"Big Brother's Bigger Brother": The Visual Politics of (Counter) Surveillance in Baltimore

1 author:

Benjamin H. Snyder
Williams College
12 PUBLICATIONS   **184** CITATIONS

Some of the authors of this publication are also working on these related projects:

Project   What a sharrow does: Learning through trial and error on a new cycling infrastructure View project

"Big Brother's Bigger Brother": The Visual Politics of (Counter) Surveillance in Baltimore[1]

Benjamin H. Snyder[2]

Abstract: In 2016, without the knowledge of its citizens, Baltimore City Police deployed a military aerial surveillance technology called Wide Area Motion Imagery (WAMI), which can track the movements of every person in public view over the entire city. Though the trial of the "spy plane," as the program was dubbed, quickly ended in scandal, organizers from Baltimore's low-income minority neighborhoods successfully rebooted the program in 2020, this time framing WAMI partly as a tool of "sousveillance" (watching "from below") that can track the movements of police officers. The paper shows how organizers "rebranded" WAMI around two conceptions of sousveillance—"citizen-centered" and "state-centered"—creating an unlikely coalition of supporters from both pro- and anti-policing sides of the criminal justice reform debate. But while the renewed program has vowed to be a "Big Brother" to the state, it will continue to be used for traditional surveillance, raising troubling questions about privacy. The article sheds light on the politics of watching and being watched in the era of technology-driven criminal justice reform.

---

[2] Department of Anthropology and Sociology, Williams College, Williamstown, MA 01267;

email: bhs2@williams.edu

A core feature of law enforcement since the turn of the 20th century has been a kind of feedback loop between counterinsurgency military techniques and urban policing (Go 2020; Schrader 2019). Surveillance has been central to this exchange of tools and ideas. Particularly since the 1970s, modern policing has been shaped by a desire to separate the "bad guys" from the "good guys" by monitoring all citizens with ever greater scrutiny, often using high-tech tools that purport to be more objective and "data-driven" than traditional methods (Brayne 2017; Brayne and Christin 2020). While the militarization of policing and the rise high-tech surveillance have received much attention, we know less about the more recent rise of citizens' desire to watch the police with proportionate intensity and technological sophistication. Introduced by the engineer Steve Mann (2003) in the early 2000s, the concept of sousveillance, or "watching from below," has emerged as one way to understand this trend (Browne 2015). Especially following the highly publicized deaths of Black Americans at the hands of police since 2014, communities across the United States have begun to invest heavily in programs that "watch the watchers," such as "copwatching," "courtwatching," and police body-worn camera systems. Yet we still know little about how these programs emerge, how they differ, how different technologies shape their development, and what political logics guide the decisions surrounding them.

This paper addresses these issues through a case study of Baltimore, Maryland. Baltimore has experienced a spike in violent crime following the police-involved death of Freddie Gray, which was captured by copwatching video and sparked a major uprising. This unrest motivated police to deploy an experimental aerial surveillance technology, called Wide Area Motion Imagery (WAMI), in a desperate attempt to pacify areas of the city with high

homicide rates. Originally developed during Operation Iraqi Freedom, WAMI uses a high-resolution digital camera array attached to an orbiting aircraft to track anyone in public view across large swaths of a city for hours at a time. The Baltimore Police Department (BPD) trialed the technology for six months in 2016. They did not tell the public, or even the city government, about the test. The secret trial generated intense controversy and led to the program being shuttered.

Since 2016, a small group of community organizers from Baltimore's low-income Black neighborhoods began lobbying city government to use WAMI again. This time, they wanted to use it as a form of sousveillance. What if WAMI could be accessed by citizens to investigate officer misconduct and provide a source of free, independent evidence for defense attorneys in criminal trials? In the words of one of the organizers, the system could be used to "turn the camera around" on police. While WAMI's appeal as a defense against Baltimore's deeply distrusted police department makes sense, a more curious puzzle emerged during the course of my research. Organizers also embraced the notion that WAMI should continue to be used for traditional surveillance, with police also having access to the system, thus raising alarming questions around privacy and militarized policing.

Drawing on interviews and observations with those involved in Baltimore's WAMI experiment, I argue that, over time, WAMI became a hybrid of two conceptions of sousveillance that shape public discourse about criminal justice reform, which I call "citizen-centered" and "state-centered." Like a copwatcher's cell phone, the former involves citizen control of the process of tracking state actors. The latter, such as police bodycam programs, involves substantial state control over the sousveillance process. I show how WAMI's advocates have

attempted to embrace both types. This hybridity has made it popular among both mainstream criminal justice advocates and law enforcement skeptics from the city's hyperpoliced neighborhoods. The successful reboot of this program raises important questions. What does it mean for citizens to monitor the state when the state also has partial control over the technology of watching? If sousveillance programs involve the participation of the state, what should this involvement look like? If sousveillance programs seek to be strictly community-driven by cutting out the state, can they attain the legitimacy needed to meaningfully hold the state accountable? Can any kind of sousveillance actually make good on promises to root out police corruption and combat systemic racism?

1. The Visual Politics of Sousveillance

From the French "sous" (below) and "veiller" (to watch), Mann coined the concept of sousveillance as a way to understand what he saw as the emerging potential of wearable computing devices, such as smartphones and wearable cameras, to "observe those in authority" (Mann et al. 2003:332). For Mann, sousveillance is the technological expression of an antagonistic and confrontational stance toward bureaucratic organizations, which have historically been the source of surveillance in modern societies. Sousveillance "seeks to increase the equality between surveiller and the person being surveilled (surveillee), including enabling the surveillee to surveil the surveiller" (Mann et al. 2003:333). Fundamental to sousveillance, then, is a visual politics. It attempts to disrupt the asymmetry of gaze that is so characteristic of modern "panoptic" surveillance, in which the state enjoys one-way access to citizens' behavior, while citizens are left knowing *that* they are being watched but not precisely *when*, thus generating an anxious disciplining of the self (Foucault 1977). Rather than try to

dismantle or hide from this panoptic power, sousveillance programs engage in what Gary T.

Marx (2003:384) calls "counter-surveillance moves," turning the disciplinary gaze back on state

actors to put them under the same kind of anxiety-producing observation usually reserved for

citizens. Put simply, a society with total surveillance and total sousveillance involves the state

and citizens watching each other all the time (Mann 2013).

Mann's discussion of sousveillance elides a number of important forms of "watching

from below," which, I argue, usefully extend the concept. What I will call "citizen-centered"

sousveillance is the production of data and imagery of state actors by citizens without the

participation of, and often in antagonistic opposition to, the state. This hews closely to Mann's

original conception of sousveillance. Bystander cellphone video of police misconduct directly

posted to social media is a familiar example. With its roots in the Black Panther Party's armed

watches of police, the practice has flourished since the advent of handheld digital cameras, and

has spawned numerous "copwatch" organizations (Browne 2015; Stuart 2011). The

"courtwatch" movement, to take another example, involves volunteer observers who sit inside

courts to record data on racial and class bias in the court system, which might then be

disseminated through Twitter, a blogging platform, or a press release (Van Cleve 2016).

Crucial to the visual politics of citizen-centered sousveillance is the perception that the

data are untainted by the interests of the state. There is little the state can do, the logic goes, to

silence or deny the information that is revealed. In practice, however, the efficacy of citizen-

centered sousveillance data is contingent on many social factors (Goodwin 1994; Newell 2019).

Forrest Stuart's (2011) study of a Skid Row activist group, one of the richest accounts of a

contemporary copwatching program, documents the group's struggle to successfully use video

in court against the LAPD. Much like the video of the police beating of Rodney King decades earlier, Stuart finds that citizen-produced imagery of seemingly obvious examples of officer misconduct was often dismissed by police counter-testimony because of a perceived lack of "accuracy" and "fairness" in the videos. He argues that this evidence was sidelined, in part, because much of it was created by unhoused people of color, whose opinions were not taken seriously. Though citizen-centered sousveillance data may be politically untainted by the state, then, this might also undermine its desired purpose. If police know that citizen-generated data and imagery will not be seen as legitimate in court, will it produce a disciplinary effect on police? On the other hand, these videos can be easily disseminated to the public through social media and directly shape the wider discourse about policing.

What I call state-centered sousveillance extends beyond Mann's original discussion. It involves programs where citizens rely on, or even directly cooperate with, the state to produce data and imagery that tracks state actors. Police bodycam programs are often pitched to citizens this way. After the Obama Administration dedicated millions of dollars to police bodycam programs, some claimed that they would allow citizens to access rigorously collected and authenticated imagery of encounters with police (Ray, Marsh, and Powelson 2017). In contrast to copwatching video, some grant bodycam imagery legitimacy precisely because the data come from and are maintained by an authoritative source, with clear chain-of-custody.

State-centered sousveillance, as the name implies, is rife with contradictions and tensions. Consider the way most bodycam systems work. Officers typically have the ability to turn them on and off at their discretion. The makers of these devices, such as Axon, openly advertise this functionality to police as a way to "control the narrative" of crime. Numerous

examples have emerged in Baltimore and other cities of officers using bodycams to stage

situations in which they would "discover" drugs and weapons that had, in fact, been planted.

These revelations have led to suspicion about the legitimacy of bodycam imagery. Yet,

paradoxically, without such imagery, little concrete evidence would likely exist of this kind of

misconduct (Fan 2018).

Like most sousveillance technologies, bodycams also record citizens' behavior at the

same time that they record officers. Especially if the state has outsized control over the

imagery, this raises questions about citizens' right to privacy. Rashawn Ray (2017) and

colleagues have documented the complex views among people of color about whether or not

bodycams are a tool "for citizens" or "for police." Interviewing dozens of Black residents in a

county just outside Baltimore, they found that many had favorable views of bodycams because

of the potential to increase transparency, while many also worried that bodycams could just as

easily be another form of *sur*veillance, allowing officers to review citizens' behavior with a new

degree of scrutiny. This worry is perceptive when considering how police departments regulate

the dissemination of bodycam footage (Fan 2018). In an exploratory 2017 review of bodycam

policies, the Leadership Conference on Civil and Human Rights found that only seven of the

seventy-five departments they examined allow citizens to review bodycam footage when

logging a misconduct complaint. By contrast, sixty-three of the departments allow officers to

review footage prior to filing an initial statement, thus allowing officers to better craft a

document that comports with their version of events. Policies like these clearly limit the

capacity of bodycams to be used for sousveillance. Without knowing exactly how state-

centered sousveillance programs are administered, then, it can be very difficult to know just how meaningful will be citizens' ability to watch "from below."

In practice, citizen-centered and state-centered sousveillance occupy ends of a spectrum. There are many examples that sit in-between. Activist groups like Lucy Parsons Labs and the Invisible Institute in Chicago, for example, have used the FOIA process to obtain internal Chicago Police Department officer misconduct data, which is rarely made public. They have used social network analysis and other data science techniques to expose networks of abusive officers. Open Justice Baltimore, a similar group, has attempted to merge fully public datasets that are usually siloed, such as the Maryland court records system with the Baltimore police department's "open data" portal, to expose networks of cooperation between officers and state prosecutors. In cases like these, citizens are leading the charge to "sousveil" the state, but they also rely on the state to produce the data. Though state involvement is clearly more limited than, say, bodycams, the process by which data were created is often opaque to the groups who use them, thus raising questions of accuracy, gaps, suppression, and so on.

When citizens consider the landscape of sousveillance, then, they are presented with a host of dilemmas. Methods that lean toward the citizen-centered end of the spectrum provide more direct authorship and control, but because these programs operate outside the boundaries of state legitimacy, they may be more vulnerable to being dismissed by powerful decision-makers. More state-centered methods, an aspect of sousveillance that Mann does not discuss, tap into the perceived authority of the state's "own data"; however, this raises other legitimacy questions. Especially when the state is deeply involved in managing sousveillance data, how can citizens be sure that a program billed as sousveillance is not, in fact, a way for the

state to hide its tracks while appearing transparent? Moreover, perhaps what is called *sous*veillance is actually *sur*veillance. What are the implications for privacy when sousveillance also captures citizens' behavior?

2. Data and Case Selection

This article draws on three years of fieldwork with Persistent Surveillance Systems (PSS)—a technology company founded by retired Air Force officer Ross McNutt, one of the principal engineers of Wide Area Motion Imagery (WAMI). The data consist of interviews with McNutt and the Baltimore community organizers who have embraced the technology. I also discuss observations made at the headquarters of PSS, where I received training on the WAMI investigatory process using imagery from Ciudad Juárez, Mexico, which PSS has retained for training purposes. This allowed me to see, first hand, how the system works.

The main source of data is video recordings of four focus groups with residents of West Baltimore. The focus groups were conducted and recorded by PSS and released to me by McNutt. The process of obtaining these recordings was complex and points to important limitations of the study. McNutt granted access to study PSS out of a desire for, in his words, "total transparency." Even when expressing my skepticism about the technology, especially in terms of privacy, McNutt has maintained this position and invited the criticism. Like any business owner, however, I assume that McNutt desires a favorable view of his program. The four focus group recordings released to me reflect this bias. For example, McNutt is in control of the framing and flow of the conversations. How might these conversations change if a more neutral party were guiding them? Secondly, these specific focus groups were released to me, yet over sixty more were conducted during my fieldwork, but not recorded. When I asked to

attend them in person, McNutt and the community organizers who ran the focus groups

suggested that it might not be safe for me. This response was likely shaped by my positionality

as upper-class and white. The meetings were held at night in majority Black areas of Baltimore

that routinely see gun violence. Indeed, at one meeting held in a church, a person was shot on

the steps just minutes after the meeting. If I presented with a less privileged identity, perhaps

my access to these meetings would have changed. In sum, I ultimately assume that the data do

not capture all types of voices about WAMI, and that McNutt's control over the focus groups

introduces biases. I analyze these recordings, then, not as a traditional one-sided interview,

where participants' voices are meant to stand in for all of their community, but as social

interactions in their own right between McNutt and his PSS colleagues and the citizens that

were assembled. While it is unclear to what extent the focus group data reflect the wider

opinions of Black residents, they are especially well suited to addressing the puzzle of this case

study: Why did these specific community organizers embrace WAMI and ultimately become its

driving force?

2.1 Post-Freddie Gray Baltimore

WAMI has been used by law enforcement in other cities (Michel 2019), but Baltimore is

the only city to have used it to its fullest capacity. Baltimore is an important site for examining

issues around technology, racial inequality, and criminal justice more generally. It is a highly

racially and class segregated city, due to a long history of apartheid government policy (Power

1983). The boundaries of this segregated geography have been maintained, in part, by the

BPD's surveillance regime, which is concentrated in majority Black neighborhoods. Since the

1980s, the BPD has increased face-to-face surveillance in the form of aggressive stop-and-frisk

tactics and turned to increasingly sophisticated technologies, such as a network of over 800 CCTV cameras, automated license plate readers, cell-phone signal trackers, a gunshot detection system, and social media activity monitoring.

In addition to being a hub for surveillance technology, Baltimore is an outlier nationally in terms of its violent crime rate. Whereas other American cities have seen longstanding declines in violent crime, Baltimore has consistently surpassed 300 homicides and 1000 shootings per year for the last half-decade. This is linked, in part, to the death of Freddie Gray, a young Black resident of West Baltimore, who was subjected to a stop-and-frisk and allegedly given a "rough ride" in a paddy wagon that severed his spinal cord. The uprising over Gray's death was contained through brutal tactics that further damaged community relations with police (Cobbina et al. 2019). After the uprising, some have suggested that the BPD engaged in a "slowdown"—withdrawing their services and allowing violence to spike (Heath 2018). By the end of 2015, Baltimore was seeing record numbers of homicides. This trend has persisted. The homicide rate increased again in 2016 and 2017, and 2019 was the highest in the city's history. The police clearance rate for homicides has also been shockingly low (Madhani 2018). In short, many of Baltimore's Black residents are caught between a rock and a hard place. They are understandably distrustful of police but are also experiencing indescribable violence that many believe requires drastic action.

3. WAMI as Surveillance

Developed in the early 2000s by McNutt and a team of U.S. Air Force engineering students under the name Project Angel Fire, WAMI was originally designed to track roadside bombers in Iraq. The program has since continued under the name Gorgon Stare(Michel 2019).

After retiring from the Air Force, McNutt adapted the technology for domestic policing within his private technology firm. The core of the system is an array of twelve 192-megapixel digital cameras attached to a lightweight aircraft that orbits a city, taking one picture every second. The images are stitched together to create a stable, satellite-like video. The imagery is streamed in real-time to a remote command center, where it is archived on private servers and a group of analysts use it to investigate crimes retrospectively.

To surveil suspects of a crime, analysts start from a 911 call for service or a direct request for assistance from a police detective. This cues them to go "back in time" using the archived imagery of the entire city. Pulling up the exact time and location of the reported incident, they begin to look for anything "suspicious"—cars driving erratically, individuals fleeing rapidly, a gathering crowd, and so on. "It's like opening up a mystery novel in the middle," my trainer explained, "and then you have to figure out what happened before and after the crime." Once a crime scene is identified, analysts track people at the scene backward and forward in time to see where they came from and where they go. As illustrated in Figure 1, tracking means clicking, frame-by-frame, on the location of people and cars of interest. These points create the precise route of the target, second by second, sometimes over the course of several hours. This information is assembled into a report, which is passed on to detectives, prosecutors, and defense attorneys.

[FIGURE 1 ABOUT HERE]

3.1 The Privacy Implications of WAMI

WAMI raises significant constitutional and moral questions around privacy. When McNutt entered the domestic policing arena, it became immediately clear that he would need

to consider these questions more deeply. Over the years, he developed a way of talking about WAMI that allows him to claim that the system balances objectivity with privacy. He argues that the system, above all, is more objective than other criminal justice technologies, providing, "a ground truth of what happened at the crime scene." Unlike traditional CCTV, bodycams, or copwatching video, there is no limited ground-level point of view, fewer blind spots, and no ability to turn the camera on and off by individuals at the scene. As a watcher, McNutt claims that WAMI is an "independent witness," with the ability to track both citizens and police with equal scrutiny.

McNutt also argues that the system has built-in privacy protections. PSS has engineered the WAMI image so that an individual never appears larger than a single pixel in size. Analysts can zoom in on an individual, but even at maximum magnification he appears as a kind of smudge or dot. This resolution allows the analyst to then track over a larger terrain. Figure 2, for example, shows a still frame of a person shooting another person at close range in an alleyway in Juárez. The two short, slightly downward sloping dark lines are the shadows of the shooter and victim. Though the system could be set to see the individual hairs on these people's heads, training the cameras this closely would make the system a poor tracking tool. As I discuss below, though the graininess of the imagery has a practical origin—the maximization of search area—McNutt has highlighted its political function in debates around privacy. Analysts are given just enough visual information track an individual, but, McNutt argues, the system does not "see what a person looks like."

[FIGURE 2 ABOUT HERE]

McNutt's claims about privacy become strained when discussing the temporal

dimension of WAMI imagery. One can tell a lot about a person's identity from their movements

over time (Kerr 2012). Because the system records the precise timing of a target's movements,

it can be easily synced to other data sources in the city environment. CCTV cameras, license

plate readers, gunshot detection systems, cell phone towers, or any other sensor that creates a

time stamp can be stitched together with a WAMI track. It can also be quickly synced to high-

resolution, close-up imagery, such as a public bus camera or officer bodycam. In Baltimore's

2016 WAMI trial, for example, the system was linked to the department's own CCTV system.

When an analyst tracked a suspect past several cameras, rather than having to review hours of

footage looking for a "needle in a haystack," she could request the precise hour, minute, and

second of the relevant camera to identify individuals by their physical appearance. The privacy

implications of this were pointed out most forcefully by the ACLU's David Rocah. After the 2016

trial, Rocah told reporters that the technology is "virtually equivalent to attaching a GPS tracker

to each and every one of us." He continued, "The fact that you can't use the camera to identify

a face is utterly irrelevant to its intrusiveness, because they can match that pixelated dot to a

person—whether identified or not—going into and out of particular buildings." Additionally,

the CCTV system and other existing forms of surveillance in Baltimore are unevenly

concentrated in the city's majority Black neighborhoods. WAMI's ability to track people using

time stamps thus mirrors this inequality. If a suspect flees a crime scene in a white residential

neighborhood, for example, it is less likely there would be other surveillance data in the area to

cross-reference. WAMI may therefore amplify racial inequalities built into the city's

infrastructure.

Finally, because the imagery is archived, WAMI could theoretically create a time capsule of everyone's movements—even those not involved in crime. This raises questions about what is to prevent the system from gathering too much information on people who are not involved with crime and, even when they are, the parts of people's pasts that are unrelated to that crime. Anticipating this worry, McNutt has developed a privacy policy, which states that imagery "not otherwise needed for criminal evidence or for official reasons [will be] retained for a period of 45 days and then destroyed." However, because WAMI is a dragnet surveillance tool, imagery that *does* contain criminal evidence, and is therefore not subject to the 45-day limit, *also contains the movements of everyone else in the city*. The technology thus creates an archival problem that is becoming increasingly common in the age of "big data" (Brayne 2017). What if imagery that was archived for an ongoing criminal trial is, years later, found to contain evidence related to an entirely different person and incident? Can that person be investigated, even though the imagery was not originally archived for that purpose? This kind of "mosaic search" capability has become a major worry for 4th Amendment scholars (Kerr 2012).

In sum, as surveillance, WAMI raises constitutional and moral questions around privacy. McNutt has addressed these concerns in a few ways: by limiting the resolution of the imagery and by somewhat limiting mass archiving. Yet many questions remain unanswered. In what follows, I examine how a group of Baltimore community organizers has come to terms with these risks, weighing them against the potential benefits of using the system to "watch the watchers," as well as address citizen violence.

4. Rebranding WAMI

Conversations about using WAMI in Baltimore began in late 2015 in the aftermath of the Freddie Gray uprising with the head of BPD's CCTV program, who agreed to trial the system for 90 days (Soderberg 2016). McNutt set up the program under a different name than the admittedly off-putting Persistent Surveillance Systems. Calling themselves the Community Support Program (CSP), McNutt recruited six employees from a local temp agency, ranging in age and race, but mainly connected to local Baltimore universities. He quickly trained them in WAMI tracking and analysis.

The program was conducted without telling citizens, the City Council, or even the Mayor. Though internal emails indicate that McNutt was against keeping the program secret, BPD officials insisted (Soderberg 2016). This secrecy proved fatal to the program's public image. In August 2016, the journalist Monte Reel published an exposé about CSP under the Orwellian title, "Secret Cameras Record Baltimore's Every Move from Above." The article, which McNutt consented to out of a desire for "total transparency," triggered a public firestorm, with citizens and officials calling for the immediate shuttering of the program (Rector and Broadwater 2016). Sardonically referred to by its detractors as the "spy plane," the program was discontinued.

According to McNutt, members of the city government who were favorable to the program told McNutt to gather support from residents of the Black community. It is only in their voices, he was assured, that city officials would seriously consider a renewal. From 2016 to 2019, then, McNutt has travelled throughout West and East Baltimore giving a two-hour long "briefing" that describes how WAMI works and involves a substantial question and answer portion. Through this effort, he has built a cross-race and cross-class coalition of public support, including the backing of Black religious leaders, a well-known civil rights activist, and

establishment leaders like a local business association, a former city council member, two

deeply pocketed mayoral candidates, and even the governor of Maryland. One prominent Black

pastor, for example, commissioned a poll about WAMI that showed a wide basis of public

support across racial lines. Though the question wording has been criticized for being leading,

the poll showed 73% of respondents in favor of aerial surveillance (Rector 2019). In December

2019, the BPD police commissioner announced that the WAMI system would be given a second

chance. As of this writing, the CSP program is conducting a 180-day trial, this time with more

transparency. This raises two crucial questions: Why did community organizers come to

embrace the publicly maligned "spy plane"? Once they did, what political discourse did

organizers and McNutt draw on to "rebrand" the program for the wider public?

4.1 WAMI as State-centered Sousveillance

Archie Williams, 38 years old, grew up in West Baltimore. After spending fourteen years

in prison, he has struggled with housing and job insecurity. He also has an intense distrust for

police, in part because his brother was shot and killed by an officer. In 2016, when he first

heard about the existence of the plane, he told me, "I felt betrayed. I thought this was another

tool to be used against my people." But in August of 2017, Williams was invited by his friend

Aaron to attend the first of McNutt's focus groups. Aaron, a 27-year old resident of West

Baltimore, met McNutt at first as an adversary. Angered by the revelation of the system, he

called McNutt and left a voicemail haranguing the outsider for doing harm to West Baltimore.

Much to Aaron's surprise, McNutt called him back. They struck up a conversation over several

weeks, and Aaron was surprised by McNutt's openness and willingness to explain himself. He

decided to give McNutt a second chance and agreed to introduce him to a group of community

organizers who represent West Baltimore to help restructure the program. He brought Williams and three others to the meeting.

Watching the recording of this meeting is like watching a conversion experience. Williams enters the room, sits down, and refuses to make eye contact with McNutt and his staff, mostly looking at his phone. Seated next to him is Joyous Jones—a 58-year old paralegal who has lived most of her life in West Baltimore and has been active in grassroots politics for years. She has also experienced her share of violence. A close family member was a victim of a stabbing, which was never solved and, she believes, the BPD participated in covering up. She has witnessed dozens of incidents of police brutality and carelessness, and lost a nephew and many friends to neighborhood gun violence. She is also active in a church that sits in the center of one of the most violent neighborhoods in the city. Entering the meeting room, Jones takes out a pen and, as McNutt begins to talk about CSP, writes down every word with a skeptical look on her face. By the time the nearly three-hour meeting is over, however, Williams and Jones, who did not know each other previously, would agree to join forces to lead the campaign to bring WAMI back.

Organizers' change of heart about the program has a lot to do with McNutt's receptivity to the notion that WAMI imagery should be accessible to everyday citizens, so that they can defend themselves against police false testimony and even track individual officers suspected of misconduct. During the focus groups, participants found out that WAMI imagery was made accessible to public defenders in 2016, a feature of the program that was never discussed in the press. In one focus group, McNutt shared the story of a suspect from Baltimore who had been accused by an officer of dealing drugs from his house. Though police did not find drugs at the

property, they found an old unregistered shotgun in an upstairs bedroom when they searched

the rest of the house. This meant the suspect would now be eligible for life in prison without

parole on a three strikes law. The suspect maintained that he had not been selling drugs from

his property, contradicting the officer's claims. The public defender representing the suspect

approached McNutt for imagery related to the case. Calling up archived footage, McNutt and

his team tracked cars to and from the property for several hours around the time the officer

said he saw suspicious activity. They found that only two cars had frequented the property. "All

we did is go back and provide the public defender with a report that said we only saw two

people go there," McNutt explains. He continues:

> And that's not characteristic of what a drug operation—at least our learned experience
>
> having watched a lot of them—that we would expect in that sort of situation. The public
>
> defender brought that into the judge the next day, and magically the case went away
>
> the next day. So that is something we could do. We had no idea [that this event was
>
> captured in the imagery]—we would never know [unless] a public defender came to
>
> us..."

McNutt notes that, though the imagery being analyzed did not come from a 911 call for service

(the typical procedure that would trigger a search), it proved critically useful to a citizen who

suspected an officer of lying but lacked the money and time to hire someone to find out. This

example rang brightly to community members.

> *Aaron [speaking to Williams]:* So basically, it would help us all the way around the
>
> board. So, if we get charged with something wrong, they could just go back and—

Williams [to McNutt]: So, this is for, like, everyone? This is not a law enforcement tool. This is not somebody else's "I'm gonna keep my eye on you." This is a community assistance—"I gotta eye on the city. Period." What I'm asking you is, you're not on no one's side but your own? That's what I'm asking you.

McNutt: It is just video imagery of the whole area.[…]

Jones [to Williams]: But I think independently—what you were saying is it's a non-partisan thing.

Williams: As long as it *stays* in that context. Because if it doesn't *stay* in that context, then people are gonna say, "Well ya'll are with the system." You got people—you got a set of people who feel that they're here by themselves all alone. It's the system against the people. This is the concept you have in Baltimore with people right now. So, by having a—

Jones: And they don't believe the police support them.

Williams [to McNutt]: And they don't trust them. The trust is gone. So by you coming with this program, it's like, "We are [just] eyes. We are not looking for nobody per se, but we are overseeing things."

Male 2: "We're big brother's bigger brother" [laughter]

In public appearances as a spokesperson for CSP, Williams has highlighted the potential of the system to be an "independent witness" that can amplify poor Black residents' defenses and "turn the camera around" on police (McLeod 2018). In other focus groups, participants explicitly contrasted WAMI with police bodycams, which they see as a kind of sham sousveillance tool. They discussed instances when officers cover the camera with their hands,

turn it off and beat someone or plant drugs, and other manipulations. Thus, WAMI imagery would, in the words of one participant, be "the great mediator. We're gonna call you the great mediator that's the eye in the sky just watching the two parties." What attracts residents to the system rebranded as a sousveillance tool, I suggest, is its state-centered qualities. Like a bodycam, it provides what seems to them to be rigorously collected evidence, which, they hope, the courts will take seriously. Yet unlike a bodycam, this camera cannot be turned off by an officer. They hope it will function as "just eyes"—a neutral observer that holds everyone equally accountable. This illustrates the importance of expanding Mann's conception of sousveillance. Focus group participants clearly have well-developed ideas about a kind of sousveillance that is not citizen-centered but which, they hope, has a disciplinary effect on police.

4.2 Addressing Privacy Concerns

As discussed above, sousveillance programs typically record the behavior of citizens in the process of recording state actors, thus raising important questions about privacy. By embracing *sous*veillance, citizens may end up inviting more *sur*veillance as well. This is certainly the case with WAMI. I was surprised to find that focus group participants were not only accepting of the certainty of increased surveillance under the CSP, but welcomed it. Keeping in mind that 2016 through 2019 have seen high homicide rates and low case closure rates, focus group participants were attracted to the system's capacity to, as Williams often puts it in public statements, "strike fear in the hearts of these boys"—referring to the small number of mainly young men behind Baltimore's gun violence. Residents were willing to compromise some of their privacy if the system could aggressively deter the most violent people in their community.

Aaron: Yeah, I think it'll definitely work [to deter crime].

Male 2: Yeah, it'll definitely work. Just look at this…

Aaron: Yeah, just to put some fear in their heart, just to slow them down a little bit. "Oh, you're being watched so if you go around the city shooting people and doing a bunch of violent things…"

Williams [to Aaron]: [But it's] not just for us. It's for these police officers as well.

Jones: My biggest concern in coming here, even when I first heard about it was, um, the privacy act [the 4th Amendment].

Female 1 [to McNutt]: That's what a lotta Baltimore people is gonna come back at you with. […]

Jones: The privacy act will—…I think that the ACLU was harping on that prior too, because people—whites—were being violated. […]

Aaron: I feel that it will work because our people just—I don't know what the heck it was—the "No Snitchin'" video? The "No Snitchin'" video. Our people, or people in general, just don't want to talk. So, this system could be here, could be that voice for that person who is actually scared to talk.

PR Manager [to Aaron]: It'll be the snitch for you, right? [Aaron chuckles]

In this exchange, Aaron comments on how the system will deter crime by creating "fear in the hearts" of those who would do violence. Williams agrees, but counters by noting that it will also discipline police, deterring them from engaging in misconduct. Aaron then references an infamous viral video from 2004 called "Stop Fucking Snitchin'," which was produced in Baltimore to send a message around the country that, citizens will meet retribution if they act

as informants for police. "Snitches get stitches," the most well-known phrase from the video, was referenced frequently in focus groups as a main driver of the low clearance rate in Baltimore's homicide cases. Many respondents related painful memories of seeing young men kill each other in broad daylight in front of witnesses who never come forward out of fear of retribution. As one respondent noted, because of the no snitchin' rule, "They'll kill someone and just walk away like it's nothing. They're not afraid. They fear *no one*!" Part of WAMI's appeal, then, is McNutt's promise that it will "monitor" all citizens and police but only really "watch" those who are violent. As one respondent put it, unlike, say, stop-and-frisk, WAMI only targets actual "trigger pullers" and is not going to stop any "suspicious" person who just happens to be in the neighborhood. If those who are thinking about committing a crime (and this includes police officers) know there is an objective witness in the sky that does not abide by a code of silence, the thinking goes, they will be less likely to act. Both police violence and citizen violence, they hope, can be addressed in one system.

Additionally, respondents coded privacy as a "white" issue, with Jones noting that the ACLU's privacy criticisms seemed to resonate with whites more than people in her community. Though privacy may be valuable in the abstract, in the context of their neighborhoods protecting privacy was not seen as urgent in comparison to deterring crime. As Aaron said later in the focus group, "I want to see my friend tomorrow, you know. I want to see my friend the next day. I don't care about privacy and all that stuff."

These seemingly easy dismissals of concerns over privacy, however, are influenced by the way McNutt has described the technology mainly in terms of its pixelated imagery. A frequent question in the focus groups was, "What happens when your cameras get better?"

McNutt: Right now, I have one pixel on a person. You can't tell anything about a person. If I had ten pixels on a person, you still can't tell anything about a person. But what I give up, when I have ten pixels on a person, is ten times the coverage area.

Williams [In an approving tone]: Mmmm.

McNutt: So, for me, if I could have ten times as many pixels, I would want to fly higher and wider. And instead of watching a third of Baltimore at once, I would want to watch all of Baltimore at once. Why? Because you don't know how *pissed off* you get when a guy from a shooting leaves your image before he stops at a house. The bigger area I cover—one—I see more crime. Two. I stand a much better chance of following them to their final location before they leave my images. So, if you're worried about my cameras getting better, the answer is: a factor of ten increase is huge, and all that would let me do is watch more of Baltimore at low resolution. […]

Williams: So, you could never see the [runs his hand up and down his bare arm] race of the person?

McNutt: Oh no. Right now, you're only one pixel. So, what I can honestly see mostly is your shadow. […]

In this exchange, McNutt discusses privacy in terms of pixels and coverage area, focusing on how the graininess of the imagery is intentional and not going to change with improvements to the cameras. Whether or not McNutt will be able to keep this promise is a critical, long-term question that he cannot answer, especially if other companies enter the marketplace with better cameras and different values. In the short term, however, it has allowed him to offer a comforting narrative of balanced objectivity and privacy.

Later in the focus group, McNutt also discusses how the technology is connected to other parts of Baltimore's surveillance network, particularly CCTV, and thereby shows how the system *could* identify people by their race or other personal information. In one exchange, McNutt presents a case involving a suspect who is tracked past ten ground cameras, allowing analysts to easily collect close-up imagery by synchronizing time stamps. Figure 3 is a slide presented to focus group participants showing how analysts accessed a higher resolution view of the suspect's car and final destination.

[FIGURE 3 ABOUT HERE]

McNutt: So, this is how we…make the ground cameras ten times more effective than they normally would be. Because, can you imagine if you had ten tapes and you're looking for one car in any one of them. And you don't know what time in what camera? That's essentially…the type of data our analysts provide.

Jones: [Skeptically] So, you can actually get the tag number too can't you?

McNutt: Honestly, the cameras are usually not good enough to see the tags very well.

Jones [aside to Williams]: It looks like it's blurred but you can make out some of that tag number.

McNutt: So, what we can do is say, "This is the address the car is at, and this is what the car looks like." And we can send that to an officer's cell phone. So that's how we help speed that up. But the other thing we can do is also say, "That was *not* the guy. The guy's car was *not* that color." Because…we have been in situations where witnesses give the wrong color car, the wrong direction they went to and everything else. And it turns out the witness was involved [in the crime] sometimes too.

25

In this exchange, McNutt is demonstrating the temporal dimension of the system. Jones' skeptical question about seeing the car's tag number suggests some awareness that the system *can* "see people" directly when used in conjunction with ground cameras—the total system is *not* just a "pixel per person." Rather than address this question, though, McNutt deflects by noting that this kind of analysis could also be used to prove one's innocence against false testimony. Additionally, McNutt does not discuss that CCTV cameras are unequally concentrated in Black residential neighborhoods in Baltimore. If this suspect were driving away from a crime scene in a white residential neighborhood, it is less likely that his movements could be cross-referenced to other cameras. Though the system's pixelated image seems "colorblind," its ability to track people over time *can* allow analysts to see the "color of your skin," an ability that is stronger in majority Black neighborhoods.

In sum, the way McNutt has framed and guided the flow of the focus groups leads the conversation away from potentially important debates around privacy and racial bias. If a more neutral party had led these focus groups, perhaps these issues would have been considered more deeply.

4.3 WAMI as Citizen-centered Sousveillance

The early discussions of WAMI focused mainly on state-centered sousveillance. Throughout 2018 and 2019, however, another aspect of the "rebranding" of WAMI came to the fore: the possibility that the CSP could recruit West Baltimore citizens to work on the program. Responding again to feedback from Jones, Williams, and other community members, McNutt became committed to the notion that addressing the lack of good jobs in West Baltimore, one of the root causes of crime, could become part of the mission of the CSP. What if West

Baltimore residents, with no background in criminal justice or intelligence, received analyst

training and become a core part of running the program? This possibility raises a puzzling

question: by recruiting citizens to run it, would CSP become a kind of citizen-centered

sousveillance? As I discuss below, the answers to these questions are difficult to come by.

When talking about CSP's "jobs program," as McNutt has come to call it, the primary

point of discussion is what kinds of citizens will be recruited. As I learned from my observations

at PSS headquarters, WAMI analysis involves two types of surveillance work—tracking and

investigation. Trackers operate much like the lower-level workers in a CCTV facility (Smith

2004). Usually tasked to follow vehicles, sometimes without knowing why, trackers may have

little say over the investigative strategy of a particular case, though they are crucial for the

discovery and assembling of evidence. They are the "grunts" of the operation. After proving

themselves at tracking, employees can be promoted to the role of full analyst. Analysts do more

complex investigatory work, coordinate trackers, and finalize the briefing documents presented

to detectives. During the 2016 trial, both positions were filled either by McNutt's existing

employees from Dayton or a local temp agency, which primarily recruited students from

Baltimore universities.

In interviews I conducted with McNutt and Williams in 2018 and 2019, as well as in their

public statements, the theme of jobs and citizen participation became central to discussions of

WAMI. Through his work as an organizer for CSP, for example, Williams secured a weekly local

radio show in which he would frequently invite McNutt as a guest to talk about the "spy plane."

During one exchange, McNutt states:

McNutt: What we do is take young people, mainly people who can play video games, and we train them up to be…investigative analysts. We are looking to hire 20 to 30 analysts locally. We will work with the NSA and DOD to get them their security clearances. […] Our analysts make about fifteen dollars an hour, starting out, and go up to twenty. […] Usually people who work for us get their clearances through us and then go off to work with the DOD. We provide a stepping stone to those careers.

Williams: Wow, that is an economic change for real. And we need that. […] So for someone who is just coming home [from being incarcerated]—it's gonna take about two to three years to get this gigantic gorilla called a felony off his back. Would you be…willing to hire an ex-felon?

McNutt: Well, we are going to work with expungements…to clean up people's records as much as possible. We're going to have to do some background investigation. We're working with the [police] department to make sure that returning citizens, those who have paid their debt to society, would be eligible for that. Some of those details are still being worked out…but we're pushing as hard as we can to make sure that the job is open to as many people as possible.

Williams, by this time one of the most public advocates for WAMI, has used his position to center people like him when McNutt talks about CSP. His reaction to McNutt's description of the jobs program is telling. CSP represents a way of organizing crime technology programs that has never been tried in the city, and Williams' large role in that visioning process makes it feel like those traditionally on the "outside" are being allowed "in." As McNutt's somewhat hesitant language indicates, however, because the CSP is deeply intertwined with the police

department, there are many questions about whether these promises can be kept. The police ultimately have the final say. Moreover, the notion that CSP workers will go on to highly paid careers in intelligence overlooks the many racial and class barriers that residents would face in gaining access. Thus, there are good reasons to doubt that the jobs program will deliver meaningful community control over WAMI. On the other hand, CSP is experimenting with types of organizing that are more community-centered than previous programs deployed in the city.

Beyond paying jobs, McNutt has also advocated for an independent party to assemble an oversight board, staffed by citizen volunteers. McNutt hopes this structure will ensure the technology is not abused by police or his own analysts. Like the jobs program, the exact contours of the oversight board are unclear, but it would likely decide what types of crimes are allowed to be investigated, as well as evaluate records of where analysts have tracked, what imagery has been stored or erased, who has requested access, and why. In one focus group, for example, McNutt tells a group of citizens:

> We can tell everywhere an analyst has looked. Because just like Google Earth we can tell, from a server, and I know the person who asked for that image, I know what area they were looking in, I know what investigation they were working on. […] So we are happy to have an outside group…come in and see everything we've looked at. […] And we also put it on contract with the city that if a police officer says, "Hey can you look here?" we can say, "No we're not allowed to because of the contract." And then we have oversight people come in and look at everything we've looked at.

The "contract" McNutt refers to is a Memorandum of Understanding created by the oversight board and police, which will list which types of behavior can and cannot be investigated. The

group would provide input on whether WAMI would be banned from tracking, for example, protestors, illegal dumpers, car accidents, or even the city's controversial urban dirt bike riders. Interestingly, McNutt's discussion of civilian review resembles the ACLU's own Control Over Police Surveillance (CCOPS) program, which helps cities create community oversight boards that disseminate annual reports of police surveillance technology use (ACLU 2016). Is an oversight board the same thing as fully citizen-centered sousveillance? No. Such an entity would always have to contend with the agendas of police and other city officials. It is certainly a major departure from the 2016 trial, however, in which WAMI was deployed in secret with no accountability.

In sum, throughout the recent stages of WAMI's "rebranding" effort, organizers have continually pushed McNutt to center not only community interests, but also the actual time and labor of community members. On the surface, this sounds a lot like citizen-centered sousveillance. McNutt has promised that citizens will participate in the production of imagery and will play a part in how it is used and disseminated to the public. There are many doubts, however, about how meaningful this citizen control will be in practice. How difficult will it be for local hires to become more than just the "grunts" of the program? Will the BPD's role as the primary client of CSP continually subordinate meaningful citizen control? The answers to these questions would allow us to know if the CSP will, in fact, afford "counter-surveillance moves" for citizens to "turn the tables" on the state (Marx 2003:384).

5. Discussion and Conclusion

Since the marked amplification of a warrior style of policing in the late 20th century, debates about the criminal justice system have often revolved around the expanding use of

military surveillance technologies. An increasingly important question is how citizens are responding to this expansion. One reaction seems to be a heightened counter-surveillance regime—one that can "watch the watchers" with proportionate intensity. I have suggested that Mann's concept of sousveillance, while capturing the essence of this trend, could be elaborated to better account for important variations. As Mann soundly argues, many examples of sousveillance are citizen-centered; however, this is only one corner of the sousveillance landscape. What I have called state-centered sousveillance, where citizens rely on the state to create and manage the data, is a prominent and controversial alternative. Expanding the concept this way helps us understand a vibrant public discourse around state accountability and transparency measures that are often sold to the public as sousveillance, even if, in practice, they can deviate significantly from that purpose (Fan 2018). The politics of sousveillance are complex and contradictory, so it should come as no surprise when citizens struggle to make sense of a particular program or technology.

The case of WAMI in Baltimore reveals the depth of this complexity. Considering that it was initially trialed as a secret surveillance program and was tagged with the title "spy plane," it is remarkable that the technology has been given another chance. How did McNutt and community organizers bring the program back to life? They strategically drew on the politics of both citizen-centered and state-centered sousveillance to craft a hybrid narrative. Elements like the use of citizen input, oversight, and promises of employment (even for those with a criminal record) draw on the grassroots politics of copwatching, which gives the program a community-centered feel that is more inviting to the traditional targets of warrior policing. Elements like the ability for public defenders to access imagery through state-controlled channels, or the

notion that the system is "just another camera" that "watches both sides," draws on the politics of bodycams and thereby invites those who maintain the legitimacy of the state. Especially from the latter point of view, it does not seem contradictory that WAMI could be used simultaneously for sousveillance and surveillance.

While organizers successfully navigated these complex visual politics and reinstated the program, it now enters an implementation phase that raises many difficult questions. Will WAMI, in practice, really become "Big Brother's bigger brother"? For one, the system must retain imagery for as long as is necessary, if it contains evidence under investigation. A private company will thus hold a massive and continuous archive of the daily movements of the entire city. What will the company be allowed to do with this archive? What if it gets into the wrong hands? What if other companies with better technology, who are less receptive to citizens' needs than PSS, make competing offers? Do these risks outweigh the theoretical benefits to safety? Secondly, given that the program is centrally organized around homicide investigations, how can the program ensure that the needs (and authority) of the police do not continually take precedence over the needs of citizens? Particularly regarding the system's potential to document police misconduct, how will the CSP handle what will surely be the BPD's desire to tightly control the dissemination of this sensitive data to the public? Would WAMI imagery be constrained in the same way as the city's bodycam imagery, which is not easily accessible? What would prevent this imagery from being lost, edited, or silenced once it is released to, say, the Internal Affairs Department? Thinking more widely, what if another grassroots organization, such as Open Justice Baltimore, which maintains an online public database of police misconduct incidents, requested WAMI imagery? Would this fit within the program's citizen-centered

mission? Or would it compromise relations with police and threaten the program's surveillance mission? While the notion that WAMI is "for everyone" has been good for its public image, there are reasons to think that the needs of police, the primary clients of PSS, will be privileged.

Though the case of WAMI in Baltimore is specific, it opens onto more general questions about sousveillance and criminal justice reform. A noticeable trend in the debate around WAMI is how the "magic" of technology can draw attention away from questions about process and procedure. Like bodycams, as well as more clearly surveillant criminal justice technologies, such as predictive policing or facial recognition software (Brayne and Christin 2020), a focus on how WAMI "works" tends to steer conversation away from examinations of the entire career of its data and imagery—from who collects the data and how, to storage, public access, and dissemination. As I have shown, understanding the management of sousveillance data at each step is crucial for understanding the political implications of these technologies. Technologies pitched to the public as sousveillance might, in practice, not meaningfully deliver on this promise because of the way the program is designed (Fan 2018). The devil is in the details. Addressing these details has less to do with understanding the wizardry of technology and more to do with existing organizational structures, entrenched policies, and the blind spots and biases of the people behind the technology (Benjamin 2019).

Finally, the limitations of this study could be addressed in future research. I have emphasized two parties in the sousveillance relation—citizens and the state—yet I have paid insufficient attention to corporate actors. Like the CSP, contemporary sousveillance programs, even community-centered ones, often rely on private corporations to manufacture observation tools, data storage, and communication systems. What are the implications, for example, of the

centrality of Evidence.com (a product of Axon, the makers of both the Taser and a popular

bodycam model) to the cloud infrastructure that stores much of the nation's bodycam imagery?

What does it mean for a grassroots "courtwatching" organization to rely on Twitter, with its

proprietary newsfeed algorithm, to disseminate its message? How should we understand the

role of GitHub—a leading platform for developing software code—in the activities of policing

transparency activist groups? As technologies of watching become more widespread and more

deeply entwined with the profit-making activity of technology companies, it is imperative that

scholars pay close attention to the triple relation among citizens, corporations, and the state to

understand their politics.

References

ACLU. 2016. "Community Control Over Police Surveillance." *American Civil Liberties Union*.

Retrieved February 1, 2020 (https://www.aclu.org/issues/privacy-

technology/surveillance-technologies/community-control-over-police-surveillance).

Benjamin, Ruha. 2019. *Race After Technology: Abolitionist Tools for the New Jim Code*. New

York: Polity.

Brayne, Sarah. 2017. "Big Data Surveillance: The Case of Policing." *American Sociological Review*

82: 5: 977–1008

Brayne, Sarah, and Angèle Christin. 2020. "Technologies of Crime Prediction: The Reception of

Algorithms in Policing and Criminal Courts." *Social Problems*.

https://doi.org/10.1093/socpro/spaa004

Browne, Simone. 2015. *Dark Matters: On the Surveillance of Blackness*. Durham, NC: Duke

University Press.

Cobbina, Jennifer E., Soma Chaudhuri, Victor M. Rios, and Michael Conteh. 2019. "'I Will Be Out

> There Every Day Strong!' Protest Policing and Future Activism Among Ferguson and

> Baltimore Protesters." *Sociological Forum* 34: 2: 409-433.

Fan, Mary D. 2018. "Body Cameras, Big Data, and Police Accountability." *Law and Social Inquiry*

> 43: 4: 1236–56.

Foucault, Michel. 1977. *Discipline and Punish: The Birth of the Prison*. New York: Pantheon

> Books.

Go, Julian. 2020. "The Imperial Origins of American Policing: Militarization and Imperial

> Feedback in the Early 20th Century." *American Journal of Sociology* 125: 5: 1193–1254.

Goodwin, Charles. 1994. "Professional Vision." *American Anthropologist* 96: 3: 606–33.

Heath, Brad. 2018. "Baltimore Police Stopped Noticing Crime after Freddie Gray's Death. A

> Wave of Killings Followed." *USA Today*, July 12. Retrieved December 5, 2019

> (https://www.usatoday.com/story/news/nation/2018/07/12/baltimore-police-not-

> noticing-crime-after-freddie-gray-wave-killings-followed/744741002/).

Kerr, Orin S. 2012. "The Mosaic Theory of the Fourth Amendment." *Michigan Law Review* 111:

> 3: 311–54.

Madhani, Aamer. 2018. "Unsolved Murders: Chicago, Other Big Cities Struggle; Murder Rate a

> 'National Disaster.'" *USA Today*, August 10. Retrieved December 5, 2019

> (https://www.usatoday.com/story/news/2018/08/10/u-s-homicide-clearance-rate-

> crisis/951681002/).

Mann, Steve. 2013. "Veillance and Reciprocal Transparency: Surveillance versus Sousveillance,

> AR Glass, Lifelogging, and Wearable Computing." Toronto: IEEE.

Mann, Steve, Jason Nolan, and Barry Wellman. 2003. "Sousveillance: Inventing and Using

    Wearable Computing Devices for Data Collection in Surveillance Environments."

    Surveillance and Society 1: 3: 331–55.

Marx, Gary T. 2003. "A Tack in the Shoe: Neutralizing and Resisting the New Surveillance."

    Journal of Social Issues 59: 2: 369–90.

McLeod, Ethan. 2018. "City Council Members Grill Spy Plane Company, BPD over Privacy

    Concerns, Lobbying." *Baltimore Fishbowl*, October 17. Retrieved February 13, 2020

    (https://baltimorefishbowl.com/stories/city-council-members-grill-spy-plane-company-

    bpd-over-transparency-lobbying-privacy-concerns/).

Michel, Arthur Holland. 2019. *Eyes in the Sky: The Secret Rise of Gorgon Stare and How It Will

    Watch Us All*. New York: Houghton Mifflin Harcourt.

Newell, Bryce Clayton. 2019. "Context, Visibility, and Control: Police Work and the Contested

    Objectivity of Bystander Video." *New Media and Society* 21: 1: 60-76.

Power, Garrett. 1983. "Apartheid Baltimore Style: The Residential Segregation Ordinances of

    1910-1913." *Maryland Law Review* 42: 2: 289–329.

Ray, Rashawn, Kris Marsh, and Connor Powelson. 2017. "Can Cameras Stop the Killings? Racial

    Differences in Perceptions of the Effectiveness of Body-Worn Cameras in Police

    Encounters." *Sociological Forum* 32: 1: 1032–50.

Rector, Kevin. 2019. "Over 70% of Baltimore Residents Would Support Controversial

    Surveillance Plane, Poll Shows." *The Baltimore Sun*, October 14. Retrieved May 1, 2020.

    (https://www.baltimoresun.com/news/crime/bs-md-ci-cr-poll-on-planes-20191014-

    mmot33qvm5f7pdwznim3qrx4oq-story.html).

Rector, Kevin, and Luke Broadwater. 2016. "Report of Secret Aerial Surveillance by Baltimore

    Police Prompts Questions, Outrage." *The Baltimore Sun*, August 24. Retrieved December

    31, 2018 (https://www.baltimoresun.com/news/maryland/baltimore-city/bs-md-ci-

    secret-surveillance-20160824-story.html).

Schrader, Stuart. 2019. *Badges without Borders: How Global Counterinsurgency Transformed*

    American Policing. Berkeley, CA: University of California Press.

Smith, Gavin J. D. 2004. "Behind the Screens: Examining Constructions of Deviance and Informal

    Practices among CCTV Control Room Operators in the UK." *Surveillance and Society* 2:

    2/3: 376–95.

Soderberg, Brandon. 2016. "Persistent Transparency: Baltimore Surveillance Plane Documents

    Reveal Ignored Pleas to Go Public." *City Paper*, November 1. Retrieved December 31,

    2018 (https://www.citypaper.com/news/mobtownbeat/bcp-110216-mobs-aerial-

    surveillance-20161101-story.html).

Stuart, Forrest. 2011. "Constructing Police Abuse after Rodney King: How Skid Row Residents

    and the Los Angeles Police Department Contest Video Evidence." *Law and Social Inquiry*

    36: 2: 327–53.

Van Cleve, Nicole Gonzalez. 2016. *Crook County: Racism and Injustice in America's Largest*

    Criminal Court. Stanford, CA: Stanford University Press.

Figures

Figure 1: Tracks of three suspects' cars and victim's car in a police assassination case in Juárez. (Photo by author).

Figure 2: Imagery of a homicide in Juárez at maximum magnification. (Photo by author)

Camera 715: W North Ave – N Payson St
Suspect 1: White Infiniti 10:14:51

Camera 715 W North Ave – N Payson St
Suspect 1: White Infiniti 12:02:23

CSP Vehicle tracks with CitiWatch In Camera Views
CitiWatch Cameras

Time	Level	Comment
10:02:32	Low	929: Edmonson Ave and Allendale St.
10:05:09	Low	821 Mt Holly Street
10:14:52	Low	715: W North Ave and N Payson St
10:50:14	Low	722: N Monroe St and Wallbrook Ave
10:50:28	Low	718: N Payson St and Ridgehill Ave
12:02:12	Low	721: W North Ave and N Monroe St
12:02:23	Low	715: W North Ave and N Payson St
12:05:52	Low	721: W North Ave and N Monroe St
12:06:11	Low	712: W North Ave and N Pulaski St
12:06:20	Low	709: W North Ave and N Smallwood St
12:06:26	Low	737: W North Ave and Bentalou St
12:06:41	Low	706: W North Ave and Moreland Ave
12:07:38	Low	905: W North Ave and N Dukeland St
12:08:28	Low	910: Baker St and N Dukeland St
12:09:40	Low	916: Bloomingdale Rd and Ellicott Drwy
12:10:39	Low	918: Poplar Grove and Riggs Ave
12:11:07	Low	920: Poplar Grove St and W Lafayette Ave
12:11:34	Low	921: N Franklintown Rd and N Longwood St.

Figure 3: WAMI integration with CCTV. (Image by Persistent Surveillance Systems, used with permission.)