Article

The Spy in the Cab: The Use and Abuse of Taxicab Cameras in San Francisco

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Abstract

Since security cameras were first required in San Francisco taxicabs in 2003, their unfolding story has come to contain many elements familiar to Surveillance Studies: the initial introduction of new technology in the wake of a moral panic; a failure of maintenance and a lapse into unreliability; and finally a resurgence accompanied by surveillance creep. This trajectory is explored using the concept of “surveillance slack,” and the stages of slackening and tensing of taxicab camera surveillance will be considered in terms of how these have been shaped by issues of acceptability (where the line between use and abuse is drawn), of effectiveness (what the cameras are perceived to be doing), and, underlying both of these, of integration, that is, how surveillance interacts with existing lines of tension and conflict in the taxi industry.

The Spy in the Cab

In 2003 the San Francisco Taxicab Commission ordered the installation of security cameras in all city taxicabs. The Commission had debated the installation of cameras for several years, and had heard the opinions of both taxi companies and drivers; their installation was advocated by safety activists in the drivers’ union (United Taxicab Workers) (Fernandez 1999). Nevertheless, notification of camera installation went out in the form of the following flyer:

YOU WILL BE CHARGED UP TO \$400 FOR
DESTROYING A SECURITY CAMERA!
NEWSFLASH AND WARNING
—Security cameras are for your protection!
—Security cameras serve as a deterrent to crime.
—The camera only takes still pictures not video.
—Cameras have no audio recording capabilities.
—Only the police department will have access
to the images (only when there is a violent crime
committed against a driver or passenger).

Notably, this flyer expressed two contradictory messages. One message treated cabdrivers implicitly as criminals, with the assumption that they were likely to “destroy” security cameras, and that a fine and “warning” were thus necessary. The competing message gave assurances, geared quite accurately to the key areas of suspicion and potential conflict over the use of cameras (since rebranded as “safety cameras”) which drivers were likely to be concerned about, namely: what are the cameras for? What sort of information do they record? To whom is this information made available? And for what purpose? What

this apparent contradiction signifies is a recognition that the introduction of surveillance cameras into taxis meant their insertion into a preexisting realm of conflicts and lines of suspicion, which was bound to shape their reception.

The Commission was not mistaken in expecting sabotage and resistance. Many cameras were unplugged, turned to the ceiling, or covered with bubble gum or tape, even as driver discourse, particularly as spoken by union and safety activists, was primarily in favor of the cameras. Regulators and camera advocates, and many drivers, wondered out loud why other drivers would sabotage cameras installed for their own protection. At issue from the beginning, then, was not only the question of the *use* of taxicab cameras but of their “abuse”—for opponents of the cameras, the abuse of personal privacy; for supporters, the abuse by saboteurs of the cameras themselves. And these terms remain relevant today as, one by one, the assurances provided in the flyer have become undermined by technological change and surveillance creep as newer cameras have been installed, with new purposes in mind.

The related concepts of “use” and “abuse” highlight the relationship between the actual application of a technology, the reception of this technology, and of its perceived effects, by those on, by, or near whom it is deployed. The term “surveillance slack” has been used to describe both dimensions of this relationship: on the one hand, as the gap between the potential effects of surveillance technology and the extents to which these are made use of in practice (Marx 2002), or “the amount of surveillance present relative to what could be collected given the power of the technology” (Marx 2005: 388 n89); on the other hand, as interpretive slack, a normative evaluation of the amount and effect of surveillance in a given context (Greenberg and Hier 2009). The concept of slack is useful for qualitatively distinguishing between surveillance in different historical periods, or in outlining the development of a given form of surveillance as this expands or contracts due to changes in technological potential, or to social restraints:

We can envision settings in which technology is relatively weak and in which there are few restraints on its application as in Europe in the Middle Ages. Conversely there are situations in which technology is very powerful, yet there are significant restraints, as with wiretapping in the United States. This contrasts with situations in contemporary authoritarian societies in which the technology is strong and the restraints on its applications are few. (Marx 2002: 23)

Such restraints may be the effect of social norms or of legal restrictions; they may result from power struggles over the surveilled site, or be due to failures of installation, maintenance, or imagination. If the actual uses, effects, and reception of given surveillance technologies could be said to “tense” or “slacken” according to context and historical circumstances, then a period during which the gap between the actual and the potential grows could be called “slackening,” and a period during which it decreases could be called surveillance “tensing,” a “reeling in” of available slack; or, to the degree that the applied technology has multiple points of contact with its potential field of application, a “sewing up” of slack.

The brief story of San Francisco taxicab cameras contains many elements familiar to Surveillance Studies: the initial introduction of new technology in the wake of a moral panic surrounding several signal crimes (Innes 2004), a slide into near “moribundity” (Smith 2012), followed by a resurgence and surveillance creep (Marx 1988; Lyon 2007: 52). The stages of slackening and tensing of taxicab camera surveillance will be explored in terms of how these were shaped by issues of acceptability (where the line of use and abuse is drawn), effectiveness (what the cameras are perceived to be doing), and, underlying both of these, integration (how the slackness or tautness of surveillance interacts with existing lines of tension and conflict in the taxi industry).¹

¹ This article draws on research conducted since 2001 on the taxicab industry in San Francisco, California; some recent interviews are from ongoing research on the regulatory transformation of the industry. Also used were news articles from the *San Francisco Chronicle* and other sources, the archive of regulatory documents and meeting minutes at

The Taxi as a Surveilled Site

Writing on the introduction of safety devices, including cameras, into taxicabs, Haines (1998) noted that such technologies need to pass two hurdles and a challenge: the “hurdle of acceptability,” the “hurdle of effectiveness,” and the “challenge of integration” with the existing strategies used by drivers to avoid or reduce risk in their encounters with passengers. If the “challenge of integration” is expanded to take into account the ways in which these strategies and risks are shaped by the pressures and conflicts of the industry’s occupational structure (Schlosberg 1980), then this challenge can be seen as forming the background against which both “hurdles” must be addressed. Several of the key forces shaping this background are:

- 1) The flows of investment and profit-taking in the industry; particularly the extent to which the industry in a given era is characterized by increased investment (in fleet size, for instance, or in new technologies), or minimal investment, with maximum profit extraction. The industry may be centralized in the hands of a few large fleets, or dispersed among individual owner-operators (Cooper, Mundy and Nelson 2010: 11ff).
- 2) The interests of regulators in the conduct and movements of taxicab drivers and passengers, and in controlling the taxicab itself as a mobile, liminal site moving through the space of the city, as part of the larger project of shaping urban circulation (Papayanis 1996). Rationales for government regulation may come into conflict, for instance when concerns for public safety come up against the protection of privacy (see below).
- 3) The status and relative power of drivers themselves within the industry (Mathew 2005; cf. Papayanis 1993). Relevant factors include whether drivers are unionized, whether they are considered employees or independent contractors, whether the job affords them upward mobility over time, and to what extent they have meaningful input into the regulation of the industry, and of their workplace, the taxicab.

To illustrate, the mid-20th century was characterized by the rise and fall of the *commission system*, an occupational structure made possible by the juncture of two technologies: the motor and the meter. The taximeter was promoted by local governments as a way of rationalizing and standardizing cab fares, for the benefit of passengers; their introduction dovetailed with the interests of investors who drove the switch from the horse to the motorcar with the introduction of large taxi fleets, hiring employee-drivers who split the takings recorded by the meter with the company (Mom 2003; Turvey 1961). Nevertheless, operation of the device itself was in the hands of the cabdrivers, who, seeking to cheat the company of some share of this take, responded with a multitude of ways to “beat the meter,” from sabotage to subterfuge, making deals with willing passengers or duping the gullible. Additional surveillant methods were brought in: company vehicles patrolling the roads overseeing driver behavior, undercover cars with cameras mounted on the hood, Pinkerton agents hired to pose as customers, “hot seats” wired to turn on the meter the instant a passenger sat down—all to protect the profits of companies from driver cheats (Vaz 1955: 67; Vidich 1976; Schlosberg 1980; Gordon 1983).

The late 20th century, by contrast, saw the widespread collapse of the commission/employee model in most US cities, the busting or evisceration of unions, and the development of a new model in which the majority of drivers are legally independent contractors hired by the day, week, or month. By the 1980s the cab industry in San Francisco had taken the basic form it continues to have today. The city controls the

<http://www.sfmta.com/cms/xhome/hometaxi.htm>, and several blogs about the cab industry maintained by San Francisco cabdrivers.

number of taxis by issuing a limited number of medallions, or permits to operate a cab—there are currently 1,537.² Although some of these are “corporate medallions,” owned directly by companies, most can only be held by individuals actively working as taxicab drivers. Taxis must be associated with a dispatch service and a registered “color scheme” (i.e. cab company); these vary from large companies with hundreds of cabs to individual owner-drivers with their own color schemes. Of the 31 companies listed by the Municipal Transit Agency as of Sept. 29, 2011, only four controlled more than 100 taxis; together, these four large “full service” companies controlled almost two thirds of the fleet.³

The post-1970s labor regime of cab driving in San Francisco is characterized by increased flexibilization, atomization, and the shouldering by drivers of economic risk. No longer legally recognized as employees but as independent contractors, drivers are limited in their ability to unionize, and may not legally strike. An increasingly immigrant workforce (Schaller 2004a), they are for the most part denied retirement or health benefits, as well as unemployment and worker’s compensation. Whereas drivers in the commission system were assured a percentage of their meter’s take at the end of each day, today’s drivers pay a set fee for each day, receiving for themselves anything left after expenses.⁴ They thus begin each day in debt, and face the possibility of ending the day in debt. As such, instead of sharing the risk of economic swings with the companies, drivers shoulder all the risk. While companies are assured a stable revenue from driver leases and shift fees, driver incomes fluctuate radically with the seasons and the economy (Anderson 2004).

San Francisco itself has undergone radical transformations since the 1970s. With the flight of manufacturing from the city, any working class job in San Francisco is almost certainly in the service industry. The increased concentration of white-collar jobs downtown, along with the boom and bust cycle of the computer industry and housing markets, along with exponential gentrification throughout the city and its region, have shot up the cost of living and rendered jobs like taxi driving increasingly precarious. Many drivers find themselves forced to commute long distances or pay exorbitant rents to continue to live in or near the city in which they work. The working conditions of cabdrivers are characterized by a gradual but inexorable speedup, and this is often translated into physical speed on the streets (cf. Henslin 1967: 123; Schaller 2004b). The risks of speeding taken by drivers, and the increased potential for injury to drivers, passengers, pedestrians, and other motorists are divorced from the labor conditions and urban processes which motivate them when conceived solely as the results of individual unruliness.

Although drivers in San Francisco are no longer subjected to the full range of intense surveillance by companies which characterized the commission system, they are increasingly the subject of scrutiny by city government, for whom the taxicab is a key site for the construction of policy related to vehicular safety and access to mobility. Also of concern is the taxi as a vector of criminality, whether through the exposure of passengers to dangerous drivers or of drivers to dangerous passengers. As an exposed, mobile site the taxicab is an exemplary target of technologies of control and surveillance as modes of objectification for the purpose of limiting or mitigating dangerous conduct (Stenning 1996). That these technologies are often, though not always, accepted or even embraced, at least discursively, by the majority of those who are their targets demonstrates the extent to which they orchestrate successfully with other modes of subjectification, such as the individualizing labor process of contemporary cabdriving, or the increasingly consumption-modeled habitation of San Francisco’s “resort” economy (Solnit and Schwartzberg 2001).

² There are also a small number of limited-time “peak hour” permits.

³ <http://www.sfmta.com/cms/xind/medallionsissued.htm>

⁴ This is a simplification, representing the large number of non-medallion-owning drivers working for large companies, rather than the smaller numbers of medallion-owning drivers, or non-owning drivers working for independents.

The introduction of cameras under the Taxicab Commission (1999-2009)

Safety cameras entered the scene amidst the lines of trust and distrust, of care and constraint, articulated by the constellation of pre-existing forms of surveillance. Their stated goal of ensuring “safety” in the driver-passenger relation is shaped by the ways in which the cab has been given form as a knowable and trackable site moving through the city, and the ways in which the actions and movements of drivers and passengers are thrown into relief against the city’s geographies of transport and crime. The addition of cameras to the set of surveillance technologies deployed on taxicabs in contemporary San Francisco was among the first steps in a transformation of the industry, associated with the rise of a new, more intensive and intrusive regime of pastoral and disciplinary concern by city regulators. The short history of taxicab cameras in San Francisco can be divided into two stages: first, their introduction under the Taxicab Commission in 2003, followed by a period of overall decline in maintenance and reliability; second, the adoption of a new generation of more advanced cameras by taxicab companies with the encouragement of the Municipal Transit Agency.

San Francisco taxicabs have long been the center of a discourse framing them as a classic “urban problem” (Castells 1977). Since 1978, a series of no fewer than twelve ballot propositions have in one way or another been proposed as solutions to the taxicab problem (Machen and Thigpen 2007). Mayor Willie Brown vowed to solve the problem once and for all with the appointment of a special Taxicab Task Force, which gave birth in 1999 to the San Francisco Taxicab Commission. The Mayoral-appointed Commission, composed of representatives from a number of interested groups including seniors, the disabled, labor, neighborhoods, cab companies, and the hotel industry, was charged with governing the details of cab industry regulation and management, while considering means by which service and safety in the industry could be improved. The Commission was charged with improving taxi access and availability, and with promoting driver safety and health (SFTC 2009). One of the Commission’s greatest productions was a plan to provide healthcare to all taxi drivers (which was, however, never acted on by the Board of Supervisors). The Commission also saw the first implementation of security cameras in cabs.

The installation of cameras in taxis was first proposed in 1999 after three cabdrivers were murdered within a year and a half (Dougan and Glover 1998) and a driver raped and murdered a passenger (Zamora 1999); it was denounced in the *San Francisco Chronicle* as “not only outlandish but technically impossible” (Garcia 1999). However, in the post 9/11 era the mood shifted, and by the time the Taxi Commission, after several years of consideration and discussion, ordered cameras installed in 2003, the response among drivers and passengers was mixed. Whether the cameras were supported or opposed, they were no longer received as outlandish and surprising. Instead of being seen as science fiction, cameras were accepted as part of a realistic contemporary strategy, whether as a rational and necessary move to promote security, or as an incremental step toward Orwellian intimidation.

The cameras initially required by the Commission cost upwards of a thousand dollars apiece, paid for by vehicle owners, representing a significant cost in an industry which is often characterized by minimal capital investment and maximum extraction. This was exacerbated by the technical and physical limitations of the technology itself. Failure rates of cameras in taxicab inspections, as well as during crime investigations, increased over time. In 2006 police estimated that only a third of the cameras were giving useful images; the rest being inoperable due to sabotage and/or neglect (SFTC 2006). By 2007 the SFPD Taxi Detail estimated that 80 per cent of cameras were not functional (SFTC 2007). By 2008, when the Taxi Commission met to revamp camera requirements, one of the three approved vendors had gone out of business and cameras of this brand had to be replaced, a cost borne by the vehicle owners (SFTC 2008a, 2008b).

A company manager listed a number of problems which emerged with the early models:

Manager: The older cameras often became inoperative some unknown time after they went into use. The green light that supposedly showed the camera was working might glow reassuringly for years but was in fact giving a false positive. It did not, for instance, recognize when the small wires at the camera head broke due to repeated flexion. The camera “worked” but when one of the rare crimes occurred, it would turn out that the camera was recording all blank images. Also, the company that made the cameras was sold to another company which dropped support. Police lost or replaced the old laptops used for image retrieval, and became unable to get images even if they were correctly recorded.⁵

Accordingly, in 2008 the Taxicab Commission amended its rules on taxicab cameras, allowing for a yearly review of acceptable camera models, in order to ease the adoption of newer technology by making the regulation more flexible (SFTC 2008c). In the Commission’s final report before its functions were taken over by the MTA, it concluded:

The next phase of the Safety Camera Program will be an industry-wide system upgrade, testing all cameras, and setting up an ongoing administrative procedure to ensure that all cameras are in working order. (SFTC 2009)

The initial implementation of cameras under the Taxicab Commission went slack due to problems of investment and maintenance, as well as to the significant constraints placed on when and for what the images they produced could be used, and by whom. The particular stated purposes and the limitations under which the cameras were deployed reflected the compromises of different interests—police, regulators, companies, drivers—involved in the regulation and pressure process. The originary justification for the cameras was the safety of both drivers and passengers, although restrictions on when and what kind of image were produced made driver safety the priority, since drivers, for instance, were able to trigger the cameras through a panic button, or by opening cab doors. For all its failures, the camera program under the Commission was nevertheless successful in establishing cameras, in common discourse at least, as a “success” in regard to their original justification as tools against crime. Subsequently, the uses and goals of taxi cameras were to see a renewal and expansion, as part of a project to transform the taxi industry in San Francisco.

Renewal and expansion under the Municipal Transportation Agency (2009–present)

In 2009, as the result of a ballot initiative reorganizing the city’s system of transit regulation, the Taxicab Commission was absorbed into the Municipal Transportation Agency (MTA). Under the MTA, the industry has seen a further intensification of pastoral and disciplinary concern with the livelihood and behavior of drivers. The MTA has sought to radically transform the city’s cab industry, starting with a transformation of the taxicab medallion system into one in which medallions can be bought and sold by working drivers—Taxi Services Director Christiane Hayashi has expressed the hope that through the loan application and monitoring process, lenders will be “doing some of the enforcement” of MTA regulations (Hayashi 2010). The MTA has also taken up reform of leasing and dispatch systems, and resolved to move beyond the “archaic” system of paper waybills to electronic replacements, which will automate the surveillance of taxicab trip locations and fares (see below). The regulatory transformation of the industry has only just begun, and the meaning and potential use of rapidly changing technologies, like those

⁵ Interview quotes are selected from an ongoing study of regulatory change in the San Francisco taxi industry. These are not meant to be statistically representative but merely selected to illustrate the diversity of stances taken within driver and company discourse on taxi cameras, as this is understood by the author. Interview selections are taken from the author’s notes from verbal interviews or from emails; ellipses indicate omissions. To maintain confidentiality, management personnel from two cab companies are identified as “Manager”; three drivers from two large companies are identified by pseudonyms.

involved in the taxicab cameras, are necessarily interpreted within the context of this ongoing process of change.

The MTA has continued the practice, initiated by the Commission towards the end of its existence, of updating camera specifications to keep up with vendors and the industry, particularly with an eye to ensuring the quality of images and the ability to store and access footage. For example, whereas the last Commission specifications in 2008 required 128 MB in memory, at least 16 GB is now required (SFTC 2008c). A cab company manager explained, “They recognize that technology changes so fast that there would be new devices on the market before the ink dried on formal specifications, so they do not have precisely spelled-out specs.” Thus, beyond the basic requirement that all taxis have cameras, the MTA allows companies to adopt newer technologies on their own initiatives, while promoting this upgrade through gradually raising standards, and by approving advanced models for use in taxis. This process does tend to favor the larger companies who possess the capital and the motivation to operate more up-to-date fleets (cf. Skok and Baird 2005).

By late 2010, several of the larger taxicab companies had taken advantage of these flexible regulatory specifications to begin installing more advanced models of camera. Instead of static images, these newer cameras record continuous video, with the capacity for audio recordings; they also face both into the cab and forward onto the street, in contrast to the original cameras which only covered the cab interior (Reisman 2010). By summer 2011 such cameras were installed on almost half the city’s fleet (Nevius 2011a). While the original cameras were installed specifically in order to combat crime, and were initially only accessible by police, both the potential and actual use of the newer cameras go well beyond this. In interviews, management, driver activists, and individual drivers disagreed on the purposes to which the new recordings are put. Company managers emphasized the role of the cameras in exonerating drivers in the case of accidents or complaints:

Manager: There’s no audio recordings on our cameras, we’re not interested in that. We use the video only in special circumstances, such as after an accident to determine fault, or when a driver gets in trouble somehow. We had a lady who said the driver ran into her, and the video clearly showed that it was her fault, not his.

Manager: We also have daily need to review camera images. That is done almost exclusively to determine what happened in an accident... I have never looked at camera images to resolve a complaint, but it is possible and might be done in an unusual circumstance... I checked today with our claims person, who estimates that cameras prove the driver to be not at fault about 70 per cent of the time. The cameras are helpful to the driver even in at-fault accidents because the other party often inflates the damage claim. The cameras can reveal the true extent of damage, e.g. the actual area of contact.

The second manager added:

The cameras are never used to spy on drivers, which is an oft-stated fear but ridiculous on its face when you consider the time required to review 20+ hours a day of images for hundreds of cabs, plus the considerable time needed to retrieve images in the first place... Many drivers recognize the dangers in our work and welcome the cameras as a safety measure.

Some drivers echoed this sentiment:

Ahmad: Some guys are paranoid, saying drivers have been fired for smoking in the cab when the owner doesn't allow it, or for whatever, who knows. I have no problem with the camera being there, it keeps me safe.

Others expressed support for security cameras in principle, but questioned the motivations of companies and regulators in installing the newer models:

Rick: The point of this job is that you're free. You don't want to have someone looking over your shoulder all day, that's why you take this job in the first place! And you're better at it when you're on your own, making your own decisions, you take your own risks... Now they want to be looking over your shoulder, watching what you're doing. It's gonna be like any other job...

[Who is watching over your shoulder?]

The companies. But it'll be the MTA too before long. Just wait and see.

A company manager took issue with the argument that cameras are used to discipline drivers:

Manager: In theory the cameras could be used to see if a guy was drinking, smoking weed, or not paying attention to the road. But they aren't there for that, the cameras are for recording specific events like robberies or accidents.

A driver activist argued otherwise:

Already, there have been several fairly well known accounts of cab company management reviewing this footage, not to establish fault in an accident, or to catch a criminal, but to scrutinize driver behavior. Certain drivers who may have expressed views contrary to that of management may also be subject to closer scrutiny. This might be fine and dandy if we were employees of the SFMTA or the cab companies, but in SF we are not, and still have privacy rights under California State Law. (Korengold nd)

The status of drivers as independent contractors rather than employees is a key sticking point. While drivers such as the one above argue that this gives them additional privacy protections, management responds that this deprives companies of the motivation to monitor drivers in the first place. This also shapes practical questions over the companies' ability to control driver behavior; for instance, do companies have the right to punish drivers who disable or turn off cameras?⁶ In the background of this debate is the MTA, which uses cameras for accident recording and driver monitoring in the bus system, which it also governs—receiving in 2011 a \$6 million grant from the Homeland Security Administration to install an upgraded system of nine wirelessly accessible cameras on each of 358 buses in its fleet (Sabatini 2011).

Two prominent incidents are much cited as evidence of the effectiveness of taxicab cameras. In July 2011, a drawing by Picasso was stolen in broad daylight from a gallery in downtown San Francisco; the thief was captured on storefront security cameras getting into a San Francisco taxi, and the driver's testimony, along with the footage from the taxi camera, were instrumental in catching the suspect (Dover 2011). A few weeks later, a forward-mounted taxi camera captured a street-corner mugging; the cabdriver picked up the victim and trailed the suspect until he was caught by police. The video footage from the cab was used to convict the suspect and was also posted on the internet (Nevius 2011a, 2011b).

⁶ As of this writing, state law permits drivers of taxicabs (as "lessees") to disable cameras.

Though dramatic, these incidents are also notable for having little to do with the original rationale for placing cameras in taxis—to prevent or assist in prosecuting crimes *inside* the cab; nor do they reflect the emerging use of cameras to clarify responsibility in the case of accidents or complaints involving taxis. What they do point to is the broader context, as surveillance cameras both in and out of cabs become more accepted or expected, and as “seeing surveillantly” spreads as a social practice (Finn 2012). A *Chronicle* columnist, commenting on the second incident, opined:

A few years ago there was a bitter debate about city-installed crime cameras, which turned out to be expensive, controversial, and virtually useless. But while everyone was debating, private companies were installing video cameras in store entrances, malls, and coffee shops. And now they are in about half of the city’s 1,500 cabs.⁷ (Nevius 2011a)

San Francisco, like many cities, has seen a proliferation of surveillance cameras, from the storefront variety which caught the Picasso thief, to a city-installed network targeting key intersections (Bulwa 2008; Sabatini 2011), to cameras pointed out of apartment windows for voyeuristic or “neighborhood watch” purposes (Nevius 2008). That this has led to a normalization of cameras in public opinion is supported anecdotally by passenger reactions to cameras, as reported in interviews. A manager asserted that “passenger privacy concerns are non-existent,” pointing out that he had never received a customer complaint about the presence of cameras in the cab. Driver accounts echo this lack of customer concern:

Ahmad: Nobody knows the camera is even there. I have to point it out if I want them to notice it.

Jay: Nobody cares about that now. More like, they’re filming me! Young people, tourists, they’re pulling out their phone and filming each other, filming the whole ride, “look at my crazy cab ride in San Francisco! Look at my crazy cabdriver!” Then they put it on YouTube!

California state law has remained behind the technological curve in mobile security, seeking, in principle, to accommodate both the concerns of privacy advocates and the changing demands of regulators and the industry. The first state law directly dealing with windshield-mounted cameras on commercial vehicles came into effect on January 1, 2011. Although this was written in order to enable camera surveillance (and was backed by DriveCam, an important player in the industry), the law immediately incited controversy, because it was interpreted as authorizing only the older static image models, making audio and continuous video recording illegal, precisely when these were being adopted by the cab industry (Sanders 2010; Reisman 2010). The American Civil Liberties Union at this time wrote to the MTA asking them to “revoke authorizations for any recording system not in compliance with state law and ensure that any such recording systems are removed from San Francisco taxis.”⁸

Instead of revoking or removing installed cameras, the MTA took a proactive approach by supporting new legislation. In 2012, two new bills were introduced to enable the placement and use of surveillance cameras in commercial vehicles; AB 2477, to govern the placement of video event recorders on windshields, and SB 1534, which included the following language:

A local government agency may require a taxicab to be equipped with video event recorders, specify the video event recorder’s operation specifications and parameters, and authorize entities and personnel to review the images captured by the video event

⁷ Cameras are in fact installed in all city cabs, by law; Nevius’s figure applies to the newer models of camera.

⁸ Sunshine Ordinance Task Force documents, www.sfbos.org/modules/showdocument.aspx?documentid=40399

recorder. The entities or personnel authorized to review the captured images shall be limited to taxicab management employees, employees of the local taxicab regulatory authority, and local, state, and federal law enforcement officials.⁹

The author of SB 1534 claimed:

Due to the unintended consequences of a previous bill... an exemption is needed to restore cities' authority to mandate, review, and regulate taxicab security cameras... Failure to clarify the ability of local regulatory authorities to require security cameras and their specifications in taxicabs puts many hundreds of taxicab drivers in California at risk of operating without a significant security device to deter assault.¹⁰

The SFMTA was a prominent supporter of this bill, as were taxicab regulators in several other California cities. The surveillance creep which would have been legalized by this bill was dealt a severe setback on May 8, 2012, when the California State Senate Transportation and Housing Committee met in Sacramento to consider SB1534. Most dramatic was the testimony of eight San Francisco cabdrivers—and one cabdriver's wife—against the bill. By their opposition, the drivers undermined the supporters' argument that driver safety was a motivating priority of the bill; they questioned the need for audio recording, and challenged the use of recordings for purposes other than law enforcement. Significantly, their testimony made clear the connection between technological advances in camera technology and the mission creep in terms of its use for company and insurance purposes.¹¹

Senate committee members expressed strong concerns about the use of audio in cameras, as an intrusion on the privacy of taxicab customers. San Francisco taxi company owner Hansu Kim, speaking also for the statewide Taxicab Paratransit Association of California, and as director of a major camera manufacturer, argued that audio had become an “essential component” of modern cameras for insurance and accident investigation purposes, and that the onus was on the state to pass the legislation because the technology in question was already “rapidly being deployed”:

...the insurance companies now are also looking at security cameras as a way of risk management, they see that if you have a camera inside the vehicle, it actually reduces crimes on the driver, and it changes the driver behavior, and there are actually a reduction in actually incidents, uh, frequency of accidents... I would also state, just fairly briefly, that soon, in my opinion... I don't think insurance companies will even insure commercial fleets like taxicabs without recording technology, it is such a drastic improvement, again, in terms of accidents, and protecting from lawsuits, and protecting the driver.¹²

Legislators were not impressed with this line of reasoning. In Senator Joe Simitian's words:

The way I'm hearing the conversation is, that Californians should surrender their constitutional right to privacy in order to make insurance companies happy. That's not a particularly compelling argument for me as one member of the committee.

⁹ Text of SB 1534, retrieved from http://www.leginfo.ca.gov/pub/11-12/bill/sen/sb_1501-1550/sb_1534_bill_20120224_introduced.pdf

¹⁰ Fact Sheet on SB 1534, released by the office of State Senator Tom Harman.

¹¹ These drivers were members of the San Francisco Cab Drivers Association. The ACLU and the International Brotherhood of Teamsters also testified against the bill.

¹² Quotes from the hearing are taken from video posted on the blog of San Francisco taxi driver John Han: <http://www.sftaximedia.com/2012/05/state-senate-committee-votes-down.html>

Committee Chair Mark De Saulnier told the bill's supporters:

Be careful what you ask for. My understanding of the bill, with the amendments, [is] it would restrict you from what you're currently doing.

The "amendments" De Saulnier was referring to were proposed by the committee to address privacy concerns of passengers and drivers. These substantially changed the effect of the proposal:

The video recorder does not record audio.

Only law enforcement agency personnel, as part of a criminal investigation or for other public safety purposes, may review the resulting video recordings.

An employee or independent contractor driver shall be able to disable the video recorder in the taxicab that he or she is operating and shall be able to request and receive, free of charge, copies of recordings made during his or her operation of that taxicab.

Video recordings that are not part of an on-going criminal investigation shall be destroyed within 90 days of the date that a recording was made.¹³

The bill was ultimately referred to the rules and judiciary committees, and then deferred until the next year's session. Its ultimate fate remains unclear, not least because, as amended, it would sharply curtail the current use of cameras, rather than legalizing such use, and so would no longer serve the interests for which it was originally introduced.

Despite this blow, little has apparently changed for San Francisco taxi cameras since the confrontation in Sacramento. A company manager stated that "nothing has changed in the way that we use cameras except that we have the audio option turned off by default." Critics counter that there is no way to tell whether audio is on or off. In August of 2012, the MTA board passed legislation to "clean up and stabilize" industry governance, including language that would require taxi companies to supply camera data to both the police *and* the MTA, and punishing drivers for tampering with vehicle equipment, which implicitly includes cameras (SFMTA 2012).

The SFMTA thus does not appear to have altered course on cameras, despite the setback to SB 1534; new legislation may be attempted next year. If so, this would continue the transformation of the very nature of the San Francisco taxi camera program; from its *reactive* origins as a response to a series of murders, to a *proactive* project, contributing to the rewriting of state law as a means to reshaping the cab industry. Meanwhile, the outside boundary of potential surveillance expands as still images are replaced with continuous video (and possibly audio), and as the exterior as well as the interior of the cab come into view. At the same time, an expanding number of users—not just police, but now companies, and potentially the MTA itself—make use of camera data for an expanding number of purposes, which together pull the actual level of surveillance towards the potential in a "sewing up" of slack.

It is possible that the economic context of the local taxi industry could radically change, with the attraction of new flows of investment. San Francisco is at the cusp of a transformation of taxi dispatch technology, from centralized radio and computer systems to distributed, networked systems linked to mobile phones. The MTA has also encouraged new flows of investment through its medallion sales program, which brings lenders into the game, and by mandating the installation of credit card and advertising terminals in

¹³ From the amended text of SB 1534, at http://www.leginfo.ca.gov/pub/11-12/bill/sen/sb_1501-1550/sb_1534_bill_20120606_amended_sen_v96.html

the back seats of all cabs. The communication revolution in dispatch technology has the potential to transform the landscape of infrastructural investment in the industry, and with it the occupational and regulatory context.

If such a shift does in fact take place, it will mean a transformation of the context in which security cameras, along with the other surveillance technologies of the taxicab, are deployed and received. The relationship between the actual and potential use of cameras could tighten dramatically, or perhaps—should SB 1534 in its amended form, or a similar law, be put into effect—slacken further. The multiply fraught intersections of technological possibility with locally motivated interests, and potential interests, make the future role of cab cameras in San Francisco far from settled.

Discussion: The effects of cameras

Drawing on the terminology of Haines (1998), and the contrastive case provided by Doyle and Walby (2012), the stages of slackening and tensing of taxicab camera surveillance can be explored in terms of how these have been shaped by issues of *acceptability* (where the line of use and abuse is drawn), *effectiveness* (what the cameras are perceived to be doing), and, underlying both of these, *integration* (how the slackness or tautness of surveillance interacts with existing lines of tension and conflict in the taxi industry).

As has been the case in other cities, the *effectiveness* of the security (or “safety”) cameras in reducing taxi-related crime in San Francisco has been open to debate. Police have made use of the cameras in identifying suspects in robberies, making at least two arrests soon after their introduction (UTW 2003). Their deterrent effect on the crime rate, however, has been questioned. Although the number of reported taxicab robberies and carjackings dropped significantly after the cameras were installed (from 21 in 2003 to 10 in 2004), by 2005 they had returned to previous levels (Rathbone 2005). A San Francisco driver serially assaulted two women (Herel 2005), and a passenger brutally attacked a cabdriver (Eskenazi 2010); these attacks occurred despite the presence of cameras installed in the cabs. A series of eight taxi robberies were committed by a passenger who wore a hood to avoid identification by the camera (Aldax 2011); although camera images eventually contributed to his capture, the perpetrator was clearly not deterred by the camera, trying rather, and with some success, to defeat it. On the other hand, in the words of a Taxi Commission President, “no one has been murdered since these cameras have been put into the cabs” (SFTC 2007). So far, neither side of the argument has more than anecdotal evidence for support.

Similarly, Doyle and Walby found that taxi cameras were installed in Ottawa despite the lack of evidence of their effectiveness in preventing crime, in a process driven by the ability of camera industry marketers to “sell surveillance” to regulators (Doyle and Walby 2012; see below). The suspicion that surveillance cameras either fail to deter crime, or that a deterrent effect cannot be demonstrated, has not slowed their adoption in a multitude of settings worldwide (Lyon, Doyle and Lippert 2012); nevertheless, their installation can be useful for regulators seeking to “send a message to the public that the government is *doing something* about the crime problem” (Norris 2012: 40 (emphasis in original)). In San Francisco, questions about the actual impact of cameras were raised in early debates, but over time came to play a smaller and smaller role. With the implicit exception of the “hidden transcript” of vandalized cameras, all sides to current arguments over cameras, both on the side of expanding their use, and on the side of restricting them to protect privacy, tend to take for granted their effectiveness and desirability. To put this more precisely: those who question or challenge the expanded use of cameras tend to be quite careful to point out that they are not arguing against cameras *per se*, and that they support their use, and feel safer with cameras than without.¹⁴ There has been a shift from direct *resistance* to cameras, to *negotiation* over

¹⁴ E.g. Korengold (nd), and the comments following the blog post in Han 2011b.

their use in context (Lyon 2007: 165-9): instead of sabotage, camera opponents are now more likely to argue for the driver's right to control the camera, or to disable it temporarily.

Drivers who express support for the cameras see them as primarily or solely a tool for increasing driver safety. Drivers who challenge the cameras worry about the privacy of themselves and their customers, or suspect the hidden agendas of police, insurers, or employers. Although drivers indicated that passengers did not notice or were not bothered by cameras, the conduct of passengers is equally at issue, and taxicab cameras play a role in the spatial and social sorting (Lyon 2003) of cab riders. As an ambiguous urban symbol both desired and reviled, promoted and stigmatized, the cab is positioned at the interstices of good and bad circulation, of desirable and undesirable urban travellers. The issue of personal safety in this site is inevitably articulated, as well, with broader assemblages of surveillance (Haggerty and Ericson 2000) and control of urban populations and their mobility (Bennett and Regan 2003). As passengers from different class and ethnic backgrounds (and neighborhoods) tend to be familiar, before entering the cab, with the particular police gaze most commonly directed at them, they are not mistaken if they recognize in the camera, for some a protector, for others a spy (cf. Lyon 2001: 51ff).

At the same time, the mechanical eye of the camera directs attention away from the structural forces putting drivers and passengers at risk. Constrained by labor conditions which push them to shoulder economic and physical risk, cabdrivers will continue to enter dangerous areas, pick up dangerous passengers, and seek a living from one of the nation's most dangerous occupations. Criminals, as well, are risk-takers, and the presence of a camera is only one of their calculations. At the juncture of discourses on the regulation of taxicabs and of criminality more generally, the camera constructs the cab as an isolated space of individual conduct disconnected from the structural violences of the city through which it moves. Insofar as it does so, the cab camera serves to justify the role of police surveillance which emphasizes the violence of individuals over the violence of urban process, and valorizes security under a dominating, excluding gaze, as opposed to security from such a gaze. This reification aligns with the atomized subjectivity of contemporary cabdrivers, obfuscating the causes of the precarious conditions in which they work; and with the subjectivity of passengers for whom living and moving in the city is increasingly like consuming it—if, that is, they can afford to.

The “Hurdle of Acceptability”

The relative ease with which the taxicab cameras in San Francisco have passed the hurdle of acceptability can be contrasted with two other cases, both of which have met with significant driver opposition: first, the introduction of cameras into Ottawa taxicabs; second, the introduction of electronic waybills into San Francisco taxis.

Doyle and Walby (2012) recount the contested process by which cameras were introduced into Ottawa taxicabs between 2006 and 2009. Just as in San Francisco, the initial calls for cameras came after a series of “signal crimes.” However, unlike San Francisco, where drivers were included in the deliberative process by which cameras were initially adopted (one company and one driver representative each sat on the seven-member Taxi Commission), in Ottawa the process was driven by marketers' ability to “sell” the surveillance system to city regulators, and drivers were not informed until after the fact. Excluded from the decision-making process, and faced with surcharges to cover camera costs, drivers responded with a massive protest, forcing the city to renegotiate the terms, with drivers coming to bear less of the cost of installation, and gaining control over the recording process, along with a restriction of picture access to police (Doyle and Walby 2012: 192-197).

In San Francisco, the less undemocratic nature of the process of installation ensured greater driver support for the cameras when they were installed. In this case, taxi companies and driver-activists involved directly with issues of industry governance had already been brought into the process. Due to this

inclusion, assurances that cameras were for driver protection, and would only be accessible by police, were incorporated at the very start. By the time mission creep had led the goals of cameras to stray from safety and crime prevention, to accident investigation and the potential disciplining of drivers by companies or the MTA, the discursive status of cameras as universally desirable had been securely established. As opposed to the unified strike and subsequent negotiation of terms by drivers in Ottawa, in San Francisco opposition was scattered and muted, taking the form of isolated sabotage, or nuanced dissent. When drivers testified in Sacramento against SB 1534, they nevertheless affirmed their support for cameras in principle, as long as their use was restricted to crime prevention, and bounds of privacy were respected.

During the same period in which cab cameras were being upgraded and expanding in their mission, the MTA moved to mandate electronic waybills, or “e-waybills,” the electronic reporting of waybill data. “Waybills,” or tripsheets, are forms drivers are required to complete during the course of each shift, filling out data on the pickup and dropoff points of each fare, the number of passengers, and the amount earned. Waybills have long served a number of practical purposes, from police surveillance (Papayanis 1993), to taxable income reporting, to company and city disciplining of drivers. Regulators have long been vexed at the lack of solid information regarding driver income; the move to electronic reporting will automate the surveillance of taxicab trip locations and fares, allowing driver incomes to become known “down to a penny” (Hayashi 2010; SFMTA 2011a).

Driver opposition was vocal though by no means universal; the MTA exacerbated this by bundling the e-waybill requirement with a credit-card processing fee and the installation of backseat terminals. Drivers responded with massive strikes and protests in May and June of 2011 (Gruberg 2011; Han 2011a). In response, the MTA disentangled e-waybills from the credit card and backseat terminal issues, suspended the deadline for compliance with e-waybills, and granted assurances to drivers regarding limits to data collection and access (SFMTA 2011b, 2011c).

Both of these cases show marked differences with the trajectory of taxi cameras in San Francisco. In the case of San Francisco taxi cameras, the hurdle of acceptability was passed early, leaving more room for the technological development and “sewing up” of surveillance over time; in the two opposing cases, the perception of new technologies as “abuse” led to entanglement in industry conflicts, resulting in restraints to preserve slack in the deployment of both Ottawa cameras and San Francisco e-waybills. Effective opposition to the sewing-up of camera slack, as shown by the testimony of drivers against SB 1534, has only recently emerged.

Conclusion

The story of taxicab security cameras in San Francisco is characterized by a period of increasing surveillance “slack,” followed by a successive reeling-in, or sewing-up, of the surveillant potential of the cameras, along with pronounced surveillance creep and a dramatic increase in the overall data collection capacities of the newer cameras. Factors contributing to the period of slackening included failures of maintenance, police oversight, and of the technology itself; driver resistance in the form of sabotage was apparently a contributing factor as well. Nevertheless, during this initial period proponents of cameras were successful in establishing the acceptability of cameras, and a widespread acceptance of their “effectiveness”; this was due at least in part to an adoption process that brought in a diversity of stakeholders, and to an initial set of restraints set on the access and use of camera images.

This acceptability, the fact that the presence of cameras in taxis came generally to be seen as an acceptable “use” rather than an improper “abuse,” facilitated the subsequent reeling-in of the slack relationship between actual and potential use of cameras. Factors contributing to this resurgence include the ongoing technological improvement of camera systems; the expansion of access to companies in the course of a

concurrent surveillance creep, as cameras are put to novel uses; and a regulatory agency which not only encourages the upgrading of cameras, but takes an active stance in regard to state law, to promote the possibilities of a further “sewing-up” of slack, by bringing more of the cameras’ potential uses into play. This project has only recently met with effective opposition, from activist drivers, and from state legislators concerned with protecting rights to privacy.

What the concept of “slack” ultimately illustrates is the contingent character of surveillance. As this case study illustrates, assurances made about access and use of a given technology may be abandoned over time as technology offers new tools to a changing constellation of interested parties. What counts as “abuse” may evolve into an acceptable “use”; or “use” may be reclassified as “abuse,” as the context in which surveillance technology is deployed is shaped, contested, and reshaped by competing interests and players. The adoption of newer and “better” technologies is not inevitable; nor is the growth in overall surveillance over time.

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