White Paper

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Surveillance Technology in Public Housing: Proliferation, Consequences, and Recommendations

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EXECUTIVE SUMMARY

Public Housing Agencies are rapidly moving to install camera surveillance systems, equipped with facial recognition technology and artificial intelligence tools, citing concerns with public safety and crime prevention. The proliferation of this technology has prompted legislators and advocates to question the efficacy of camera surveillance systems in the public housing context. Changes in the federal housing grant structure and the accessibility of this technology have aided in its proliferation. Much remains unknown about the implications of this regarding the privacy of residents of public housing and the disparate impacts algorithmic discrimination has on these residents, who are predominantly women and people of color. A growing body of research reveals three chief concerns with these camera surveillance systems: imprecision, privacy issues, and negative effects on marginalized communities. These alarming trends beg the question of whether camera surveillance systems in public housing achieve their mission of making residents safer and deterring crime or if they exacerbate existing inequities in affordable housing and the obstacles faced by residents in these units. These trends have led advocates and legislators to call for one of two solutions—banning this technology in public housing or enacting and enforcing more regulations.

KEY FINDINGS

1. **Camera surveillance systems, including facial recognition technology, surveillance cameras, and the use of artificial intelligence, have increased in public housing complexes**. These systems play a growing role in granting building access to residents and evicting tenants for minor lease infractions.
2. **This surveillance technology has a poor track record for accurately identifying residents, especially residents of color, women, and transgender tenants.**
3. **As a result of these inaccuracies, surveillance technology within the context of public housing raises equity concerns** in addition to concerns over the infringement of public housing residents' privacy rights.
4. **As this technology becomes increasingly pervasive, its equity and privacy implications become more pressing.**
5. **A combination of federal legislation and agency guidance from the Department of Housing and Urban Development is needed to increase regulation of this technology and limit its adverse effects.**

BACKGROUND

The Technology

Public Housing Agencies (PHAs) are increasingly using camera surveillance systems equipped with facial recognition technology (FRT) and artificial intelligence (AI) in public housing.[1] PHAs are governmental entities that either operate or help to develop public housing. These PHAs cite community safety and crime deterrence as their rationale for installing these systems to monitor activities around and access the units. However, research reveals discrepancies in FRT's identification of White versus non-White individuals, men versus women, and older individuals versus younger generations. A National Institute of Standards and Technology (NIST) study found that FRT more frequently misidentifies women and non-White and younger individuals (ages 18 to 33).[2] The Gender Shades research project confirms these findings, highlighting an error rate of up to 34.4% between lighter-skinned men and darker-skinned women.[3] Therefore, this technology's proliferation into public housing raises accuracy and equity concerns, especially considering pre-existing racial and gender disparities in the public housing sphere.

Defining Camera Surveillance Systems

A shortage of available public housing units combined with growing concern that violent crime is rising—even though the Bureau of Justice Statistics shows violent crime in the U.S. decreased from 79.8 to 16.5 per 1,000 individuals between 1993 and 2021[4]—has led to the expansion of camera surveillance systems in public housing.[5] Budget-conscious local governments tasked with allocating federal housing grants in their communities and housing agencies with limited resources benefit from the 24/7 coverage and the perception of oversight that surveillance cameras provide. As these systems become more affordable, an investment in a camera

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[1] "Definition: Public Housing Agency from 42 USC § 1437a(b)(6)," *Cornell Law: Legal Information Institute,* accessed May 9, 2024, https://www.law.cornell.edu/definitions/uscode.php?width=840&height=800&iframe=true&def_id=42-USC-608738367-1141073628&term_occur=999&term_src=.

[2] Patrick Grother, Mei Ngan, and Kayee Hanaoka, "Face Recognition Vendor Test Part 3: Demographic Effects," *National Institute of Standards and Technology* (2019) https://doi.org/10.6028/NIST.IR.8280.

[3] "Gender Shades," *MIT Media Lab*, last modified 2018, http://gendershades.org/overview.html

[4] Alexandra Thompson, "Criminal Victimization, 2021," *Bureau of Justice Statistics*, last modified July 5, 2023, https://bjs.ojp.gov/content/pub/pdf/cv21.pdf.

[5] "How Public Housing Residents Are Being Surveilled, Punished," *PBS NewsHour*, filmed June 4, 2023, video, 6:57, https://www.pbs.org/video/surveillance-state-1685908776/.

surveillance system goes further than before, giving local government and housing agencies more technology for the same price.[6]

Camera surveillance systems in affordable housing primarily refer to security cameras. However, camera technology has advanced to include FRT, AI, and occasionally other technologies that collect biometric data.[7] PHAs often position surveillance cameras in entrances or hallways, public spaces outside housing units, doorways, or parking lots.[8] They also use surveillance cameras to control building access and identify people barred from the units, scanning the faces of those entering the premises and requiring recognition by the cameras for a resident to enter.[9] PHAs usually install these cameras without the consent or knowledge of residents.[10]

Policies that Enabled PHAs to Adopt Camera Surveillance Systems

Senior policy analysts at the Public Housing Authorities Directors Association point to shifting federal policy as the legislative mechanism behind surveillance technology's proliferation in public housing. Specifically, a 2009 Congressional omnibus appropriations bill changed the Department of Housing and Urban Development (HUD)'s grant structure, which shifted how PHAs could allocate federal funds, directing resources away from supporting residents through addiction and mental health struggles and towards greater surveillance. This change encouraged increased investment in surveillance technology in the context of public housing. These security grants were Congress' attempt at offsetting the loss in social support stemming from HUD's ending its longstanding Drug Elimination Program, a program aimed at alleviating their economic burden by helping residents overcome addiction through social programming.[11] By allocating more money to crime-fighting grants, Congress essentially approved HUD's replacement of social services with surveillance technology.

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[6] PBS NewsHour, "How Public Housing Residents Are Being Surveilled."

[7] Jim Nash, "Facial Recognition Shows up in Public Housing, Small Cities," *Biometric Update,* May 18, 2023, https://www.biometricupdate.com/202305/facial-recognition-shows-up-in-public-housing-small-cities.

[8] Douglas MacMillan, "Eyes on the Poor: Cameras, Facial Recognition Watch over Public Housing," *Washington Post*, May 16, 2023, https://www.washingtonpost.com/business/2023/05/16/surveillance-cameras-public-housing/.

[9] Michelle Y. Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing," *Journal of Legislation and Public Policy* 25, (2023): 665–704, https://nyujlpp.org/wp-content/uploads/2023/10/JLPP-25.3-Ewert.pdf.

[10] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

[11] MacMillan, "Eyes on the Poor."

Today, Congress annually earmarks appropriations to these Capital Fund Appropriations at HUD.[12] These funds are reserved for PHAs deemed by HUD as in need of emergency funds for one of two conditions: security and safety or to target the aftermath of a natural disaster. If these conditions are satisfied, then HUD approves emergency funding for the PHA. Surveillance technology rests under the jurisdiction of the Emergency Safety and Security track of HUD's Capital Fund Appropriations which is dedicated to PHAs that demonstrate an immediate need for money to integrate safety and security measures that tackle crime and drug-related activity.[13] These grants give PHAs broad discretion in deciding what security means and what technology best meets those security needs, thus enabling PHAs to easily access and incorporate surveillance technology into their housing complexes, through federal grant money, and with little oversight.

How PHAs Use Camera Surveillance Systems

The inclusion of FRT and AI redefines the entire idea of surveillance and the institutions (e.g., the criminal legal system, public housing, etc.) in which it is used; its proliferation also enables more connections between these institutions, creating a larger surveillance infrastructure.[14] Specifically, PHAs use FRT and AI to complete algorithmic assessments of prospective tenants in order to catch tenants violating lease terms and to limit building access solely to residents. This application of FRT and AI can collect biometric data (e.g., faces, eyes, voices, and fingerprints) if the PHA opts to do so. Biometric data is unchangeable.[15] Therefore, PHAs' ability to access their tenants' biometric information carries a serious implication. PHAs gain greater control over their tenants' most personal information, expanding the scope of their surveillance and changing the terms of their relationship.

Camera surveillance systems play a large role in public housing evictions and flagging individuals as suspicious. Compared to 2021, PHAs used twice as much surveillance footage of residents committing minor lease infractions in 2022. As such, 2022 saw public housing eviction rates double, while the use of camera surveillance systems in these complexes simultaneously expanded; courts increasingly relied on surveillance footage and biometric data as admissible evidence in eviction cases.[16] Many minor lease violations (e.g., smoking in the wrong place, removing a laundry basket from a communal room, etc.) are not classified legally as crimes.[17] By installing cameras in previously unmonitored locations (such as public housing), residents'

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[12] "Capital Fund Emergency/Natural Disaster Funding," *U.S. Department of Housing and Urban Development (HUD)*, accessed May 7, 2024, https://www.hud.gov/program_offices/public_indian_housing/programs/ph/capfund/emfunding.

[13] U.S. Department of Housing and Urban Development (HUD), "Capital Fund Emergency."

[14] Lisa Owens, "Notes on the Use of Surveillance in Public Housing," last modified 2020, https://doi.org/10.7916/D8-BEPS-HV90.

[15] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

[16] MacMillan, "Eyes on the Poor."

[17] PBS NewsHour, "How Public Housing Residents Are Being Surveilled."

formerly unseen behavior is captured and stored by PHAs. Regardless of the legality of the behavior captured on camera, this footage can help PHAs influence judicial decisions in court, which could contribute to the unequal power dynamic between the PHA and the public housing tenant.[18] Further, this specific use of surveillance footage departs from these systems' original intent as purported by PHAs: to maintain community safety in public housing by capturing any criminal activity such as theft or drug sales. Camera surveillance systems also play a role in PHAs' determinations of whom they deem suspicious. Similar to the rise in surveillance footage in court for evictions, there is also a rise in authorities' using camera surveillance systems to make snap decisions about who and what activities are suspicious.[19]

Proponents of Camera Surveillance Systems

Those in favor of installing security systems in public housing argue that these cameras will maintain community safety by deterring crime. However inaccurate, there is a widespread perception among PHAs that camera surveillance systems prevent crime. Unlike in-person security teams or law enforcement officers, automated systems provide around-the-clock surveillance to continuously monitor areas at times when a crime is most likely to occur.[20] This association between crime prevention, community safety, and camera surveillance systems helps PHAs justify and give an acceptable rationale for installing and implementing surveillance technology in public housing. Further, proponents argue that these technologies, especially camera surveillance systems equipped with FRT and AI, are still relatively young; they have rapidly developed and will continuously adapt as they gain access to more data. These supporters expect problems with misidentification to improve as the technology is further developed and becomes more advanced with feedback and time.[21]

Proliferation of Camera Surveillance Systems

PHAs argument that camera surveillance systems prevent crime and the many uses of these systems in public housing speak to this technology's proliferation into the public sphere. This proliferation is apparent when looking at three specific metrics—the ratio of cameras to residents in public housing, the increasing accessibility of this technology, and the relationship between surveillance infrastructure and the criminal legal system. First, of the PHAs implementing this surveillance technology, many have an outsized proportion of cameras for residents. For

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[18] Chelsea Dowler, "Tenant Protections Can Restore Power Balance in Landlord-Tenant Relationships," *Citizens Research Council of Michigan*, April 21, 2023, https://crcmich.org/tenant-protections-can-restore-power-balance-in-landlord-tenant-relationships.

[19] PBS NewsHour, "How Public Housing Residents Are Being Surveilled."

[20] PBS NewsHour, "How Public Housing Residents Are Being Surveilled.

[21] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

example, one public housing development in Rolette, North Dakota, installed 107 surveillance cameras to watch over its 100 residents; this number of cameras per capita (1.1 cameras per resident) is strikingly similar to that of the Rikers Island Jail Complex in New York (2 cameras per inmate).[22] This staggering statistic is not the norm, but many other PHAs have similar ratios of cameras to residents.

Further, because this technology is fairly new, there is a lack of government oversight of the implementation and use of camera surveillance systems, which has contributed to their rise in prominence among developers and PHAs.[23] Without federal oversight, PHAs are free to set the parameters for what constitutes community safety and how surveillance achieves it, thereby making camera surveillance systems highly individualized and difficult to broadly regulate. The Brookings Institution identifies some obstacles inhibiting effective governmental oversight over FRT and AI—determining what parts of this technology to regulate, deciding who will regulate it and what mechanisms they will use, and the speed at which this technology is rapidly developing.[24] At a Senate Judiciary Committee hearing in June 2023, AI's most notable developers spoke to Congress about the escalation of this technology's capabilities, expressed concern over the lack of oversight, and emphasized the need for immediate regulation to ensure stakeholders safely handle AI and FRT.[25]

Advocates of residents in public housing also allude to a rise in the omnipresence of AI developers and PHAs themselves—the idea that authority is ever present via the installation of a camera—as camera surveillance systems become more prominent. **Residents in public housing express a desire for greater security yet indicate apprehension about surveillance technology's ability to achieve that desire.**[26] **The ever-present nature of camera surveillance systems has created a shared sentiment among residents that this technology over-surveils but under-protects.**[27] The greater use of surveillance in public housing has generated more interaction with the criminal legal system for residents.[28] At the same time, the Urban Institute finds that surveillance cameras have made no statistical difference in deterring crime.[29] Beyond

[22] MacMillan, "Eyes on the Poor."

[23] PBS NewsHour, "How Public Housing Residents Are Being Surveilled."

[24] Tom Wheeler, "The Three Challenges of AI Regulation," *Brookings Institution*, June 15, 2023, https://www.brookings.edu/articles/the-three-challenges-of-ai-regulation/.

[25] Wheeler, "The Three Challenges of AI Regulation."

[26] Gillet Gardner Rosenblith, "Using Surveillance to Punish and Evict Public Housing Tenants Is Not New," *Washington Post*, May 23, 2023, https://www.washingtonpost.com/made-by-history/2023/05/24/public-housing-surveillance/.

[27] Gardner Rosenblith, "Using Surveillance to Punish."

[28] Owens, "Notes on the Use of Surveillance in Public Housing."

[29] Nancy G. La Vigne, Samantha S. Lowry, Joshua A. Markman, and Allison M. Dwyer, "Evaluating the Use of Public Surveillance Cameras for Crime Control and Prevention: A Summary," *Urban Institute: Justice Policy Center*, September 2011,

increased rates of public housing evictions, automated systems, including surveillance technology, have a documented history of increasing police presence in the areas that house a system.[30] The American Civil Liberties Union reports that communities of color more frequently interact with surveillance cameras that are attached to the criminal legal system.[31] The Brookings Institution expands on this finding, sharing that automated systems more commonly play a role in investigating Black and Latino individuals and that Black and Latino mugshots are more likely to be stored in law enforcement's databases.[32] Given people of color's overrepresentation in public housing, and that automated systems disproportionately increase these communities' connection to the criminal legal system, there is serious potential for public housing camera surveillance systems to similarly increase their contact with the criminal legal system.

The Industry: the Market for Camera Surveillance Systems and its Major Vendors

The market for camera surveillance equipment has skyrocketed in recent years, and it is projected to continue to make massive gains in the coming decade. In 2022, this market was worth $35 billion, but it is expected to reach a value of $62 billion by 2027.[33] This market includes equipment such as the camera surveillance systems deployed by PHAs as well as similar technologies implemented by law enforcement agencies that leverage these tools for smart policing and facial recognition systems.[34] This market also includes luxury surveillance

https://www.urban.org/sites/default/files/publication/27546/412401-Evaluating-the-Use-of-Public-Surveillance-Cameras-for-Crime-Control-and-Prevention-A-Summary.PDF.

[30] "Exploring the Impact of Criminal Justice Technology," *JWU College of Professional Studies* (blog), August 25, 2023, https://online.jwu.edu/blog/empowering-justice-exploring-impact-of-criminal-justice-technology-modern-era/.

[31] Kade Crockford, "How Is Face Recognition Surveillance Technology Racist?" *American Civil Liberties Union*, June 16, 2020, https://www.aclu.org/news/privacy-technology/how-is-face-recognition-surveillance-technology-racist.

[32] Nicol Turner Lee and Caitlin Chin-Rothmann, "Police Surveillance and Facial Recognition: Why Data Privacy Is Imperative for Communities of Color," *Brookings Institution*, April 12, 2022, https://www.brookings.edu/articles/police-surveillance-and-facial-recognition-why-data-privacy-is-an-imperative-for-communities-of-color/.

[33] Frederica Laricchia, "Video surveillance camera market size worldwide from 2019 to 2027," *Statista*, February 8, 2024, https://www.statista.com/statistics/477917/video-surveillance-equipment-market-worldwide/#:~:text=In%202022%2C%20the%20video%20surveillance,adoption%20of%20smart%20camera%20systems.

[34] Laricchia, "Video surveillance camera market size."

equipment such as the more consumer-oriented camera surveillance systems like Ring cameras.[35] **Unlike the systems used by PHAs, Ring cameras give the resident control over its implementation and collected data.** Only in exigent circumstances will data from these cameras be turned over to the police after law enforcement provides a binding legal demand (e.g., a search warrant). **Camera surveillance systems in public housing, on the other hand, are left entirely in control of governmental authorities (e.g., PHAs) who have nearly unregulated discretion in operating the technology**.[36]

This market, with its exponentially growing value and the pervasive proliferation of camera surveillance equipment, is controlled by only a few companies, many of whom have refused to comment on how PHAs use their products. These producers include five major companies: Panasonic Connect. Co., Ltd; Motorola Solutions (which acquired Avigilon and IndigoVision); AXIS Communications; Homeland Safety Systems; and Verkada.[37] These companies all either include or aspire to include FRT and AI in their technology. They differ, however, in how they have responded to claims their technology has facilitated algorithmic discrimination among low-income Americans. Many of these companies (e.g., Panasonic, Motorola, and AXIS) assert that it was never their intention for their technology to be used to surveil and police public housing. Faced with allegations of wrongdoing from the Business and Human Rights Center, these companies have claimed they put in place policies and procedures to protect human rights; however, they did not clarify what these protections look like, nor did they address whether they have taken any specific steps to safeguard individuals from the potentially unlawful or discriminatory intrusion their technology poses. Other companies have not publicly responded to claims their technology is being misused.[38] With so few vendors, these companies can consolidate power over the direction surveillance technology takes. The vague, or even lack of, responses given by these companies when pressed on their products' negative consequences suggest they will take limited action to mediate or address public concerns. Government intervention may be necessary if companies avoid taking action themselves.

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[35] Lisa Lucile Owens, "Concentrated Surveillance Without Constitutional Privacy: Law, Inequality, and Public Housing," *Stanford Law & Policy Review*, February 28, 2023, https://law.stanford.edu/wp-content/uploads/2023/03/SLPR_Owens.pdf.

[36] Owens, "Concentrated Surveillance."

[37] "Unbridled Surveillance of US Public Housing Residents Raises Human Rights Concerns," *Business & Human Rights Resource Centre*, accessed May 7, 2024, https://www.business-humanrights.org/en/latest-news/unbridled-surveillance-of-us-public-housing-residents-raises-human-rights-concerns/.

[38] Business & Human Rights Resource Centre, "Unbridled Surveillance."

Main Concerns

Concerns about surveillance technology in public housing can be summarized into four broad issue areas: lack of transparency, accuracy and precision, misuse and disparate impacts, and privacy concerns.

Lack of Transparency

A large point of contention with these camera surveillance systems is the **lack of data transparency and publicly available metrics regarding their use**.[39] Residents are often unaware of how PHAs use surveillance cameras in their housing complexes, these technologies' privacy policies (or lack thereof), and the FRT and AI attached to these cameras.[40] **Implicit to this lack of knowledge is the lack of consent from residents for surveillance technology to collect, use, and store their biometric information**. In addition to this lack of data transparency, AI, FRT, and surveillance cameras expose public housing and its residents to algorithmic discrimination. The White House defines algorithmic discrimination as something occurring in automated systems (such as surveillance cameras deployed with AI and FRT) that contributes to unjustified, differential treatment of individuals of protected classes (e.g., race, color, ethnicity, sex, medical conditions, gender identity, age, religion, ability status, national origin, etc.).[41]

Accuracy and Precision

Automated systems that are fed inaccurate information or exist in a space entrenched in historical and systemic inequality, such as affordable housing, can learn, reinforce, and then reproduce biased and inaccurate information. This information is dangerous because law enforcement and government agents, who make real-time decisions based on automated systems' quick recollection of information and data, are susceptible to perceiving these systems' information as objective. Agents are therefore at risk of acting under wrongful assumptions, which puts residents at risk of wrongful arrest, misidentification, and loss of freedom and privacy.[42]Misidentification is one of the most glaring issues with FRT and AI within the context of PHAs' camera surveillance systems. NIST's study on the accuracy of facial recognition in identifying individuals found that Asian and African American people were 100 times more likely than White men to experience misidentification.[43] NIST concluded that most FRT

[39] MacMillan, "Eyes on the Poor."

[40] PBS NewsHour, "How Public Housing Residents Are Being Surveilled."

[41] "Algorithmic Discrimination Protections," *The White House*, accessed May 8, 2024, https://www.whitehouse.gov/ostp/ai-bill-of-rights/algorithmic-discrimination-protections-2/.

[42] MacMillan, "Eyes on the Poor."

[43] Drew Harwell, "Facial-Recognition Systems Misidentified People of Color More Often than White People, According to a Federal Study," *Washington Post*, December 19, 2019,

demonstrates demographic differentials, which negatively impact the technology's accuracy, depending on an individual's race, age, or gender. This study's alarming findings began to call into question the use of such technology within the context of policing.[44] Now, as this technology has permeated public housing, it has raised similar concerns. An investigation into Verkada's camera's identification abilities revealed that when asked to scan a crowd and then match someone to people in a database, 15% of matches were incorrect. Further, if faces in the crowd were masked or viewed at an angle, the percentage of incorrect matches rose to 85%.[45]

Misuse and Disparate Impacts

Its lack of precision and the real threat of misidentification lend themselves to another category of concern with this technology: a misalignment between how residents want surveillance technology to be used and how PHAs use it. This mismatch contributes to its differential impact on different demographic groups. This technology's disparate racial and gendered effects are precipitated by surveillance cameras' tendency to misidentify residents of color, women, and transgender individuals. While residents of public housing do want more surveillance to monitor potential drug problems at their complexes, they believe that the cameras do not capture other important problems they experience, such as theft of packages from doorways, residents' parked cars' getting hit, or illegal substance use. When residents approach them regarding these instances of theft, car accidents, or substance use, PHAs say they cannot access this footage to resolve these problems.[46] This misuse is amplified by the fact that PHAs are using these tools to over-surveil marginalized residents rather than ameliorate issues that are harming them. While government-controlled cameras are three times more likely to observe the day-to-day lives of all residents of public housing (compared to residents not in public housing), non-White residents in these complexes experience surveillance at 25 times the rate of their White counterparts.[47] Because non-White public housing residents already experience heightened rates of surveillance and financial insecurity, this can also translate into increased evictions via public housing surveillance footage, making it more difficult for this group to find affordable housing in the future. Increased rates of eviction aggravate pre-existing housing crises because tenants who have a record that includes a history of eviction have trouble finding housing and employment thereafter. People of color are overrepresented in affordable housing, overrepresented in the population misidentified most frequently by camera surveillance systems, and most burdened by these systems' impacts.[48] Thus, **camera surveillance systems create the conditions for**

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https://www.washingtonpost.com/technology/2019/12/19/federal-study-confirms-racial-bias-many-facial-recognition-systems-casts-doubt-their-expanding-use/.

[44] Drew Harwell, "Facial-Recognition Systems Misidentified People of Color."

[45] MacMillan, "Eyes on the Poor."

[46] PBS NewsHour, "How Public Housing Residents Are Being Surveilled."

[47] MacMillan, "Eyes on the Poor."

[48] MacMillan, "Eyes on the Poor."

over-surveillance and under-protection by government agencies, law enforcement, and PHAs—conditions that fall along racialized and gendered lines. Moreover, footage from camera surveillance systems, regardless of whether they have FRT or AI, is being used against residents to evict them, rather than to protect them from issues like theft.

These disparate impacts also extend to the growing gap between how high-income neighborhoods use their power and agency to take advantage of surveillance technology in contrast to low-income neighborhoods subjected to this technology. Academics use the term "luxury surveillance" to denote how the upper class can pay for surveillance technology and monitor how the data is used.[49] Upper-class households can choose to install camera surveillance systems because they have the autonomy to decide to proceed with the installation. In contrast, "imposed surveillance" describes surveillance technology that individuals predominately in low-income neighborhoods, like in public housing, may not necessarily desire but must be subjected to for a reason over which they have no control. Their differential treatment by surveillance cameras enables PHAs to exert disproportionate amounts of control over low-income, non-White Americans who already face a greater risk of arrest and fewer housing options than White, upper-class Americans. This has important ramifications in terms of loss of employment opportunities, economic loss, and social stigmatization.[50]

Privacy Concerns

Undergirding issues of misuse and accuracy is the issue of privacy. Invasion of privacy constitutes a large portion of the concern associated with camera surveillance systems. When biometric data is involved, there is a high chance that a data breach may occur. **Data breaches involving biometric data are especially dangerous since biometric data (e.g., fingerprints, faces, eye scans, and voice) is irreplaceable; biometric data is permanent and cannot be changed unlike social security numbers or driver's licenses**. Cyberattacks are on the rise, with contemporary examples including a breach in the United Kingdom, in 2019, that saw millions of British citizens experiencing their fingerprints and other personal information being made publicly accessible. That same year, a U.S. Customs and Border Protection Agency subcontractor experienced a cyberattack that exposed 184,000 travelers' images from an agency-wide pilot project.[51] Biometric data is incredibly intrusive, revealing personal information with dangerous ramifications for a person's safety and security if breached, especially if that biometric information collection was not consensual. Biometric data collected via camera surveillance systems in public housing can be turned over to police with relative ease, thus serving as an arm of law enforcement in their surveillance of low-income communities.[52]

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[49] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."
[50] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."
[51] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."
[52] MacMillan, "Eyes on the Poor."

PHAs and law enforcement can work closely under the guise of making communities safer and deterring crime; however, how biometric data is collected and then used for things like access to affordable housing and eviction does not support achieving these goals.[53] Further, in the absence of clear consent—and given the intrusive nature of this type of personal data—camera surveillance systems in affordable housing disproportionately expose low-income Americans to more privacy invasions by government agencies, like the police, compared to middle to upper-class Americans.

The Policy Response: Legislative Action Surrounding Regulation

HUD has taken a relatively hands-off approach to regulating this technology, giving PHAs expansive discretion over what equipment they can purchase with emergency funding. Policymakers and scholars have stepped up, identifying ways to address camera surveillance systems' inequitable effects and limit its invasion of people's privacy.

Federal Level Legislation

Following the spike in legislation at the state and local level, members of Congress have begun to introduce similar legislation on Capitol Hill. Ranking Member of the Committee on Financial Services, Maxine Waters, and Representative Ayanna Pressley (D-MA) released a letter in May 2023 urging HUD Secretary Marcia Fudge to eliminate biometric technology (including FRT) from public housing if the technology's purpose was to surveil residents.[54] These legislators voiced concerns that biometric and surveillance technology results in discriminatory impacts for residents of color who are misidentified and wrongfully penalized by this technology. The two asserted that continuing to fund this technology runs counter to HUD's mission of providing stability and fairness in public housing.[55] This letter reflects concern in Congress over FRT and surveillance technology's broader use across the nation.

State Level Legislation

Frustrated with the lack of action taken by the federal government to address the proliferation of surveillance technology, states and municipalities have started addressing surveillance concerns

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[53] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

[54] Maxine Waters and Ayanna Pressley, "Letter to Secretary Fudge," *United States House of Representatives Committee on Financial Services*, accessed on May 8, 2024, https://democrats-financialservices.house.gov/uploadedfiles/cmw_letter_hud_surveillance_tech_5.25.23_signed.pdf.

[55] Maxine Waters and Ayanna Pressley, "Letter to Secretary Fudge," *United States House of Representatives Committee on Financial Services*, accessed on May 8, 2024, https://democrats-financialservices.house.gov/uploadedfiles/cmw_letter_hud_surveillance_tech_5.25.23_signed.pdf.

by issuing technology bans in specific contexts or increasing regulation. These hotbeds of legislative activity have paved the way for future federal legislation. For example, in 2008, **Illinois passed its Biometric Information Privacy Act (BIPA), which confronted rising privacy concerns surrounding the biometric data that surveillance technology collects**. BIPA ensures that private entities conducting business in Illinois must receive written consent from individuals before the entity can collect and store their biometric information.[56] Further, this biometric information must be securely stored and—if the data is no longer needed—destroyed within three years of the last contact with the individual. While BIPA only applies to private entities (and excludes government agencies), this legislation is one of the first regulations enacted to protect individuals encountering camera surveillance systems. BIPA is also important to note because it is one of the only pieces of legislation that facilitates a private right to action for residents who feel that their biometric data was misused. This state law has also been cited as a model for federal legislation surrounding individuals' privacy rights and biometric data protection.[57] Given the failure to enact federal legislation, states play an important role in initiating and guiding policy around camera surveillance systems. Policy movement at the state level sheds light on what regulatory mechanisms exist for this technology and serves as both a model and a trial run for future federal policy.

Local Level Legislation

At the municipal level, local governments have passed statutes focused on various issues related to camera surveillance systems and their uses to protect against over-surveillance from FRT and surveillance technology. While the scope of most local statutes is limited to just the public use of the harmful technology, these policies still create a protective legislative landscape that fights against potential invasions of privacy. As it relates to tenants, New York City passed the New York Tenant Data Privacy Act (TDPA), which recently went into effect and aims to protect tenants from FRT technology, although it does not explicitly mention any restrictions on the technology. TDPA provides a foundation for how legislation can address the increasing interaction between residents and camera surveillance systems. Specifically, TDPA outlines that PHAs must obtain a resident's consent for using biometric data (such as in smart systems that use biometric data to allow access to the residency); not share data with third parties; and get rid of the data (i.e., destroy or anonymize) 90 days after it was originally collected.[58] Local legislation can fill in the gaps left by state and federal policy, or lack thereof. Further, given the proximity between local legislation and the jurisdiction it serves, local regulatory policy can better target and fit the needs of its constituency.

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[56] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."
[57] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."
[58] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

International policies and regulations

International policies on surveillance technology and data use could inform U.S. policy. The European Union (EU) is considered to have passed the gold standard of camera surveillance system regulation and comprehensive consumer protection measures. Globally, the EU has been at the frontline of deliberations with major AI and FRT technology vendors, working to limit the scope of this technology while still facilitating development. In 2016, the EU passed the General Data Protection Regulation (GDPR) which created very particular rules about data transparency, an individual's ability to access their personal data used by an entity, erasure of personal data ("right to be forgotten"), and the right to refuse to have personal data processed by an entity. Before the GDPR, the EU had already created an expansive legal apparatus that codified numerous privacy rights for individuals, specifically highlighting how protecting personal data is a fundamental freedom.[59] Despite its generally positive reception, some critics of the EU's multifaceted approach to regulating AI and FRT, such as Amnesty International, claim that the EU is not doing enough to center its strategy on human rights.[60] Other critics, such as the vendors of this technology, agree that regulation is necessary, but worry the EU is overregulating AI and FRT, which could stifle their effectiveness and development.[61] Nevertheless, advocates of regulating camera surveillance systems in public housing claim that adopting a federal policy like the GDPR in the U.S. would protect all Americans, not just tenants, by explicitly codifying data privacy protections.[62]

Additionally, the African Union is currently working on a broad regulatory policy for FRT and AI in response to new technological development across the African continent that could limit its potentially damaging effects. Mathematical projections estimate that AI could generate $136 billion in economic benefits for African countries; however, these benefits come with the same privacy, equity, and accuracy concerns as in the U.S.[63] The African Union Development Agency is therefore focused on creating an Africa-centric strategy that would simultaneously provide

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[59] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

[60] "EU: Artificial Intelligence Rulebook Fails to Stop Proliferation of Abusive Technologies," 2024, *Amnesty International*, March 13, 2024, https://www.amnesty.org/en/latest/news/2024/03/eu-artificial-intelligence-rulebook-fails-to-stop-proliferation-of-abusive-technologies/

[61] Dan Milmo and Alex Hern, "What Will the EU's Proposed Act to Regulate AI Mean for Consumers?" *The Guardian*, March 14, 2024, https://www.theguardian.com/technology/2024/mar/14/what-will-eu-proposed-regulation-ai-mean-consumers.

[62] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

[63] Abdullahi Tsanni, "Africa's Push to Regulate AI Starts Now," *MIT Technology Review*, March 15, 2024, https://www.technologyreview.com/2024/03/15/1089844/africa-ai-artificial-intelligence-regulation-au-policy/.

regulation while also promoting innovation.[64] Recently, this governing body published a policy draft for recommended AI regulations. This blueprint includes standards and certification processes that would assess automated systems, create safe testing procedures for AI, set up industry-specific codes and practices, and also establish national AI councils that would track responsible use in various African countries. This framework is expected to be especially beneficial for nations that do not already have an infrastructure for AI and can contribute new ideas to the discourse surrounding this technology.[65] The U.S. could learn from the blueprint, specifically taking note of industry-specific suggestions, safe AI testing sites, and the establishment of government agencies whose main duty is to track the responsible use of automated systems.

Agency Guidance

Recent agency guidance has sought to reduce the broad discretion PHAs have over their use of federal funds to purchase surveillance technology. Until 2023, this HUD grant structure remained relatively untouched since its foundation in 2009. In April 2023, however, HUD revised its guidance on how a PHA could use its Emergency Safety and Security grants. HUD announced, via a public notice, that it would ban the purchase and use of automated surveillance and FRT technology with grant dollars for future recipients. Current recipients who have already purchased this technology do not fall under the purview of this change. HUD did not define the terms of this ban beyond announcing the change, and the agency made sure to clarify that it was continuously assessing the possibility of a broader ban on this technology.[66] Besides HUD, other federal agencies have issued guidance related to the use of surveillance technology and FRT. The Internal Revenue Service (IRS) declared it would depart from using FRT in its user authentication process in February 2022.[67] The IRS's rationale for limiting FRT could similarly apply to HUD's use of FRT and camera surveillance systems. Although federal policy is shifting towards limiting unchecked uses of surveillance technology in housing, there is still room for additional regulation.

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[64] Tsanni, "Africa's Push to Regulate AI Starts Now."
[65] Tsanni, "Africa's Push to Regulate AI Starts Now."
[66] MacMillan, "Eyes on the Poor."
[67] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

ANALYSIS + RECOMMENDATION

Policy Recommendations

Those who support intervening in PHAs' current use of camera surveillance systems advocate for increased regulations on FRT and AI or completely banning this technology within the context of public housing altogether. Supporters of regulating camera surveillance systems argue that this emerging technology has gone unchecked in its development and growing role in public housing. There is a lack of guidance and limitations imposed on surveillance cameras equipped with FRT and AI as they have been used in public housing, and there is not a broad understanding of the risks (by both PHAs and residents) or evidence of their success in making communities safer.[68] Proponents of a technology ban have been met with insurmountable barriers; legislative attempts to do so failed to make it to a vote in Congress. Thus, this section focuses on various policy recommendations regarding regulation, specifically considering:

1. Regulating camera surveillance systems in public housing at the federal policy-making level (e.g., Congress).
2. Regulating camera surveillance systems in public housing at the state and local policy-making level (e.g., state or local legislative bodies).
3. Regulating camera surveillance systems through executive agency guidance (e.g., HUD).

Federal Level Regulation

The absence of supporting evidence correlating community safety to increased surveillance technology in housing has led many legislators (e.g., Rep. Waters and Rep. Pressley); nonprofits (e.g., Algorithmic Justice League); and academic journals (e.g., *New York University Journal of Legislation and Public Policy*) to push for more federal attention on this issue. These supporters outline how the federal government can introduce new legislation similar to the 2019 No Biometric Barriers to Housing Act and the 2022 American Data Privacy and Protection Act (ADPPA). Such legislation would codify protections against the invasive nature of AI and FRT, which gather unchangeable, personal biometric data from individuals that can then be misused or have disparate impacts. The *NYU Journal of Legislation and Public Policy* recommends that policymakers follow the lead of Biden's AI Bill of Rights which guides the design, use, and deployment of automated systems in the U.S. and the EU's GDPR when regulating biometric data and camera surveillance systems.[69] Federal legislation would establish a national standard around the use of surveillance technology, ensuring all constituents experience baseline

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[68] MacMillan, "Eyes on the Poor."

[69] Miriam Vogel et al., "Is Your Use of AI Violating the Law? An Overview of the Current Legal Landscape, *NYU Journal of Legislation and Public Policy* 26 (2024), https://nyujlpp.org/wp-content/uploads/2024/09/JLPP-26-4-Vogel-et-al.pdf.

protections against the potential invasions of privacy or inequitable impacts of these systems.[70] However, the lack of successful legislation passed at the federal level underscores the long way Congress must go to make this regulation a reality in the U.S. The failure of the respective bills from 2019 and 2022 to become laws speaks to how little attention and broad support this issue has garnered. While there is growing attention to the concerns about camera surveillance systems, federal technology regulation and oversight currently lack political feasibility.

State and Local Level Regulation

BIPA shows how states can pass their own iterations of regulatory policy that limits surveillance technology. The TDPA and similar legislation show that local-level regulation is not only possible, but effective. Given the difficulty in passing federal legislation, state and local governments may be more likely to take the lead in restricting camera surveillance systems. The resulting legislation can serve as a model for future federal legislation and for other states or municipalities that do not yet have an infrastructure for handling FRT and AI. The growing number of states and municipalities that are joining the ranks of those regulating surveillance technology speaks to the influence these governments can have in this policy sphere. This trend also speaks to the feasibility of enacting regulatory and oversight policies on the local and state levels compared to the federal level. However, despite these advantages, local and state policy can lack consensus and is not as consistent as federal policy.[71] States and localities may implement policies on different timelines, as they are doing right now, which helps show other localities what is or is not successful, but it also means there is a coverage gap in terms of who is and is not protected from the harms of surveillance technology; this gap is concerning if the goal is to ensure surveillance technology is used more equitably. Local policy is also subject to the political will of its electorate, resulting in some underrepresented groups being unprotected from surveillance technology because their local representatives do not perceive it to be an issue.

Agency Level Regulation

A final possibility is regulating surveillance technology at the agency level through agency guidelines and rules. For example, HUD has taken steps to limit what its safety and security grants can be used for, restricting overly invasive surveillance technology that does not serve a clear purpose. The IRS has also taken steps to limit AI in its systems. Agency-level regulation is advantageous because it can reach all jurisdictions in the U.S. This guidance can also target specific contexts, like housing or taxes, where AI and FRT may be too invasive or inequitable. These agencies do not have to go through Congress to pass their guidelines, which can enhance political feasibility. However, similar to state and local level policy, the lack of consensus among agencies on how to deal with surveillance technology may lead to a patchwork of protection

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[70] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."
[71] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

across various sectors (e.g., housing, employment, taxes, etc.). Agencies like HUD must also go through a lengthy public notice and comment process that takes several months to years to complete; this process can inhibit progress toward restricting surveillance technology, allowing problems to worsen. Agencies also do not have as strong policy enforcement mechanisms as federal, state, or local legislation—they can only guide, not enforce, action from their stakeholders—which is another limitation of agency-level regulation.[72]

Recommendation: Federal Level Legislation and Agency Guidance

Ultimately, a combination of federal legislation and agency guidance is needed to effectively target and minimize the adverse impacts camera surveillance has on public housing residents, particularly residents of color and women. Although regulatory policies have stalled in Congress, federal legislation is needed to create a national standard, rather than a patchwork of regulation resulting from state legislation that covers some, but not all, residents negatively impacted by PHAs' over-surveillance. In the meantime, HUD can bring attention to this problem by issuing agency guidance limiting the use of camera surveillance technology in public housing. Agency guidance creates ubiquitous guidelines all PHAs, regardless of what state they are in, must follow. This guidance may simultaneously raise public awareness of the issue (which is influential in getting Congress to advance targeted policy) as well as pressure Congress to respond through regulatory legislation.

CONCLUSION

Camera surveillance systems equipped with FRT and AI are increasingly utilized in public housing communities. While PHAs assert that this technology helps maintain safety in these complexes, this technology has a track record of misidentifying members of marginalized communities, leading to pervasive misuse. Research from Columbia University warns that camera surveillance systems in public housing may erect new barriers for communities already at a disadvantage when accessing affordable housing, finding employment opportunities, and establishing financial security. These barriers can reproduce systems of inequality that disproportionately harm women and people of color, populations overrepresented in public housing. Importantly, FRT and technology using AI have a history of algorithmically discriminating by race, gender, and socioeconomic status. The creation and orientation of surveillance technology in public housing often use the same assumptions, thus reproducing this algorithmic discrimination.[73] Surveillance technology within the public housing context is a stark reminder that technological advances can help improve efficiency but can also increase surveillance in a way that harms some communities more than others. The potential drawbacks of surveillance technology in affordable housing, and the implication these drawbacks have on

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[72] Ewert, "The Dangers of Facial Recognition Technology in Subsidized Housing."

[73] Owens, "Notes on the Use of Surveillance in Public Housing."

the economic opportunities and livelihood of residents, beg the question of whether intervention is necessary. If so, agency guidelines and federal legislation regulating this technology or bans on this technology may be the next course of action.