

**ROYAL BOROUGH OF WINDSOR & MAIDENHEAD**  
**SUBMISSION TO AIRPORTS COMMISSION**  
**WIDENOISE COMMUNITY EXPERIENCE PROJECT (PILOT)**

**1.0 Introduction**

- 1.1 Following Cabinet approval of WideNoise in January of this year, the Royal Borough of Windsor & Maidenhead (RBWM), in conjunction with its partners at University College London (UCL) have been piloting a smartphone application with local residents to capture the community experience of aviation noise to the west of Heathrow Airport.
- 1.2 WideNoise is a free to download smartphone application, developed by UCL in conjunction with partners in the EU. It can be used on both Apple & Android devices.
- 1.3 The application provides residents with a simple & user-friendly way of using the internal hardware within a smartphone, or tablet, to take a 10-15 second sample of noise. The user can then rate the noise experienced on a set of four 'sliding scales' depending on the manner in which it affected them.
- 1.4 Residents are also able write to a short description ("tag") of the noise in question to state what the noise was or how it affected them (eg: "aircraft landing" or "could not sit in garden"). The results are then automatically uploaded onto an 'experience map' online.
- 1.5 The information relating to the noise level and the experience described by the resident can be seen instantly online (<http://cs.everyaware.eu/event/widenoise/map>).
- 1.6 The application was demonstrated at the Parish Conference, the Borough's Aviation Forum and a special public meeting at Windsor Boys School (attended by Nigel Milton, Director of Policy & Political Relations for Heathrow Airport) to ensure that the capabilities of WideNoise were communicated as widely as possible.
- 1.7 Further notifications and publications were also released on social media (Facebook / Twitter etc.), the Borough's website, magazine and via e-mail to participants of the Borough's Recyclebank scheme.
- 1.8 In April RBWM officers together with UCL ran two community sessions, attended by around 10 members of the public particularly interested in the aviation debate. These provided the opportunity for residents to learn more about the application in order for them to cascade their knowledge to other potential participants in their communities.
- 1.9 A number of free 'loan phones' were also distributed by UCL for those residents who did not have access to a compatible smartphone.

**2.0 Results**

- 2.1 From the graph below (Figure 1) we can see that following RBWMs adoption of WideNoise in January, the participation in the WideNoise scheme escalated significantly, with a significant increase in users in February to April 2013. Following the roll-out to the community sessions in April, a large 'spike' in the number of recordings made can be observed throughout June & July 2013.

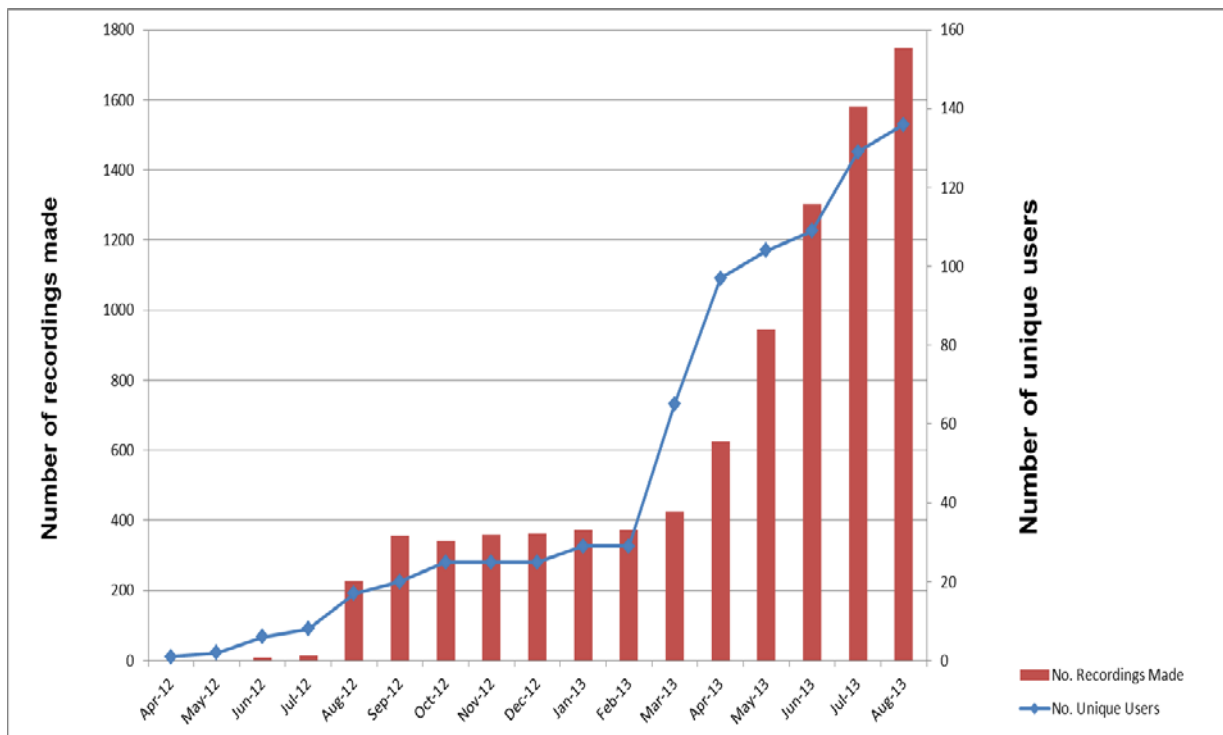


Figure 1: Graph depicting number of WideNoise Users & recordings (Jan - Aug 2013)

- 2.2 It can be seen that currently the number of residents engaging in the project is around 136, with around 1,800 recordings being captured on smartphone devices. These figures represent a significant exceedance in the numbers of residents expected to participate in this pilot scheme, demonstrating the manner in which residents have engaged with this pilot over the last 7 months.

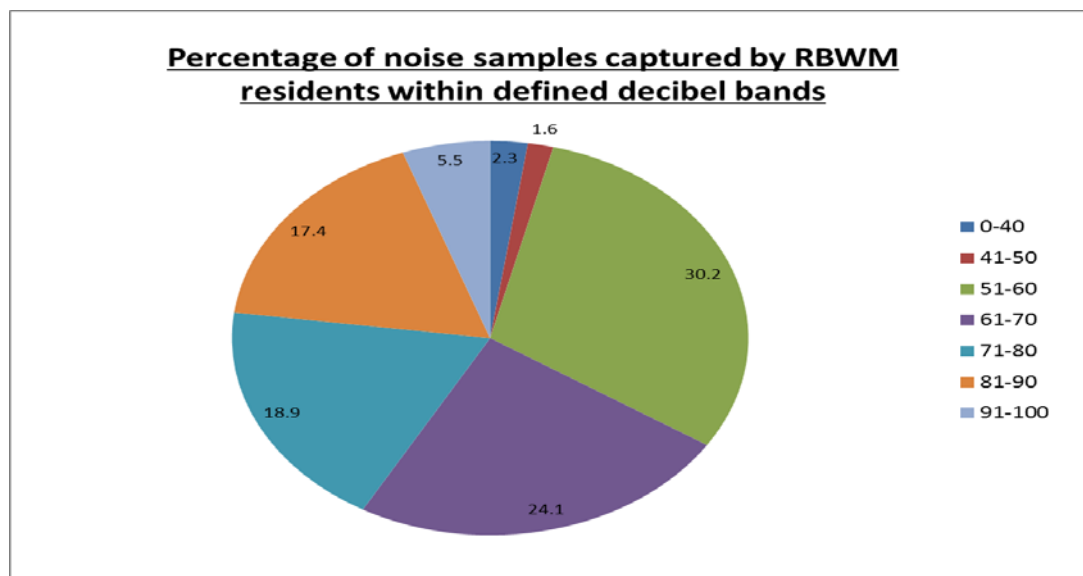


Figure 2: Graph depicting percentage of recordings made within defined decibel ranges

- 2.3 The chart above (Figure 2) represents the proportion of recordings made within defined decibel levels. Most of the samples captured were over 50dB, with over 1/3 of these results being between 70 and 90dB. Even with the calibration factors (Figure 3) taken into account, this level of noise recorded may bring into question the appropriateness of the current methodology for assessing community noise annoyance from aircraft noise and the noise mitigation contours as currently specified.

- 2.4 The spatial distribution of residents using the application can be viewed on a real-time basis at <http://cs.everyaware.eu/event/widenoise/map> which depicts users of WideNoise on a global scale – including other residents around Heathrow Airport. The results obtained for Royal Borough residents can be viewed at <http://tinyurl.com/WindsorMaidenhead>. A current snapshot of this distribution can be seen below Figure 6.
- 2.5 It must be noted that the noise sampled by smartphone devices cannot be compared readily to those results obtained by a Type 1 Sound Level Meter. A calibration study was undertaken by UCL within an anechoic chamber. This study discovered that at the decibel range under scrutiny (70 – 80dB) the results obtained from residents smartphones are still of value.

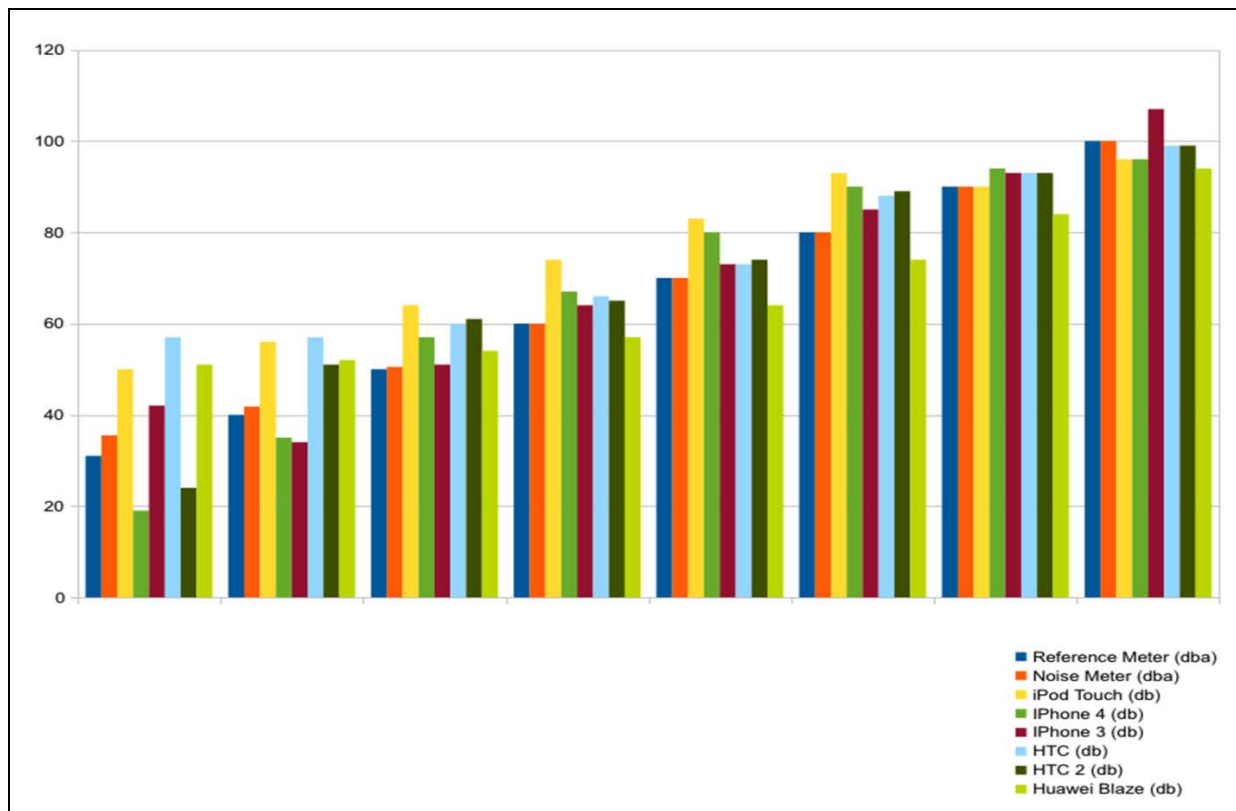


Figure 3: UCL WideNoise calibration study undertaken; comparing levels obtained using a 'Type 1' noise meter to levels obtained using 6 market leading devices.

#### Perception of aviation noise by RBWM residents

- 2.6 Within the WideNoise application, there is a facility that allows residents to both quantify and qualify their experiences by using sliders to indicate their 'experience' and the effect of the noise and by inputting tags to describe the noise event.
- 2.7 The results obtained from residents using the sliding scales (Figure 4) within the application can be used to demonstrate the emotions attached to the individual aircraft noise event. It must be noted that the value "0.5" has been removed from this analysis due to the fact that this result has the potential to represent RBWM residents who have often not touched the 'slider' within the WideNoise application & therefore not actually rated the noise experienced.

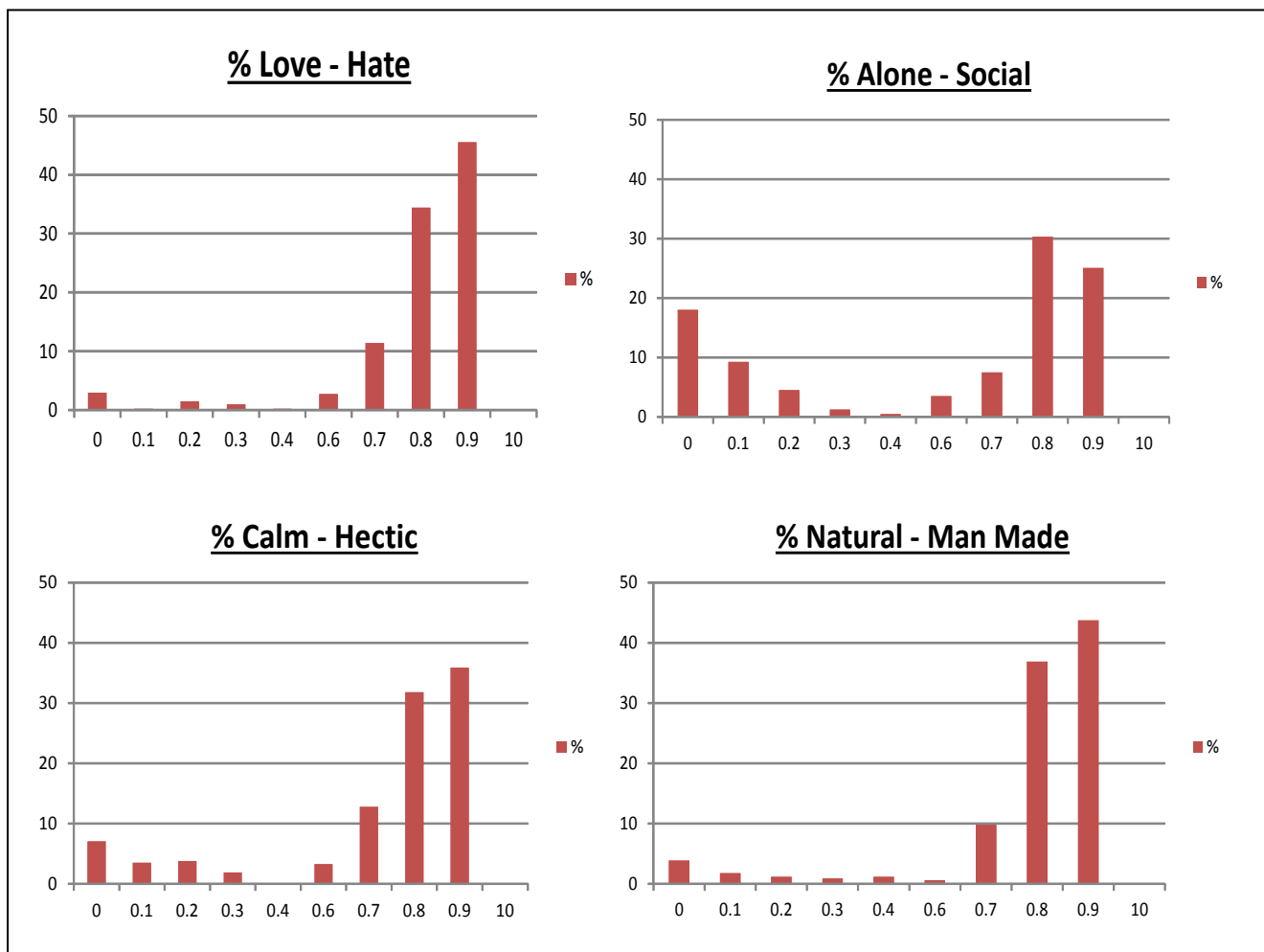


Figure 4: Emotive Data obtained by RBWM residents using the WideNoise application.

- 2.8 From the graphs above, we are able to determine that the RBWM residents (who collectively participated within the study), rated the noise between 0.8 and 0.9 - in the majority of samples taken. The residents participating can therefore be described as *“hating the man-made noise (principally aviation) within both a solitary and social setting, resulting in the noise making them feel hectic”*.
- 2.9 The ‘TagCloud’ below (Figure 5) can be used to visually analyse some of the most frequently used words and descriptors inputted by residents using the WideNoise application. With some residents describing the planes ‘grinding across the sky’, ‘spoiling conversations’, ‘decreasing the amenity of their gardens’, ‘spoiling picnics’ and ‘ruining an evening’.

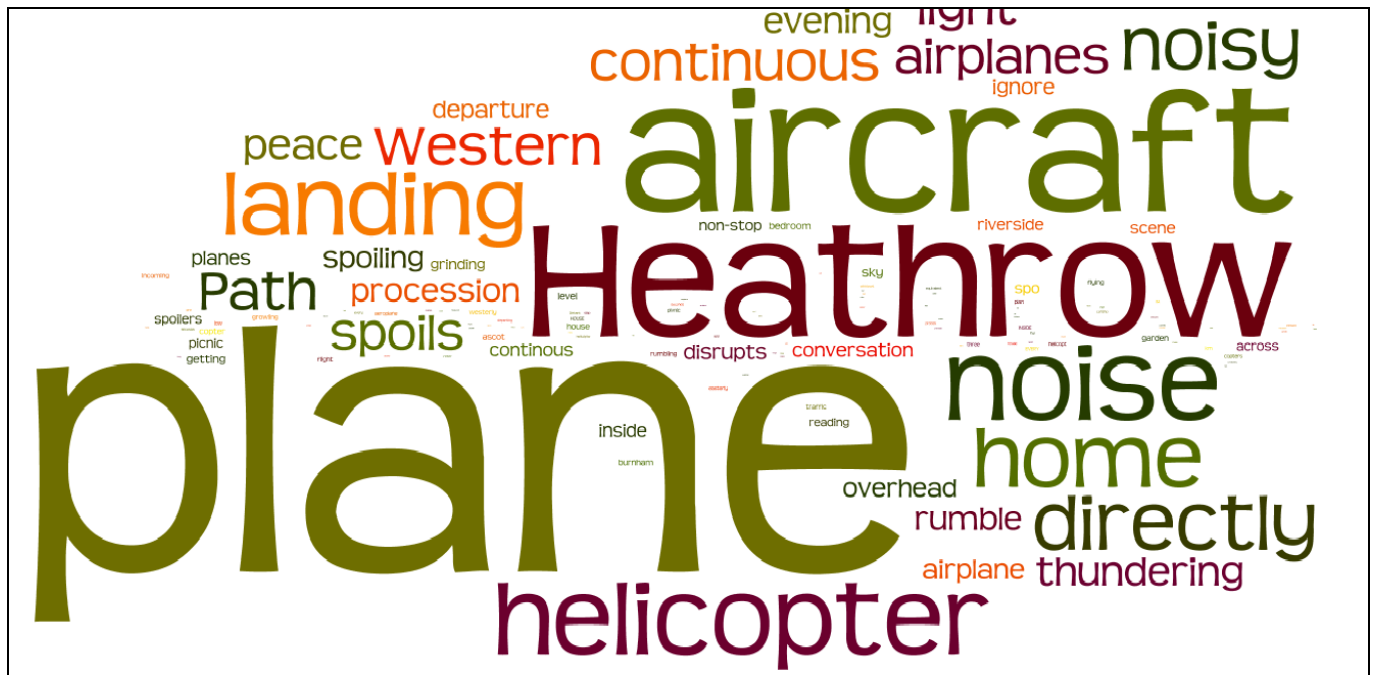


Figure 5: 'TagCloud' obtained from WideNoise participants demonstrating descriptors used by residents.

- 2.10 Further analysis of the qualitative data inputted by residents can be viewed in the WideNoise Community Experience Map (see attached). This map enables the descriptions submitted by residents to be viewed on a special scale in relation to the noise contours currently established around the runways at Heathrow Airport.

### 3.0 Analysis

- 3.1 It must be highlighted that the response from residents in this pilot study has been remarkable. From the 136 residents that have so far participated in the pilot study, a consistent message has emerged that the noise from aircraft overhead does cause a significant disturbance to the enjoyment of their property.
- 3.2 The results obtained during this pilot can be said to legitimise the concerns of local residents surrounding Heathrow regarding noise. It highlights the importance of taking into account the community experience and impact of aviation noise on local residents in addition to the arguments to be put forward concerning noise levels.
- 3.3 It is envisaged that future studies can develop this qualitative methodology further and bring a more balanced approach to the noise debate; taking into account both the technical noise and community experience in equal measure.



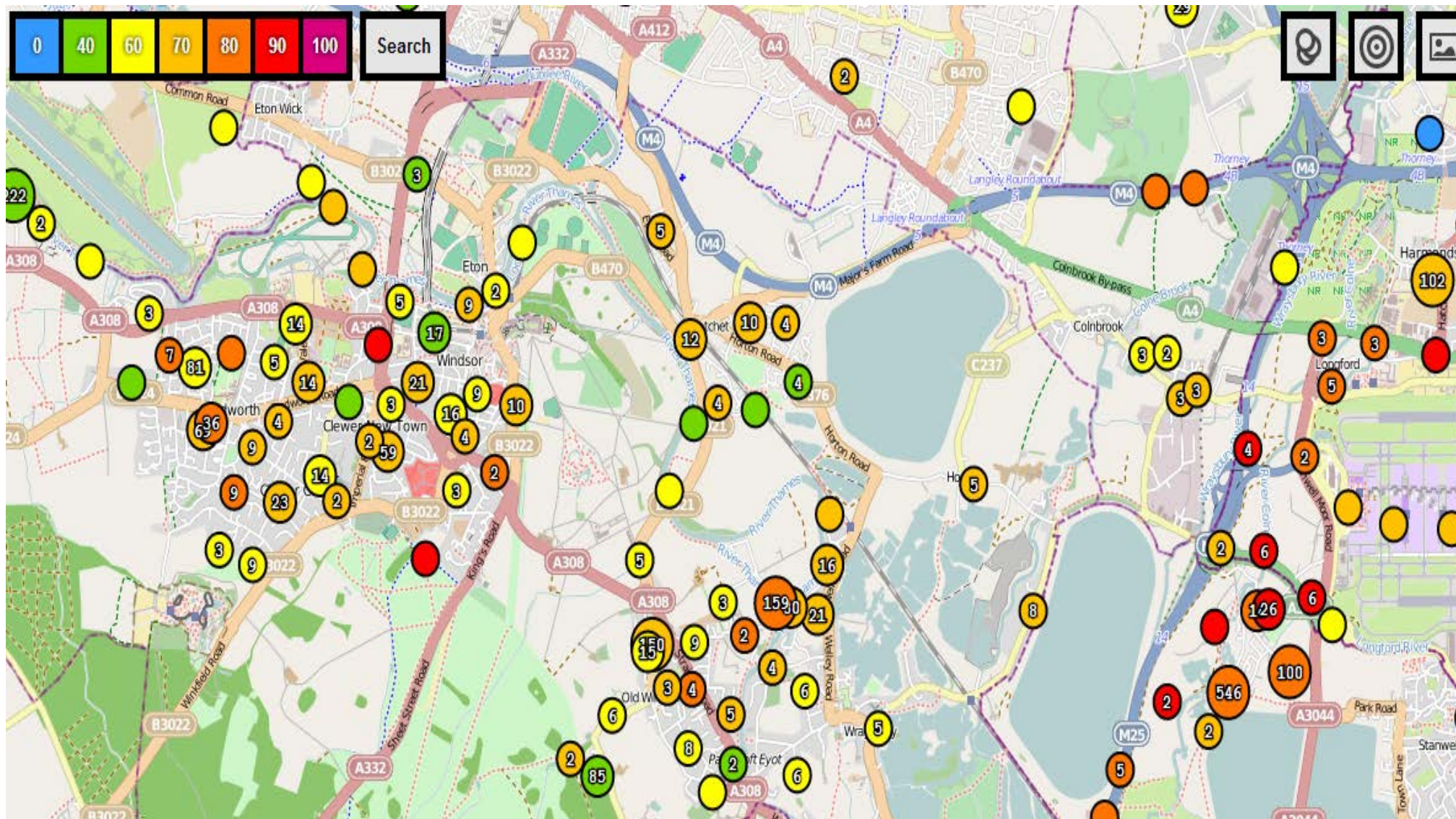


Figure 4: WideNoise Map (Spatial distribution of users in the Royal Borough of Windsor & Maidenhead).