Overview of Transmitted Communications:
Ad Hoc TIC Subcommittee on Facial Recognition Technology
(City of Long Beach)

June 16, 2021

Contents

Memorandum

Date: June 16, 2021
To: Technology and Innovation Commission (TIC)
From: Ad Hoc TIC Subcommittee on Facial Recognition Technology
Subject: Research, Analysis, and Suggested Recommendations - FRT

Process: Scope

In January 2021, the Technology and Innovation Commission (TIC) was asked to support the City's Racial Reconciliation Initiative's Potential Action E of Goal 3 to Redesign Police Approach to Community Safety:

> *Explore the practice of facial recognition technology and other predictive technology models and their disproportionate impacts on Black people and people of color by reviewing evidence-based practices.*

An ad hoc TIC subcommittee was formed and began to focus on the facial recognition technology (FRT) aspect of Goal 3. The subcommittee researched and analyzed FRT and gave preliminary thought to guidelines for the possible use of facial recognition technologies (FRT) in the City of Long Beach. However, as the subcommittee learned more about the technology and its use in other cities, questions arose that warranted further research and consideration.

Process: Research & Analysis

In March 2021, an analysis covering the strengths, weaknesses, opportunities, and threats (SWOT) of FRT was provided to the subcommittee by Commissioner Vinzant. Because an overwhelming amount of research revealed FRT to be an innately biased technology lacking sufficient built-in or external safeguards or mitigations to protect civil liberties and civil rights, the SWOT analysis included the recommendation that the City consider implementing a moratorium on FRT until appropriately rigorous guidelines or recommendations could be developed for the City's potential use of FRT.

In March 2021, the subcommittee began to review other city's approaches, best practices and lessons learned; the Facial Recognition Guide from the National League of Cities; and the ACLU's Community Control Over Police Surveillance—Guiding Principles.

In April 2021, city staff met with the Long Beach Police Department (LBPD) to share the subcommittee's initial research (see **Addendum A**). City staff were informed that LBPD had issued its own FRT policy, Special Order on Facial Recognition Technology, in March 2021.

At TIC's April meeting, a privacy expert from the Future of Privacy Forum, an organization based in Washington, DC, presented and provided an overview of the varied approaches that other jurisdictions are taking regarding FRT.

Since March, commissioners—with the support of city staff—have conducted research and fact-finding discussions with other cities about their approaches to FRT, including such cities as Seattle, Portland, and Oakland. Notable highlights from this research include:

- Seattle:
  - The city does not have a FRT ban but it does have a <u>surveillance ordinance</u> with comprehensive staffing to support it.
  - Despite this infrastructure, the city is considering implementing a FRT ban, possibly by the end of 2021; further, <u>King County recently banned FRT</u>.
  - Currently, FRT is not used in Seattle due to administrative burden and potential liability.

- Portland:
  - The city <u>banned FRT</u> (with some exceptions) in 2020 due to the bias inherent within this technology. The decision was informed by three key factors:
    - The city sought whether it could get certification of good algorithms, but could only find entities that tested but did not certify algorithms against bias.
    - The city could not identify entities that could provide audits of FRT algorithms. The lack of certification and audits would have left the city with technology that was biased against Black people, women, and elders.
    - The city implemented a ban rather than a moratorium because a moratorium would have placed the onus on the city to prove the technology was not biased, while a ban places the onus on the FRT venders to prove their technology is not biased.

- Oakland
  - The city established the first citizen-led Privacy Commission in the country in 2016 with oversight of surveillance equipment and its use, which was adopted by ordinance. Brian Hofer, Chair of the city's Privacy Advisory Commission and CEO of Secure Justice, was co-author of the ordinance. There is no full-time staff assigned to support the commission and commissioners are unpaid.
  - In 2018, the city passed an <u>ordinance establishing a vetting framework for potential acquisition and use of surveillance equipment</u>, which is based on the ACLU model.
  - Despite this regulatory approach, in 2019, the city adopted an <u>ordinance amendment to prohibit the city's use of facial surveillance technology</u>.
  - Ordinance versus guidelines or recommendations: Privacy Commission Chair Hofer shared the insight that adopting a surveillance vetting ordinance is important because it is enforceable, whereas those cities (e.g., Alameda) that passed an FRT ban by resolution rather than by ordinance were not able to enforce provisions when improper use of FRT by police was exposed by the media.

Process: Suggested Actions

Based on research conducted to date, the subcommittee finds that current facial recognition technologies are not only insufficiently accurate but pose substantive and unequal risk to Black residents and residents of color due to inherent algorithmic biases that have not been effectively addressed in software design. Further, the subcommittee is concerned by the absence of independent auditing entities to certify that facial recognition technology is free of racial and other bias. While the subcommittee cannot condone use of FRT, it recognizes that there may be other surveillance technologies that possess a greater benefit-to-risk profile than FRT, which indicates a potential opportunity for the City to apply a regulatory approach such as a surveillance vetting ordinance. Thus, the subcommittee strongly recommends that the full commission come to a consensus on the following suggested actions:

- **Short-term Action:** Recommend that City Council ban the use of facial recognition technology by the City with possible consideration of narrowly defined and limited exception(s).
- **Near-term Action:** Recommend that City Council adopt a surveillance vetting framework ordinance for potential acquisition and use of surveillance technology by the City.

As part of the full commission discussion, please consider the overview of the research process and key findings, suggested recommendations, and relevant addendum. Thank you.

Addendum A

Introduction

The City of Long Beach, in order to implement the recommended actions in its adopted Racial Equity and Reconciliation Report, is researching Facial Recognition Technology (FRT), which aligns with Goal 3, Strategy 3, Potential Action E of the Report: *"Explore the practice of facial recognition technology and other predictive policing models and their disproportionate impacts on Black people and people of color by reviewing evidence-based practices."*

For the purpose of this specific action, the Technology and Innovation Commission (TIC) in partnership with Staff from the Technology and Innovation Department (TID) has chosen to specifically focus only on FRT. The research below highlights the Strengths, Weaknesses, Opportunities, and Threats of FRT.

Research shows that generally, residents are supportive of improved technology within police departments.

The Pew Research Center found that:

- 56% of Americans trust law enforcement agencies to use facial recognition responsibly
- 59% of the public says it's acceptable for police to use facial recognition in assessing security threats in public places.
- Another Pew study from 2017 found 93% of the public is in favor of the use of body cameras by police to record interactions.

However, FRT has proven to be inadequately equipped to identify faces for people who are not either White men or East Asian men (algorithms developed in China are adept at picking up East Asian faces). For any other group, including Native American, Black, and Women groups, FRT does not yet have the accuracy needed to be an asset to City efforts.

Successful implementation of FRT would require the allocation of new resources, creation of new policies, and the investment in new specialized positions in order to mitigate the issues related to this emerging technology.

SWOT Analysis Results:

Strengths

- There are legitimate uses of FRT in policing, including:
  - The primary use of FRT is to assist police in identifying or eliminating potential suspects of criminal activity, for example: How Facial Recognition Technology is Helping Identify the U.S. Capitol Attackers – 1/11/21
  - Use of FRT along with other electronic tools can help law enforcement respond quickly to complex events to attain situational awareness, and one FRT vendor credits technology to the rapid identification of the Boston Marathon bombings (Briefcam Video Content Analytics for Law Enforcement)
  - Amazon's FRT called Rekognition has been credited by Amazon of preventing human trafficking and reuniting missing children with their families, Amazon's Facial Recognition Wrongly Identifies 28 Lawmakers, A.C.L.U. Says – 07/26/18
  - Early use of face recognition to control and monitor access to local correctional facilities. History of NIJ Support for Face Recognition Technology - 3/5/20
  - Development of face recognition technology to identify subjects on the internet, identify and locate missing and exploited children, and fight child pornography on the web. History of NIJ Support for Face Recognition Technology - 3/5/20
  - Facial recognition can be used as an identifier in helping to speed up the identification process for deceased people and at the same time ensure victims are treated with dignity and respect. Application of

facial recognition technology on identification of the dead during large scale disasters. - 8/7/20

Weaknesses

- Demographic differences in accuracy rates of FRT have been highlighted in academic studies, a NIST study, and other reports, which opens the door to the potential for bias in policing
    - In a MIT Media Lab study, researcher Joy Buolamwini found that while commercially available FRT systems were relatively accurate when analyzing the faces of White men, they failed up to 1 in 3 times when classifying the faces of Black women – 02/11/18
    - In a test of Amazon's FRT called Rekognition, 28 Congressional lawmakers were mistakenly identified as having been charged with a crime, but Amazon attributed high error rate to the test administrators using Amazon's technology differently than how it recommends for its law enforcement customers, Amazon's Facial Recognition Wrongly Identifies 28 Lawmakers, A.C.L.U. Says – 07/26/18
    - A report co-authored by the FBI reveals that accuracy rates of FRT for African Americans was much lower than other demographics: Face Recognition Performance: Role of Demographic Information – 12/2012
- In hybrid machine-human system of deploying FRT, the algorithm offers candidates for human adjudication (requires specialized labor), and the human response has been shown to be poor with varied human capability regardless of time constraints and with particular impact in the "interaction between the reviewer's demographics and those of the photographs under review (Recognition Vendor Test (FRVT) Part 3: Demographic Effects, 2019, p. 8).
- There have been concerns expressed around the reliability of FRT:
    - Mobile Police Chief Lawrence Battiste said FRT was not found to be reliable enough when its performance was compared in situations where police had already identified the suspect, Investigating Alabama's use of facial recognition technology – 2/25/21
    - The ACLU of Michigan filed a complaint against Detroit police alleging the first-ever wrongful arrest of a person in the U.S. based on a false

facial recognition match, <u>U.S. activists fault face recognition in wrongful arrest for first time</u> – 6/24/20

- Human error in use of FRT has occurred by not following human backup identification and data/privacy protections, if such policies currently exist (<u>Electronic Frontier Foundation</u>)
  - Lack of appropriate systems to operationalize FRT to ensure data and privacy protocols are followed (possible lack of such data/privacy protocols before deployment of FRT) could prove problematic.
- Human error in allowing personal views or biases to impact use of FRT and police decision-making with information derived from FRT (<u>Electronic Frontier Foundation</u>)
- The ambiguity and controversy surrounding FRT has led to new city <u>surveillance ordinances</u> and state actions that vary between outright bans to legislative dictated use of the technology:
  - "A de facto ban" on local police using facial recognition technology was enacted until General Assembly passes a law on FRT before police departments may use tech, <u>Virginia Lawmakers Vote to Restrict Police Biometric Tech</u> – 2/26/21
  - Use of FRT permitted in limited cases such as emergencies or where a person or a group of people face a "substantial risk to harm," <u>Massachusetts governor to sign bill limiting police facial recognition after compromise</u> – 12/22/20
  - California passed a 3-year moratorium on the use of facial recognition technology in police body cameras, which took effect January 2020, and may signal additional limitations on police use of FRT in the long-term: State Facial Recognition Policy (<u>Electronic Privacy Information Center)</u>
- As of February 2021, there are new efforts by civil liberties groups to push Congress and the Biden/Harris administration to enact a federal moratorium on FRT and to stop state/local governments from purchasing FRT with federal funds, which may signal greater attention at the state and local level, particularly in California to legislate on FRT (<u>Electronic Privacy Information Center</u>)

Opportunities

- If the identified gaps or issues related to FRT are addressed, and the necessary new policies, technologies, and resources are implemented, then it may be possible for a police department to deploy FRT in a fair, legal, and ethical manner such that it is an asset in policing rather than a liability.
- One way that researchers advise to mitigate the inherent demographic differences in FRT matching accuracy is to: 1) dedicate training exclusively on the race/ethnicity cohort, as this leads to a scenario called "dynamic face matcher selection;" and 2) train face recognition algorithms on datasets that are evenly distributed across demographics (Face Recognition Performance: Role of Demographic Information, 12/2012)
- Taking the time to build trust of the public in the police's use of FRT and related technologies through "communication and transparency," is seen as a crucial step should police move to adopt FRT, Police tech can foster (or foil) public trust – 03/3/20
- Due to Europe's strict privacy law (GDPR), a review of FRT vendors that operate in that environment could provide useful ideas and guidance about how to build in more robust data protection practices into police use of FRT as well as the necessity of designating a Data Protection Officer (DPO) or some related role: BriefCam White Paper Data Protection – 08/2020
- Police departments can choose to build out the ecosystem needed to support a police department's ethical/equitable/legal use of FRT, which requires investment of new resources.

Threats

- FRT companies such as Clearview AI have faced criticism for legal privacy infractions in how they have built their databases and operate, Investigating Alabama's use of facial recognition technology – 2/25/21
- There are accountability concerns with police use of FRT due to the lack of reporting accountability of the sources and methods used by private FRT companies, How Facial Recognition Technology is Helping Identify the U.S. Capitol Attackers – 1/11/21

- If a police department deploys FRT without adequate mitigation of some of the above identified gaps or issues, then it leaves that department wide open for claims of bias.
- Without adequate mitigation of FRT issues, it can make a police department's job harder, including the potential erosion of public trust in police if the police use of FRT leads to a mistaken arrest or if the public perceives police have not fully accounted for their privacy concerns (Live Facial Recognition: Trust and Legitimacy as Predictors of Public Support for Police Use of New Technology, 05/23/10)
- Even with perfect use of FRT, if the police department has not provided rigorous and ongoing bias trainings of police personnel using FRT, it may lead to negative unintended consequences, include claims of biased policing (NIST, Electronic Frontier Foundation)