ABSTRACT

Many New Yorkers ride the subway daily sometimes for many hours at a time, and expose themselves to high amounts of excess noise. This much exposure to loud sounds can lead to permanent hearing loss. This project focuses on trying to find out if the noise levels experienced in the subway system are at healthy levels, and to figure out which stations may pose the greatest risk. The selected subway lines were the O, N, Q, and B, 2, 3, 4 and 5. A decibel noise level meter was used to collect the data. Three groups of students were formed, each riding a different train line to the last stop and back, starting at Atlantic Avenue. The measurements were taken on each subway line between each stop, every 30 seconds, in order to be able to calculate the amount of time that passes. The highest and the lowest values were recorded, and the average was calculated. Measurements were also taken at major stops. With the data, a map was created in order to display which areas are hazardous and which are not, in order for commuters to make healthier decisions on their choice of train. The collected data revealed that for the most part, the noise is at a healthy level. However, at certain stops, the noise level was significantly higher, and can reach unhealthy levels. Using the results of this study, areas of potential health risk are exposed, and precautionary measures can be taken to prevent permanent hearing loss.

RESULTS

The noise levels were taken on each subway line between each stop, every 30 seconds. The highest and the lowest values were recorded, and the average and total time between stops were calculated. Measurements were also taken at major stops.

HOW LOUD IS LOUD

The overall noise level in the studied subway lines does not appear to be dangerous to human hearing. Most of the recorded values were around 70dB, however some of the measured values were above 90s and in some cases even reached 100 dB. The higher level of noise does not seem to be unhealthy to humans since the length of time anyone is exposed to it is very short. At the same time, most of the studied subway trains were above the ground where the noise level is considerably lower. Another thing to consider is the fact that many people tend to listen to music in the subway, and will raise the volume of their headphones to cover the noise of the trains. In this case, many people may be exposing themselves to unhealthy noise levels. Further studies should be conducted in different areas of the city, especially Manhattan, where most of the trains are below ground, and many of the stations are bigger hubs, where there is more noise, and where more people commute.

CONCLUSION

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