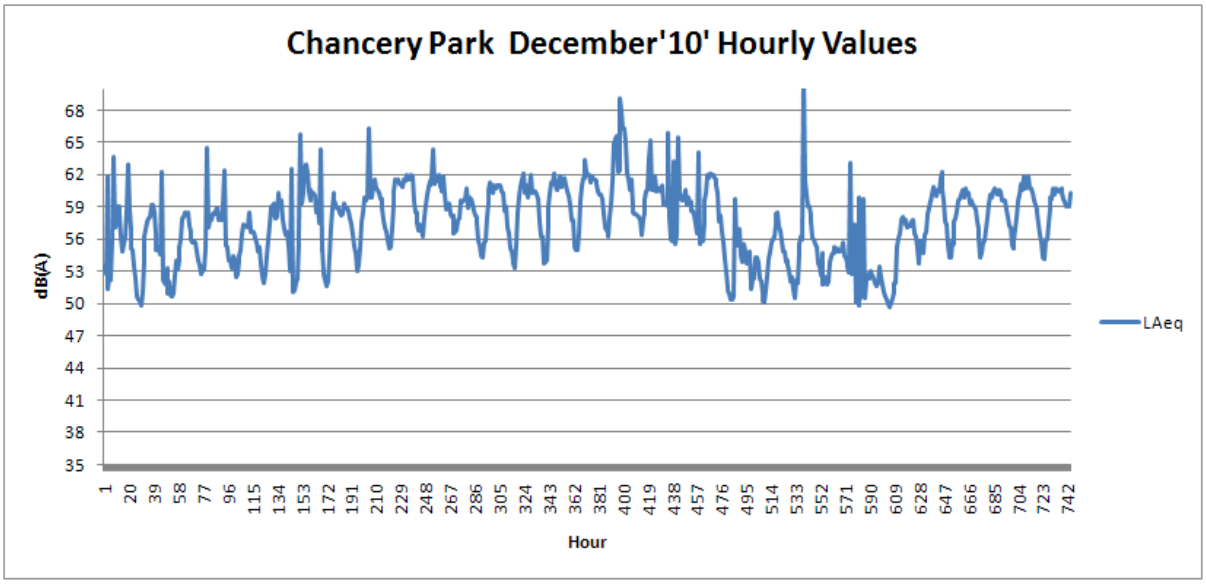

Chancery Park July'10' Hourly Values
68
65
62
59
56
53
50
47
44
41
38
35
dB(A)
1
Hour
LAeq No Data No


Chancery Park August'10' Hourly Values
68
65
62
59
56
53
50
47
44
41
38
35
dB(A)
1
Hour
LAeq No Data No


Chancery Park September'10' Hourly Values
68
65
62
59
56
53
50
47
44
41
38
35
dB(A)
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Chancery Park October'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq


Chancery Park November'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 19 37 55 73 91 109 127 145 163 181 199 217 235 253 271 289 307 325 343 361 379 397 415 433 451 469 487 505 523 541 559 577 595 613 631 649 667 685 703
Hour
LAeq


Chancery Park December'10' Hourly Values
dB(A)
68
65
62
59
56
53
50
47
44
41
38
35
1 20 39 58 77 96 115 134 153 172 191 210 229 248 267 286 305 324 343 362 381 400 419 438 457 476 495 514 533 552 571 590 609 628 647 666 685 704 723 742
Hour
LAeq