

**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK**

JAMES PHILLIPS and  
DANIEL CARIONE,

Plaintiffs,

-against-

THE CITY OF NEW YORK, NEW YORK CITY  
POLICE DEPARTMENT, NEW YORK CITY  
POLICE DEPARTMENT ARTICLE II MEDICAL  
BOARD, and WILLIAM BRATTON, in his  
official capacity as Police Commissioner,

Defendants.

**1:11-CV-06685 (KPF)**

**BRIEF OF THE AARP,  
THE HEARING LOSS  
ASSOCIATION OF AMERICA,  
VETERANS OF FOREIGN WARS  
OF THE UNITED STATES AND  
VETERANS UNITED FOR TRUTH  
AS *AMICI CURIAE***

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### INTERESTS OF *AMICI CURIAE*

*Amici's* purpose is to inform the Court about facts directly relevant to the New York City Police Department's ("NYPD") hearing-aid policy: developments in hearing-aid technology, hearing-aid policies of other law enforcement departments, as well as the negative and extensive consequences a ruling in Defendants' favor could have for *amici's* members and constituents.

AARP is a nonpartisan, nonprofit organization with a membership that strengthens communities and fights for issues that matter most to families, such as employment, healthcare, income security, retirement planning, affordable utilities and protection from financial abuse. AARP is dedicated to addressing the needs and interests of older workers, and strives through legal and legislative advocacy to preserve the means to enforce their rights. About half of AARP members work or are seeking work, and thus are protected by the Americans with Disabilities Act ("ADA"). AARP is committed to vigorous enforcement of the ADA, as well as of parallel state and local laws.

A disproportionate share of those in the workforce with disabilities are older persons. This is true of persons with many specific disabling conditions, such as hearing impairments, and applies to hearing-aid users, like the plaintiffs. As an *amicus curiae*, AARP has previously advocated vigorous application of the federal Rehabilitation Act to claims of bias by older workers using hearing aids.

In October 2014, AARP launched a "Hearing Resource Center" (<http://www.aarp.org/hearing>). This online platform connects AARP members and other consumers interested in hearing health with helpful tips, information, tools and links to related product solutions and programs. AARP, in a relationship with HearUSA, provides its members access to a network of hearing care providers through which members may secure discounts on

hearing care products and services, including hearing aids. HearUSA pays a royalty fee to AARP for use of AARP intellectual property.

The Hearing Loss Association of America (“HLAA”), founded in 1979, is a non-profit 501(c)(3) membership organization based in Bethesda, Maryland, with state organizations and chapters nationwide. The HLAA’s mission is to open the world of communication to people with hearing loss through information, education, advocacy and support. Of HLAA members, 93% are people with hearing loss and 81% use hearing aids.

HLAA actively advocates public policies to protect the rights of people with hearing loss and provide access to affordable technology that enables persons with hearing loss to function in their daily lives, including in the workplace. Of the 48 million Americans with hearing loss, the majority have hearing loss that is not amenable to medical or surgical treatment. Appropriately fitted hearing aids, therefore, are the primary treatment option available today for this group to hear and perform productively in the workplace. From both a medical and technical standpoint, hearing-aid users are fully capable to perform successfully in most occupations, including careers in the public-safety sector. HLAA has a strong interest in seeing that hearing-aid users are afforded equal rights in the workplace and are not subject to any unreasonable biases causing them to be improperly excluded from employment or advancement on the job.

Founded in 1899, the Veterans of Foreign Wars of the United States (“VFW”) is the oldest major combat veterans’ organization in the United States. The VFW is a federally chartered corporation with over 7,000 posts with nearly 1.9 million members of the VFW and its Auxiliaries. The VFW’s members have served honorably in our nation’s armed forces in conflicts on foreign soil. They include past and current members of the U.S. armed forces who

have fought in all of this nation's wars, from World Wars I and II to the wars in Iraq and Afghanistan, and the armed conflict against Al Qaeda. The VFW has a statutory mandate to "assist worthy comrades". Title 36 U.S.C. § 230102. As a member organization comprised of individual veterans who have served this nation in war, and who continue to do so around the world, the VFW has a strong interest in protecting the rights of its returning comrades. Veterans who served in combat operations have a significantly increased likelihood of developing hearing loss. Veterans with hearing loss should not categorically be excluded from meaningful and important careers in public law enforcement when affordable and effective treatment options, such as digital hearing aids, are available.

The VFW is especially concerned as to how the policy at issue may impact NYPD police officers who return to their jobs following service in the uniformed services. In particular, such a policy would adversely impact those service members who return with a hearing disability that was incurred in or aggravated by their military service. Under current federal law, service members returning to employment with such a disability would have certain reemployment protections that NYPD's policy ignores.<sup>1</sup> For the foregoing reasons, the VFW joins this brief of *amici curiae*.

Veterans United for Truth, Inc. ("VUFT") is a voluntary, 501(c)(3) membership organization existing under the laws of the State of California, with a central office in Santa Barbara, California. Its membership includes veterans from World War II onward, including veterans of the wars in Iraq and Afghanistan, many of whom seek assistance transitioning out of armed services. The purpose of VUFT is to serve all veterans of the Armed Forces of the United States, and to ensure that upon return from their service, veterans, and their families, receive the benefits and care to which they are entitled.

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<sup>1</sup> See *infra* note 82.

The NYPD's policy prohibiting the use of hearing aids among police officers is of great importance to returning veterans. Over 200,000 veterans live in New York City. The most widespread service-related injuries among post-9/11 veterans are hearing loss and other auditory complications; 414,000 have come home with hearing loss and tinnitus, or ringing in the ears. Additionally, veterans frequently look to transition to law enforcement after completing their military service. Qualified military veterans can be of great benefit to law enforcement organizations and the communities they serve. VUFT has a strong interest in ensuring that returning veterans with hearing loss are not arbitrarily excluded, deterred or dismissed from employment in law enforcement organizations.

### **BACKGROUND**

In 2010, the NYPD implemented a policy prohibiting the use of hearing aids by applicants undergoing mandatory hearing tests. The new policy also barred serving officers with hearing aids from using such assistive devices in the exercise of their duties. Officers who relied on hearing aids were dismissed, regardless of their record and assignment.

### **SUMMARY OF ARGUMENT**

The NYPD's categorical exclusion of applicants and expulsion of officers who rely on hearing aids is (i) based on obsolete information, (ii) an outlier among police departments and (iii) counterproductive and harmful. *First*, the NYPD's hearing-aid policy is rooted in a flawed and dated understanding of hearing aids. The NYPD's cited reasons why hearing aids should be prohibited do not apply to contemporary hearing-aid technology, which is both sophisticated and widespread. Using outdated facts to prohibit hearing aids is akin to banning the use of cell-phones or computers due to problems those technologies had 20 years ago.

*Second*, the NYPD’s hearing-aid policy is an outlier among law enforcement organizations. Sound public policy favors—and numerous police departments in and outside the United States permit—officers to use hearing aids. *Third*, the NYPD’s hearing-aid policy harms applicants and is needlessly detrimental towards NYPD officers. NYPD officers work in one of the noisiest cities on earth. The NYPD sends its officers into an environment that heightens the risk of hearing loss and challenges officers’ hearing capacities. Yet the NYPD discourages officers from addressing their hearing difficulties. Instead of mitigating hearing loss by encouraging early intervention and treatment, the NYPD incentivizes officers to hide their hearing difficulties. Thus, the NYPD’s policy is detrimental to the health and hearing of officers and undermines the NYPD’s ability to provide security for the citizens it is sworn to protect.

## ARGUMENT

### I. THE NYPD’S HEARING-AID POLICY IS BASED ON OUTDATED INFORMATION ABOUT HEARING-AID TECHNOLOGY.

The NYPD’s current hearing-loss policy disqualifies candidates with a “pure tone threshold greater than 25 decibels [dB] at 500, 1,000, 2,000, 3,000 Hertz or greater than 35 decibels at 4,000 Hertz and 6,000 Hertz”.<sup>2</sup> “Hearing aids are not permitted” for candidates taking the hearing test.<sup>3</sup> The NYPD’s policy was finalized in January 2010, but the reasons cited for the Department’s hearing-aid prohibition are primarily drawn from a report prepared for the United States Postal Service almost two decades ago.<sup>4</sup> Hearing aids have undergone significant changes since this Postal Service report was published. Most importantly, digital hearing aids have almost universally replaced analog hearing aids.

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<sup>2</sup> Marc B. Kramer, Medical Standards: Hearing & Use of Hearing Aids, prepared for the New York City Police Department (Nov. 2009) at 8.

<sup>3</sup> Id.

<sup>4</sup> See Sigfrid D. Soli, Use of Hearing Aids by Law Enforcement Officers & Special Agents, prepared for the Employee Health & Services Division of the United States Postal Service (Apr. 1996).

A. Digital Technology has Revolutionized Hearing Aids.

In 1996, when the report for the Postal Service was published, digital hearing aids made up only 6% of hearing devices dispensed in the United States; in 2000 it was still only 23%.<sup>5</sup> But by 2005, 93% of all hearing aids sold in the United States contained digital-signal-processing technology.<sup>6</sup> Today, virtually all new hearing aids sold in the United States are digital hearing aids.<sup>7</sup>

Analog hearing aids converted sound waves into electrical signals and then amplified them. These hearing aids came with a simple mechanism for volume control that only allowed the user to adjust loudness levels for *all* sounds. Digital hearing aids are more effective, smaller and more powerful than their analog predecessors. Digital instruments convert sound waves into numerical codes (like a computer's binary code), run an algorithm over the code and then output custom-tailored augmented sound.<sup>8</sup> Because each string of numbers contains information about a sound's pitch and loudness, digital aids can be programmed to amplify specific frequencies, as well as focus on sounds coming from a particular direction.<sup>9</sup> Digital hearing aids improve at a fast pace. "Because digital hearing aids are built with computer technology, they get stronger and better every few years as technology improves".<sup>10</sup> In short, digital hearing aids more accurately replicate incoming signals, including speech, than analog hearing aids.

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<sup>5</sup> Karl Strom, Hearing Instrument Dispensing in 2000: The HR Dispenser Survey, The Hearing Review (June 1, 2001), available at <http://www.hearingreview.com/2001/06/hearing-instrument-dispensing-in-2000-the-hr-dispenser-survey/>.

<sup>6</sup> Brent Edwards, The Future of Hearing Aid Technology, 11 Trends in Amplification 31, 31 (2007).

<sup>7</sup> Karl Strom, HR 2013 Hearing Aid Dispenser Survey: Dispensing in the Age of Internet and Big Box Retailers, The Hearing Review (Apr. 8, 2014), available at <http://www.hearingreview.com/2014/04/hr-2013-hearing-aid-dispenser-survey-dispensing-age-internet-big-box-retailers-comparison-present-past-key-business-indicators-dispensing-offices/#sthash.OSt2jGis.dpuf>.

<sup>8</sup> Hearing Aids, National Institute on Deafness and Other Communication Disorders, 3 (Sept. 2013), available at <http://www.nidcd.nih.gov/staticresources/health/hearing/NIDCD-Hearing-Aids.pdf>.

<sup>9</sup> Id.

<sup>10</sup> All About Hearing Aids, WebMD, 3, (Jan. 24, 2014), <http://www.webmd.com/healthy-aging/hearing-aids>.

B. The NYPD's 11 Reasons for Prohibiting Hearing Aids Are Invalid.

In 2009, the NYPD's consultant on hearing aids, Marc B. Kramer, listed 11 reasons why hearing aids should be prohibited. Seven of Kramer's reasons (reasons 4–10) stem directly from the 1996 Postal Service report discussing analog technology, where they appear in the same order.<sup>11</sup> Kramer opined that hearing aids: (1) do not “resolve hearing to normal levels”; (2) may leave acoustic cues inaudible; (3) may compromise binaural hearing; (4) require batteries that may, “without warning, become drained, suddenly rendering the hearing aid inoperative”; (5) have “[c]ontrol switches and knobs” which the user must adjust in the ear or remove to make adjustments; (6) will likely “fail during the life of the instrument”; (7) may become blocked by “[e]arwax and other debris”; (8) will be affected by electronic interference; (9) may require “remote control units” to “be carried by the user at all times”; (10) “may be displaced or rendered inoperative during physical confrontation”; and (11) “may be incompatible with sound monitoring equipment”.<sup>12</sup> The digital revolution in hearing-aid technology that has occurred since 1996 renders Kramer's concerns—some of which may have applied to earlier generations of hearing technology—anachronistic and obsolete.

1. Modern hearing aids can be configured to ensure the user has the best possible hearing outcome and can pass hearing tests designed to identify hearing loss.

Kramer argued that because hearing aids “did not resolve hearing to normal levels”, hearing aids should be prohibited for NYPD officers.<sup>13</sup> This opinion disregarded advances in hearing aids and ignored that some people with hearing aids do, in fact, pass hearing examinations designed to test for deviations from “normal” hearing. If all hearing aids failed to “resolve hearing to normal levels”, it would be unnecessary to prohibit their use in NYPD's

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<sup>11</sup> Kramer, *supra* note 2, at 8.

<sup>12</sup> *Id.* at 3–4.

<sup>13</sup> *Id.* at 3.

hearing test, which is designed to measure a person’s hearing levels. Kramer is mistaken to treat hearing as binary. In fact, hearing—both with and without a hearing aid—occurs on a spectrum. Advances in digital technology have vastly improved the functional hearing of persons with hearing loss, especially their ability to comprehend speech in environments filled with background noise, such as New York City. The newest generation of digital hearing aids achieve precision and clarity by offering 16 bands—treble, bass, and mid-levels.<sup>14</sup> These new hearing aids “filter out background noise, clean up and clarify the sound quality, [and] automatically adjust the volume”.<sup>15</sup>

2. Modern hearing aids significantly reduce background noises, provide multiple bands for filtering sounds and produce very high acuity to help localize sounds.

Kramer argued that because “acoustic cues . . . may be inaudible” with hearing aids, hearing aids should be prohibited.<sup>16</sup> This opinion does not apply to modern hearing aids, which offer high acuity and permit users to localize sound. Digital instruments have the capacity to implement ever more sophisticated algorithms, which enable features like feedback cancellation, noise reduction, environment classification and statistical data logging—features that could not have been achieved with analog hearing aids.<sup>17</sup> Acoustic feedback is a major annoyance that digital hearing aid advances have largely eliminated. Acoustic feedback occurs when a hearing aid is improperly fit. If the hearing aid fits snugly in the ear, there should be no

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<sup>14</sup> See Jeanie Lerche Davis, The New Hearing Aids, WebMD, 4, (Dec. 14, 2005), <http://www.webmd.com/a-to-z-guides/features/new-hearing-aids>.

<sup>15</sup> Id. There is little doubt this dramatic progress will continue. A 2013 study detailed a newly developed algorithm that enabled subjects with hearing loss—regardless of their degree of hearing loss—to hear *better* than subjects with normal hearing, measured in terms of their ability to comprehend speech in challenging listening environments. Although this algorithm has not yet been incorporated into commercially available hearing aids, its success captures the achievements of digital technology to date as well as its promise for the near future. See Eric W. Healy & Sarah E. Yoho, An Algorithm to Improve Speech Recognition in Noise for Hearing-Impaired Listeners, 134 J. Acoustic Soc. Am. 3029, 3036–37 (2013).

<sup>16</sup> Kramer, supra note 2, at 3.

<sup>17</sup> Edwards, supra note 6, at 32.

sound leakage, and thus no sound to feed back into the ear.<sup>18</sup> Modern hearing aids employ digital-feedback-reduction and suppression mechanisms<sup>19</sup> to constantly monitor for feedback and automatically adjust amplification to minimize it.<sup>20</sup> They also use a cancellation or a notch-filtering system to reduce or eliminate moderate feedback.<sup>21</sup>

3. Modern hearing aids do not compromise binaural hearing.

Kramer argued that because “binaural hearing, that is required for accurate auditory localization, can be compromised by hearing aid use”, hearing aids should be prohibited.<sup>22</sup> Again, this opinion does not apply to modern hearing aids. Greater bandwidth and wireless synchronization of dual hearing aids—called “binaural” hearing aids—allow digital technology to replicate the way both ears function in tandem in people with normal hearing. Wireless communication between hearing aids enables coordinated volume control, ensures that both aids implement automatic program changes (for example, changing directionality, or switching between omnidirectional and multi-directional microphone modes), and synchronizes “gain processing” (which discriminates among sounds to make them more audible).<sup>23</sup> As a 2010 study explained, binaural auditory systems “use subtle monaural high-frequency cues as well as ear-to-ear differences in intensity and time of arrival to organize the sources of sound in the environment”.<sup>24</sup> The study found that people using binaural hearing instruments performed significantly better at hearing in noisy environments than people who used advanced non-

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<sup>18</sup> Daily Care for the Hearing Aid, American Speech-Language-Hearing Association, <http://www.asha.org/public/hearing/Daily-Care-for-the-Hearing-Aid/> (last visited Feb. 13, 2015).

<sup>19</sup> Todd A. Ricketts, Digital Hearing Aids: Current “State-of-the-Art”, American Speech-Language-Hearing Association, <http://www.asha.org/public/hearing/Digital-Hearing-Aids-Current-State-of-the-Art/>.

<sup>20</sup> Learning About Hearing Aids, American Speech-Language-Hearing Association, <http://www.asha.org/uploadedFiles/AIS-Learning-Hearing-Aids.pdf#search=%22audiology%22> (last visited Feb. 13, 2015).

<sup>21</sup> Ricketts, *supra* note 19.

<sup>22</sup> Kramer, *supra* note 2, at 3.

<sup>23</sup> Iman Ibrahim et al., Evaluation of Speech Intelligibility and Sound Localization Abilities with Hearing Aids Using Binaural Wireless Technology, 3 *Audiology Res.* 1, 2 (2013).

<sup>24</sup> Brian M. Kreisman et al., Improvements in Speech Understanding With Wireless Binaural Broadband Digital Hearing Instruments in Adults With Sensorineural Hearing Loss, 14 *Trends in Amplification* 1, 10 (2010).

wireless digital instruments with lower bandwidth.<sup>25</sup> It reported statistically significant improvements at every noise condition.<sup>26</sup>

4. Modern hearing aids have batteries that last for several days and are easy to replace.

Kramer argued that because hearing aids “require batteries that can, without warning, become drained, suddenly rendering the hearing aid inoperative”, hearing aids should be prohibited.<sup>27</sup> In fact, improved battery life represents a hallmark of modern hearing technology: most hearing-aid batteries last from several days to one or more weeks.<sup>28</sup> Miniature long-lasting Zinc Air batteries power the majority of hearing aids made today. Users quickly understand how long the particular batteries last for their hearing aid, and can easily replace the batteries before they are depleted. Modern hearing aids also indicate battery life and warn the users when their batteries are losing power. It takes mere seconds to replace batteries on a hearing aid. Keeping a backup set of batteries on hand will further mitigate potential problems associated with weakening or faulty batteries.

5. Modern hearing aids do not require the manipulation of in-ear control switches and knobs.

Kramer argued that because “the user must be either able to adjust the controls of the hearing aid with it in the ear, or must remove the hearing aid to make the adjustment”, hearing aids should be prohibited.<sup>29</sup> Kramer himself noted, in 2009, that this is “not the case in most digital hearing aids now in use”.<sup>30</sup> Kramer’s concern is moot in 2015 as control switches have virtually been eliminated with the adoption of automated digital technology, except for a manual override option on some hearing aids. Instead of relying on the user to shift between

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<sup>25</sup> *Id.* at 6.

<sup>26</sup> *Id.*

<sup>27</sup> Kramer, *supra* note 2, at 3.

<sup>28</sup> *All About Hearing Aids*, *supra* note 10; *Daily Care for the Hearing Aid*, *supra* note 18.

<sup>29</sup> Kramer, *supra* note 2, at 3.

<sup>30</sup> *Id.*

settings, digital aids automatically adjust to unique listening environments. Digital hearing aids use digital signal processing algorithms to automatically adjust volume and amplification levels, regulate noise reduction, control feedback cancellation and shift modes from omnidirectional to multi-directional processing.<sup>31</sup> With respect to volume control, today's hearing aids automatically analyze incoming sounds and amplify them based on the characteristics of the user's particular hearing loss: for example, the device amplifies soft sounds more than loud sounds to ensure a comfortable inflow, eliminating the need for a volume-control button or wheel.<sup>32</sup> Likewise, digital noise-reduction mechanisms automatically detect noise and accordingly reduce gain, either in low frequencies or in specific bands; at the same time, digital speech-enhancement technology automatically identifies and enhances speech by increasing its intensity.<sup>33</sup>

6. Modern hearing aids are physically resilient and long-lasting.

Kramer states that because “[s]ome combination of the hearing aid’s mechanical and/or electronic components is likely to fail during the life of the instrument”, hearing aids should be prohibited.<sup>34</sup> Kramer offers no supporting data for, or further explanation of, this unusual opinion. While modern hearing aids are more physically resilient and long-lasting than previous generations of hearing-aid technology, there is always some chance of failure. More to the point, all technology has a chance of failure. However, that fact alone does not present an argument for a blanket ban on any particular technology.

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<sup>31</sup> Edwards, supra note 6, at 36.

<sup>32</sup> Learning About Hearing Aids, supra note 19.

<sup>33</sup> Ricketts, supra note 20.

<sup>34</sup> Kramer, supra note 2, at 3.

7. Modern hearing aids minimize earwax and can easily be cleaned.

Kramer argued that because “[e]arwax and other debris may block the loudspeaker output”, hearing aids should be prohibited.<sup>35</sup> This concern is unfounded. Responsible hearing-aid hygiene by users resolves any problems due to earwax. Moreover, nearly all hearing aids come with earwax filters to help prevent wax from clogging the component of the hearing aid that delivers sound to the user’s ear. Further, a popular style of hearing aid—called “mini behind the ear” or Mini BTE—minimizes earwax buildup because it is designed to fit entirely behind the wearer’s ear with only a narrow tube reaching into the ear canal.<sup>36</sup> In addition, not every hearing-aid user experiences significant wax buildup. For those who do, potential problems relating to earwax buildup are easily resolved through simple, routine cleaning of the hearing aid and ear canal.

8. Modern hearing aids are not significantly affected by electronic interference.

Kramer argued that because hearing aids were affected by “[e]lectronic interference”, hearing aids should be prohibited.<sup>37</sup> Electromagnetic interference—which was a limitation of analog hearing aids—is no longer a serious concern given today’s technology. Compared to analog hearing aids, digital coding schemes are “more resistant to interference from electromagnetic signals” as well as to “other devices wirelessly transmitting in the area”.<sup>38</sup> Moreover, digital hearing-aid circuitry is typically well shielded from electromagnetic energy; this construction combined with hearing aid-compatible cell phones has mitigated problems associated with electromagnetic interference.<sup>39</sup>

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<sup>35</sup> Id.

<sup>36</sup> Hearing Aids, supra note 8, at 2.

<sup>37</sup> Kramer, supra note 2, at 3.

<sup>38</sup> Edwards, supra note 6, at 33.

<sup>39</sup> Bryan Crose et al., Digital Wireless Hearing Aids, Part 4: Interference, The Hearing Review (Dec. 3, 2011), available at <http://www.hearingreview.com/2011/12/digital-wireless-hearing-aids-part-4-interference/>.

Modern hearing aids use five additional design features to minimize interference.<sup>40</sup> *First*, settings are updated very frequently—21 times per second—to ensure that settings are quickly corrected if a transmission fails. *Second*, hearing aids use “redundant transmission”, which transmits hearing-aid settings and other important data in multiple packets, with each packet containing the same information to mitigate the risk of losing any information in transmission. *Third*, hearing aids feature high bit rates, meaning that more information is transmitted per second—ensuring not only that the audio comes in at a high resolution, but also that any corrupted transmission is compensated for by the uncorrupted bits. *Fourth*, hearing aids are designed to anticipate transmission errors caused by interference; error-correction codes can correct these flaws instantaneously. *Fifth*, hearing-aid technology uses “graceful degradation”, a technique that minimizes the ill effects of interference errors (hissing, crackling, and pops) by slowing down performance in the presence of interference instead of completely terminating a transmission or waiting for the correct data.<sup>41</sup>

9. Modern hearing aids do not require remote control units to be carried by the user at all times.

Kramer argued that because “[r]emote control units (when utilized) must be carried by the user at all times”, hearing aids should be prohibited.<sup>42</sup> In fact, modern hearing aids are wireless and automated with no need to carry a remote control unit at all times. The only reason a person would carry a remote control would be to manually control their hearing instruments.<sup>43</sup>

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<sup>40</sup> See generally id.

<sup>41</sup> Id.

<sup>42</sup> Kramer, supra note 2, at 4.

<sup>43</sup> See, e.g., Oticon, Oticon Connectline, <http://www.oticon.com/products/wireless-accessories/connectline/personal-remote.aspx> (last visited Feb. 13, 2015).

10. Modern hearing aids can withstand physical confrontation.

Kramer argued that because “[h]earing aids may be displaced or rendered inoperative during physical confrontation in the line of duty”, hearing aids should be prohibited.<sup>44</sup> The current generation of digital hearing aids is significantly more physically resilient than previous versions. Derrick Coleman, a fullback for the Seattle Seahawks, wears hearing aids while playing professional football.<sup>45</sup> Luke Adams, who plays guard for the Texas Tech basketball team, wears a hearing aid.<sup>46</sup> Furthermore, waterproof digital hearing aids designed to withstand water, humidity and dust, are also commercially available.<sup>47</sup> Modern hearing aids can also be equipped with automatic wind-noise reduction designed to improve speech understanding by as much as 40% in wind speeds from 10 to 30 miles per hour.<sup>48</sup> There is little reason to be concerned that a hearing aid will be inadequately fastened to the listener’s ear. Hearing aids and ear molds are custom-designed for the contours of each unique ear to snugly fit under cartilage over the ear canal. Behind-the-ear hearing aids are particularly secure, because the over-ear mechanism provides an additional point of contact and stability. Moreover, Kramer fails to fully consider the implications of a hearing aid displaced by a physical confrontation. Vincenzo Mirzi, a Bridgeport, Connecticut police officer with hearing aids,

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<sup>44</sup> Kramer, *supra* note 2, at 4.

<sup>45</sup> Michael David Smith, Derrick Coleman: I don’t use my hearing aids as an excuse, NBC Sports (Jan. 29, 2014, 3:03 PM), <http://profootballtalk.nbcsports.com/2014/01/29/derrick-coleman-i-dont-use-my-hearing-aids-as-an-excuse/>.

<sup>46</sup> Men’s Basketball Roster: Number 13 Luke Adams, Texas Tech University, [http://www.texastech.com/sports/m-baskbl/mtt/luke\\_adams\\_776682.html](http://www.texastech.com/sports/m-baskbl/mtt/luke_adams_776682.html) (last visited Feb. 13, 2015).

<sup>47</sup> See generally What About Hearing Aids?, Better Hearing Institute, <http://www.betterhearing.org/hearing-loss-adults/what-about-hearing-aids> (last visited Feb. 13, 2015).

<sup>48</sup> See, e.g., Hearing Aids and Wind Noise Reduction, Appalachian Audiology, <http://www.appalachianaudiology.com/hearing-aids-and-wind-noise.php> (last visited Feb. 13, 2015).

compares their operational necessity to glasses, which NYPD officers are permitted to wear. “If we were in pursuit of a suspect, my aid falls out, your glasses fall off, who’s got a better shot?”<sup>49</sup>

11. Modern hearing aids are not incompatible with sound monitoring equipment.

Kramer argues that because hearing aids “may be incompatible with sound monitoring equipment”, hearing aids should be prohibited.<sup>50</sup> In fact, many of today’s hearing aids use Bluetooth technology to directly connect to electronic devices, including cell phones, computers and GPS devices.<sup>51</sup> As such, digital hearing aid users can receive cell-phone and radio signals directly in their hearing aids, eliminating feedback from those sources,<sup>52</sup> as well as providing a wireless interface to connect hearing aids with other auditory equipment.

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<sup>49</sup> Brian Lockhart, Bridgeport police to hire cops with hearing aids, The Stamford Advocate (Nov. 27, 2014), available at <http://www.stamfordadvocate.com/local/article/Bridgeport-police-to-hire-cops-with-hearing-aids-5922026.php>.

<sup>50</sup> Kramer, supra note 2 at 4.

<sup>51</sup> Hearing Aids: Topic Overview, WebMD (last updated Apr. 8, 2013), <http://www.webmd.com/a-to-z-guides/hearing-aids-topic-overview?page=2>.

<sup>52</sup> Learning About Hearing Aids, supra note 20.

## 12. Summary of available evidence.

The following table summarizes how the improvements in hearing-aid technology address the NYPD's grounds for prohibition.

Table 1: NYPD Concerns v. Modern Hearing Aids

| #  | NYPD Hearing Aid Concerns   | Modern Hearing Aids   |
|----|---|---|
| 1  | Hearing is not resolved to normal levels.   | Hearing aids can be configured to ensure that the individual has the best possible hearing outcome and can pass hearing tests designed to exclude hearing deficiencies. |
| 2  | Acoustic cues may be inaudible.   | Precise instruments significantly reduce background noises, provide multiple bands for filtering sounds and produce very high acuity.                                   |
| 3  | Binaural hearing is compromised.  | Wireless features synchronize hearing in both ears, thereby supporting binaural hearing.  |
| 4  | Batteries may suddenly be depleted.   | Batteries last several days, can be regularly changed, are easy to change and users are warned when they are running low.   |
| 5  | In-ear adjustment of control switches and knobs is inconvenient.                                    | Hearing aids are wireless and automated, with no need for switches and knobs on the hearing aid device.   |
| 6  | Hearing aids may fail.  | Hearing aids are physically durable, protected from external elements and can last for 10 years or more.  |
| 7  | Hearing aids are prone to ear wax blockage.   | Ear wax filters, "mini behind the ear" devices prevent buildup, and the user can avert wax problems with regular care.  |
| 8  | Hearing aids are prone to electronic interference.  | Improved resistance and EM shielding mitigate electronic interference.  |
| 9  | Remote control units must be carried at all times.  | Hearing aids are wireless and automated, with no need to carry a remote control.  |
| 10 | Hearing aids could potentially be displaced or rendered inoperative during physical confrontations. | Hearing aids are physically durable, protected from external elements, snugly fastened and worn by professional athletes in contact sports.                             |
| 11 | Hearing aids may be incompatible with sound monitoring equipment.                                   | Hearing aids minimize feedback and interference and can directly interface with electronic equipment.   |

Modern hearing-aid technology has progressed far beyond the hearing aids that existed in 1996, when the Postal Service report was published. The revolution in digital-hearing technology and the wide variety of hearing-aid styles and features have eliminated a host of limitations that may have affected earlier generations of hearing devices. Accordingly, the 11 reasons forming the basis for the NYPD's categorical exclusion of hearing aids are no longer tenable.

II. THE NYPD'S HEARING-AID POLICY IS AN OUTLIER; THE OVERWHELMING MAJORITY OF POLICE AND LAW ENFORCEMENT DEPARTMENTS ALLOW THE USE OF HEARING AIDS.

The NYPD appears to be the only police department in the country that explicitly excludes all applicants who use hearing aids *and* maintains a blanket exclusion policy for officers who develop hearing loss to the point where they require a hearing aid. A 2010 survey of 15 police departments,<sup>53</sup> conducted by the NYPD's Personnel Bureau's Testing and Research Unit, found that "[a]ll Police Departments surveyed (except for the NYPD) either currently have police officers on patrol who use a hearing aid to restore hearing or would allow a police officer who uses a hearing aid to be on patrol if the officer met the Department's hearing standards."<sup>54</sup>

In addition to the departments surveyed by the NYPD, a large number of city and state police forces in America undertake a qualitative case-by-case analysis to determine whether a candidate or officer can fulfill their hearing requirements. For example, the New York State guidelines for municipal police permit candidates to be evaluated with hearing aids,<sup>55</sup> as does the Massachusetts State Police.<sup>56</sup> Michigan also offers additional hearing protocols for candidates who wear hearing aids.<sup>57</sup> California's 2001 policy for peace officers permits candidates to be tested with hearing aids and explains that "fair employment laws require that an agency evaluate each aided candidate on a case-by-case basis".<sup>58</sup> Many municipal police departments explicitly

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<sup>53</sup> NYPD, New York State Police, San Diego PD, Los Angeles PD, MTA Police, Nassau PD, Suffolk PD, Boston PD, Philadelphia PD, Chicago PD, Houston PD, Meza PD, San Antonio PD, Dallas PD and Phoenix PD.

<sup>54</sup> NYPD, Recommendations Regarding the Use of Hearing Aids by Uniformed Members of the Service, Jan. 12, 2010, 3.

<sup>55</sup> New York Municipal Police Training Council, Medical and Physical Fitness Standards and Procedures for Police Officer Candidates (Version 2011), 8 (Sept. 14, 2011), available at <http://www.criminaljustice.ny.gov/ops/docs/registry/policeapptsmed.pdf>.

<sup>56</sup> Massachusetts Public Employee Retirement Administration Commission, Municipal Police Officers' Medical Standards and Essential Functions, 5 (April 2014), available at <http://www.mass.gov/perac/disability/municipalpoliceofficers.pdf>.

<sup>57</sup> Michigan Commission on Law Enforcement Standards, Employment Standards for Michigan Law Enforcement Officers (last updated June 2012), available at <http://www.michigan.gov/mcoles/0,4607,7-229--150169--,00.html>.

<sup>58</sup> R. Leonard Goldberg, Hearing Guidelines, California Peace Officer Standards and Training, XII-14 (revised Dec. 2001) available at <http://lib.post.ca.gov/Publications/Hearing.pdf>.

permit candidates to take hearing tests while using hearing aids. Houston,<sup>59</sup> Los Angeles,<sup>60</sup> and Bridgeport<sup>61</sup> all have policies that permit, or grant discretion to permit, officers the use of hearing aids. While the New Hampshire State Police<sup>62</sup> and the Pittsburgh Police Department<sup>63</sup> prohibit the use of hearing aids by candidates, neither appears to maintain a blanket exclusion policy for officers who subsequently develop hearing loss and require hearing aids. The Nashua, New Hampshire Police Department permits officers with hearing loss to serve on its force.<sup>64</sup>

Federal hearing-loss law and policy have sought to enforce the acceptance of hearing aids. In a 2002 settlement agreement, the Civil Rights Division of the U.S. Department of Justice (the “DOJ”) agreed not to institute a civil action against the Honolulu Police Department in exchange for the police department “eliminat[ing] its policy of automatically excluding job applicants who use a hearing aid to attenuate hearing loss” and “implement[ing] a hiring policy in which job applicants who use a hearing aid are individually assessed on a case-by-case basis”.<sup>65</sup> In a similar 2011 suit against the Illinois State Police, the same division of the DOJ argued that under the ADA, police officers must be evaluated on a case-by-case basis. In particular, the DOJ alleged that the Illinois State Police was “engaged in a pattern or practice of discrimination by maintaining a policy whereby applicants for cadet job vacancies [were] automatically excluded” if they required hearing aids, and that applicants to the Illinois State

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<sup>59</sup> Houston Police Department, Specific Medical Guidelines, available at [http://www.hpdcareer.com/Specific\\_Medical\\_Guidelines.html](http://www.hpdcareer.com/Specific_Medical_Guidelines.html) (last visited Feb. 13, 2015).

<sup>60</sup> City of Los Angeles Personnel Department, Los Angeles Police Officer Minimum Requirements, available at [http://per.lacity.org/psb/lapd\\_recruit1.htm](http://per.lacity.org/psb/lapd_recruit1.htm) (last visited Feb. 13, 2015).

<sup>61</sup> See Lockhart, *supra* note 49.

<sup>62</sup> NH Police Standards and Training Council, Frequently asked questions about police and corrections training, available at <http://www.pstc.nh.gov/faqs.htm> (last visited Feb. 13, 2015).

<sup>63</sup> City of Pittsburgh Department of Public Safety Bureau of Police, Annual Report 2013, 21, available at [http://apps.pittsburghpa.gov/dps/2013\\_Annual\\_Report\\_draft\\_%28final%29.pdf](http://apps.pittsburghpa.gov/dps/2013_Annual_Report_draft_%28final%29.pdf) (last visited Feb. 13, 2015).

<sup>64</sup> Kimberly Houghton, Nashua Police Officer’s Hearing Loss Can’t Slow Him Down, UnionLeader.com (Mar. 25, 2013, 3:00 AM), available at <http://www.unionleader.com/article/20130325/NEWHAMPSHIRE09/130329484&template=mobileart>.

<sup>65</sup> Settlement Agreement Between the United States of America and the Honolulu Police Department, ¶¶ 8(a), 8(b) (Feb. 21, 2002), available at [http://www.justice.gov/crt/foia/readingroom/frequent\\_requests/title\\_i\\_settlements/title1\\_honolulu\\_hi.pdf](http://www.justice.gov/crt/foia/readingroom/frequent_requests/title_i_settlements/title1_honolulu_hi.pdf).

Police were “not permitted the use of assistive devices, such as hearing aids, in the cadet medical screening”.<sup>66</sup> In a settlement agreement with the United States, the Illinois State Police agreed to “eliminate its policy of automatically excluding applicants for cadet jobs who use assistive devices such as hearing aids to attenuate hearing loss” and “implement a hiring policy whereby . . . applicants who use hearing aids are individually assessed to determine their eligibility”.<sup>67</sup>

Hearing aids are also increasingly accepted in foreign police departments. The London Metropolitan Police accepts candidates with hearing aids,<sup>68</sup> as does the French National Police.<sup>69</sup> In 2011, the Royal Canadian Mounted Police Force adopted a functional hearing assessment in place of its previous pure-tone detection method, which was similar to the NYPD’s current policy. The previous hearing test determined whether an officer could hear tones above a certain threshold; by contrast, functional hearing tests evaluate the extent to which an officer can perform hearing exercises that are related to his or her work activities, and in particular, the ability to hear in noisy environments and to accurately localize sound.<sup>70</sup> The Royal Canadian Mounted Police Force administered the new functional test to 57 officers with hearing aids who had previously been classified as unfit for operational duty because, according to the pure-tone threshold test, their hearing condition made them a safety threat.<sup>71</sup> After the functional test, 49% of the officers were reclassified and returned to operational status, subject to certain limitations on fine-hearing duties.<sup>72</sup>

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<sup>66</sup> Settlement Agreement Between the United States of America and the Illinois State Police, ¶ 9(a) (Nov. 30, 2011) available at [http://www.ada.gov/illinois\\_state\\_police.htm](http://www.ada.gov/illinois_state_police.htm).

<sup>67</sup> Id. at ¶¶ 16(a) and 16(b).

<sup>68</sup> Metropolitan Police, Fit for the Job: How to Pass your Medical and Fitness Test, 4, available at [http://www.metpolicecareers.co.uk/media/pdf/fitforthejob\\_2012.pdf](http://www.metpolicecareers.co.uk/media/pdf/fitforthejob_2012.pdf) (last visited Feb. 13, 2015).

<sup>69</sup> Direction Générale de la Police Nationale, HandiCap Sur L’insertion au Sein de Services de Police, (Mar. 2006), available at [http://www.interieur.gouv.fr/content/download/30223/225987/file/livret\\_hand\\_sdas\\_pn.pdf](http://www.interieur.gouv.fr/content/download/30223/225987/file/livret_hand_sdas_pn.pdf).

<sup>70</sup> Véronique Vaillancourt et al., Evaluation of Auditory Functions for Royal Canadian Mounted Police Officers, 22 J. Am. Acad. of Audiology 313, 314 (2011).

<sup>71</sup> Id. at 316.

<sup>72</sup> Id. at 327.

The following table summarizes the results of 27 surveyed departments.

Table 2: Police Force Hearing-Aid Policy Comparison

| <b>Police Force</b>               | <b>Permits Hearing Aids for Applicants</b> | <b>Prohibits Hearing Aids for Applicants</b> | <b>Case-by-Case Determination for Serving Officers</b> | <b>Prohibits Hearing Aids for Serving Officers</b> |
|-----------------------------------|--|--|--|--|
| Boston, MA                        |  | X  | X  |  |
| Bridgeport, CT                    | X  |  | X  |  |
| California                        | X  |  | X  |  |
| Chicago, IL                       | X  |  | X  |  |
| Dallas, TX                        | X  |  | X  |  |
| Fort Wayne, TX                    | X  |  | X  |  |
| France                            | X  |  | X  |  |
| Honolulu, HI                      | X  |  | X  |  |
| Houston, TX                       | X  |  | X  |  |
| Illinois                          | X  |  | X  |  |
| London Metropolitan (UK)          | X  |  | X  |  |
| Los Angeles, CA                   | X  |  | X  |  |
| Massachusetts                     | X  |  | X  |  |
| Mesa, AZ                          | X  |  | X  |  |
| Michigan                          | X  |  | X  |  |
| MTA Police, NY                    | X  |  | X  |  |
| Nashua, NH                        |  |  | X  |  |
| Nassau, NY                        | X  |  | X  |  |
| New Hampshire                     |  | X  | X  |  |
| New York                          | X  |  | X  |  |
| New York State Municipal Guidance | X  |  | X  |  |
| <b>NYPD, NY</b>                   |  | X  |  | X  |
| Phoenix, AZ                       | X  |  | X  |  |
| Pittsburgh, PA                    |  | X  | X  |  |
| Royal Canadian Mounted Force      | X  |  | X  |  |
| San Diego, CA                     | X  |  | X  |  |
| Suffolk, NY                       | X  |  | X  |  |

III. THE NYPD’S HEARING-AID POLICY IS HARMFUL TO APPLICANTS AND OFFICERS, COUNTERPRODUCTIVE AND A RISK TO THE NEW YORK CITY PUBLIC.

The NYPD’s policy harms applicants and officers who use hearing aids by categorically excluding them from the force. The policy also incentivizes officers to hide their hearing difficulties. Moreover, because hearing loss is more prevalent in certain groups—such as middle-aged white and Hispanic males, veterans with combat experience and residents of loud cities like New York—the NYPD’s policy has a greater impact on these groups.

Hearing loss is widespread in the United States. 48.1 million Americans—one in seven—have hearing loss, defined with a threshold greater than 25 dB.<sup>73</sup> The NYPD’s prohibition on hearing aids for applicants disqualifies persons with hearing loss, regardless of their qualifications and hearing ability with a hearing aid. Hearing loss is unevenly distributed throughout American society and associated with basic demographic factors, such as age, gender and race. The likelihood of developing unilateral or bilateral hearing loss increases with age.<sup>74</sup> Hearing loss is significantly less common in women than in men across all age groups,<sup>75</sup> as well as less prevalent in black individuals than in white and Hispanic individuals.<sup>76</sup>

Hearing-loss prevalence further varies by noise exposure and is therefore associated with a person’s lifestyle and occupation. Noise-induced hearing loss can be caused by a single loud trauma exceeding the 130 dB range that “directly cause[s] mechanical damage to the cochlea” as well as by “milder acoustic exposure for a long duration” that progressively

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<sup>73</sup> Frank R. Lin et al., Hearing Loss Prevalence in the United States, 171 Arch. Intern. Med. 1851, 1851 (Nov. 14, 2011).

<sup>74</sup> While 5.4% of persons in the United States aged 30–39 have hearing loss, the prevalence rises to 12.9% for those who are 40–49, 28.5% for 50–59, and reaches 44.9% for the ages 60–69. Id. at 1852.

<sup>75</sup> 20.3% of men in the United States aged 50–59 have bilateral hearing loss, while only 6.1% of women in the United States in the same age bracket have bilateral hearing loss. Id.

<sup>76</sup> 14.5% of white individuals and 13.8% of Hispanic individuals aged 50–59 in the United States have bilateral hearing loss; only 7.1% of black individuals in the same age bracket in the United States have such hearing loss. Id.

damages hair cells, the sensory receptors of the auditory system.<sup>77</sup> Cochlear hair cells do not regenerate in humans, which means that the death of any single hair cell is permanent and noise-induced hearing loss can accumulate gradually.<sup>78</sup> A recent study found average noise exposure of the American population to be substantially higher than previously known, with many people exposed to noise “that could result in long-term adverse effects on hearing”.<sup>79</sup>

Increased hearing impairment due to noise exposure is well-documented for military veterans. A report by the Centers for Disease Control found that hearing impairment was the most common service-related injury.<sup>80</sup> Veterans were 30% more likely than non-veterans to develop severe hearing impairment, and veterans who served “during September 2001–March 2010, the era of overseas contingency operations (including Operations Enduring Freedom and Iraqi Freedom)—were four times more likely than non-veterans to have” significant hearing impairment.<sup>81</sup> While the NYPD seeks to be veteran-friendly, its blanket ban on hearing aids has a disproportionate impact on veterans and especially those who served in combat.<sup>82</sup>

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<sup>77</sup> Robert V. Harrison, The Prevention of Noise Induced Hearing Loss in Children, Intern. J. of Pediatrics 1, 2 (Nov. 16, 2012), available at <http://www.hindawi.com/journals/ijpedi/2012/473541/>.

<sup>78</sup> Id. at 7.

<sup>79</sup> Gregory A. Flamme et al., Typical Noise Exposure in Daily Life, 51 Int. J. Audiol., S3–11, S3 (Feb. 2012), available at <http://www.ncbi.nlm.nih.gov/pubmed/22264061>.

<sup>80</sup> Centers for Disease Control and Prevention, Severe Hearing Impairment Among Military Veterans—United States, 2010, 60 CDC Morbidity and Mortality Weekly Report 954, 955 (July 22, 2011), available at <http://www.cdc.gov/mmwr/pdf/wk/mm6028.pdf>.

<sup>81</sup> Id.

<sup>82</sup> The policy of the NYPD appears to be in direct conflict with the Uniformed Services Employment and Reemployment Rights Act (USERRA), codified at Title 38 U.S.C. §§ 4301-4335. By requiring the dismissal of any NYPD officer who relies on the use of a hearing aid, the NYPD policy fails to take into account additional requirements it must meet before dismissing an employee returning with a hearing impairment that was incurred or aggravated by their military service. Before removing a service member who returns to their job with such a disability, and if it is determined that the service member is no longer qualified to return to the position that he or she left, an employer must place that person in a position of like seniority, status, and pay, or in a position which is in nearest approximation to a position of like seniority, status, and pay. 38 U.S.C. § 4313(a)(3). The policy of the NYPD fails in this regard. As such, it violates the unambiguous language of USERRA.

New Yorkers are also at a heightened risk of hearing loss. To prevent noise-induced hearing loss, the Environmental Protection Agency recommends an average noise-exposure level of no greater than 70 dB for 24-hour exposure, and no greater than 75 dB for 8-hour exposure.<sup>83</sup> In its Noise Code Guide, the New York City Government estimates Midtown Manhattan traffic noise to be between 70–85 dB and the sound of a train to be around 100 dB.<sup>84</sup> A study of mass-transit users in New York found that 90% exceeded the EPA’s recommended annual noise exposure and 10% did so only with the noise they were exposed to during their commute.<sup>85</sup> These exposure levels contribute to a higher-than-average prevalence of hearing difficulties among New Yorkers: 22% of New Yorkers aged 45 and older have ringing in their ears and/or hearing loss.<sup>86</sup>

The NYPD’s policy is counterproductive for the health and hearing of its own officers. The NYPD is predominantly composed of demographic groups that have a heightened prevalence of hearing loss at the national level: 65% of NYPD employees are white or Hispanic, 66% are male, and 54% are 40 or older.<sup>87</sup> While noise-induced hearing loss is not as well documented for police officers as it is for military veterans, a 2009 study of urban French police officers found that they were 40% more likely than civil servants to have selective hearing loss.<sup>88</sup> It stands to reason that New York City’s noise level also has an adverse effect on the hearing of

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<sup>83</sup> United States Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Mar. 1974) EPA/ONAC 550/9-74-004, at 19.

<sup>84</sup> New York City Government, A Guide to New York City’s Noise Code: Understanding the Most Common Sources of Noise in the City, 2 (June 2014), available at [http://www.nyc.gov/html/dep/pdf/noise\\_code\\_guide.pdf](http://www.nyc.gov/html/dep/pdf/noise_code_guide.pdf).

<sup>85</sup> Rick Neitzel et al., Exposures to Transit and Other Sources of Noise among New York City Residents, 46 *Environ. Sci. Technol.* 500, 500 (Jan. 3, 2012), available at <http://www.ncbi.nlm.nih.gov/pubmed/22088203>.

<sup>86</sup> L. Fung et al., Hearing Problems and Headphone Use in New York City, 12 *NYC Vital Signs* 2, 1 (July 2013), available at <http://www.nyc.gov/html/doh/downloads/pdf/survey/survey-2013noise.pdf>.

<sup>87</sup> New York City Government, 2013 Workforce Profile Report, 18, 93, available at <http://www.ibo.nyc.ny.us/iboreports/2013workforceprofilereport.pdf>.

<sup>88</sup> Lesage François-Xavier et al., Noise-induced hearing loss in French police officers, 59 *Occup. Med.* 7, 483 (July 3, 2009), available at <http://occmed.oxfordjournals.org/content/59/7/483.full.pdf+html>.

NYPD officers—who regularly use and are chronically exposed to sirens (120 dB),<sup>89</sup> face demonstrations, fire guns (140–195 dB), and patrol subway platforms (100 dB) in a city that has struggled with noise pollution for years.<sup>90</sup>

A 1999 study conducted for the NYPD found that “the majority of tasks performed by police officers in New York City ... occur in moderate to high level noise backgrounds”.<sup>91</sup> Moreover, “law enforcement occupations with high noise exposure from regular firearm use are likely to have a higher percentage of individuals with hearing impairments”.<sup>92</sup> Based on their exposure to noise and demographic composition, NYPD officers are expected to have above-average hearing-loss prevalence. Although it is difficult to precisely calculate hearing loss for NYPD officers, it can conservatively be estimated based on two reasonable assumptions. *First*, assuming that hearing loss prevalence by gender and age in the NYPD is identical to hearing loss prevalence by gender and age in the United States, 1,511 out of 34,500 NYPD officers<sup>93</sup> would have hearing loss.<sup>94</sup> *Second*, adding the further assumption that hearing loss is 40% more frequent in urban law enforcement officers—as the 2009 study of French police officers found—would mean that 2,116 officers have hearing loss.<sup>95</sup>

Under a sound public-health policy, these officers would not be faced with the choice of losing their jobs or hiding their condition, but would instead receive preventative care and palliative support from the NYPD. This unintended, perverse incentive created by the

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<sup>89</sup> National Institutes of Health, *It's a Noisy Planet*, 1 (reprinted Sept. 2014), available at [http://www.noisyplanet.nidcd.nih.gov/SiteCollectionDocuments/Factsheet\\_HowLoudHowLong.pdf](http://www.noisyplanet.nidcd.nih.gov/SiteCollectionDocuments/Factsheet_HowLoudHowLong.pdf).

<sup>90</sup> New York Times, *New York's War on Noise*, [http://www.nytimes.com/interactive/2013/07/13/nyregion/nyc-noise-timeline.html?\\_r=1&#/#time228\\_7229](http://www.nytimes.com/interactive/2013/07/13/nyregion/nyc-noise-timeline.html?_r=1&#/#time228_7229) (last visited Feb. 13, 2015).

<sup>91</sup> MED-TOX Health Services, *Hearing Requirements for New York City Police Officers*, 1999, 32.

<sup>92</sup> *Id.* at 34.

<sup>93</sup> New York City Police Department, *Frequently Asked Questions*, [http://www.nyc.gov/html/nypd/html/faq/faq\\_police.shtml](http://www.nyc.gov/html/nypd/html/faq/faq_police.shtml) (last visited Feb. 13, 2015).

<sup>94</sup> Calculations based on New York City Government, *2013 Workforce Profile Report*, 93; *Hearing Loss Prevalence in the United States*, 1852.

<sup>95</sup> François-Xavier, *supra* note 88, at 483.

NYPD's policy discourages high-performing, experienced officers from getting the help they need. It thereby diminishes their ability to perform their duties.

Much of the general population is embarrassed about, and therefore underreports, hearing loss.<sup>96</sup> Estimates indicate that only 16% of adults aged 20 to 69 who could benefit from a hearing aid have ever used one.<sup>97</sup> Police officers with hearing loss have to contend with an even stronger stigma. Joseph Molinari, a decorated Nashua police officer, described feeling "terrified" the first time he wore hearing aids around his colleagues.<sup>98</sup> Molinari explained that officers were "striving to be in the best physical shape" and "work[ing] hard to avoid anything that might be perceived as a physical weakness".<sup>99</sup> In addition to this stigma, knowing that seeking help could lead to forced retirement incentivizes NYPD officers to hide and underreport their hearing difficulties, which further negatively affects their hearing. Moreover, recent research also suggests that untreated hearing loss is positively associated with cognitive decline<sup>100</sup> and the risk of falling.<sup>101</sup> In this way, the NYPD's policy further harms officers with hearing loss and undermines the NYPD's performance. The NYPD's hearing-aid policy thus creates substantial risks, not only for the officers with hearing loss and their colleagues, but also for the citizens NYPD officers are sworn to protect.

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<sup>96</sup> Margaret I. Wallhagen, The Stigma of Hearing Loss, 50 *The Gerontologist* 66 (Feb. 2010), available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2904535/>.

<sup>97</sup> Quick Statistics, National Institute on Deafness and Other Communication Disorders (last updated Oct. 3, 2014), <http://www.nidcd.nih.gov/health/statistics/pages/quick.aspx#8>.

<sup>98</sup> Oticon, Joseph Molinari: 2013 Focus on People Award winners!, [http://www.focusonpeople.oticonusa.com/eprise/main/SiteGen/Oticon\\_FOP/Content/FocusOnPeople/AdultB.html](http://www.focusonpeople.oticonusa.com/eprise/main/SiteGen/Oticon_FOP/Content/FocusOnPeople/AdultB.html) (last visited Feb. 13, 2015).

<sup>99</sup> Id.

<sup>100</sup> See, e.g., Frank R. Lin et al., Hearing Loss and Cognitive Decline in Older Adults, 173 *JAMA Intern. Med.* 293 (Feb. 25, 2013), available at <http://archinte.jamanetwork.com/article.aspx?articleid=1558452#qundefined>.

<sup>101</sup> Anne Viljanen et al., Hearing as a Predictor of Falls and Postural Balance in Older Female Twins, 64 *J Gerontol. A. Biol. Sci. Med. Sci.* 312 (2009), available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2655032/>.

**CONCLUSION**

In summary, the NYPD's current hearing-loss policy is out of step with contemporary technology, is an outlier among police departments and is harmful and counterproductive.

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Respectfully submitted,

CRAVATH, SWAINE & MOORE LLP,

by

/s/ Darin P. McAtee

Darin P. McAtee  
A Member of the Firm

Attorneys for *Amici Curiae*

Worldwide Plaza

825 Eighth Avenue

New York, NY 10019

(212) 474-1000

dmcatee@cravath.com