



Technology & Innovation Commission Presentation to the Equity & Human Relations Commission: White Paper for Regulating FRT and other “smart” devices and platforms

April 6, 2022

Image: Adele Renault

White Paper: Regulating FRT & “Smart” Devices and Platforms

Agenda

- Introduction
- Commission Ad Hoc Subcommittee on FRT Findings (“Findings”)
- Summary of Presentations during Commission Meetings (“Presentations to TIC”)
- Community Input
- Application & Analysis of Racial Equity and Related Lenses
- Policy Recommendations

Introduction: What is Facial Recognition Technology?

- Facial Recognition Technology (FRT) uses computer algorithms to pick up distinctive details about a person's face
- These physical characteristics are analyzed against a biometrics database of facial markers for a potential match to aid in identification
- Police use photos, videos, and real-time video surveillance as source images
- Broadly, FRT is used for securing phones and building

Introduction: City of Long Beach's Uses of FRT

Currently, two of 23 City departments use FRT—the Technology and Innovation Department (TID) and the Long Beach Police Department (LBPD)

- TID issues mobile devices that may be unlocked by looking into the built-in camera
- LBPD uses a database of mugshots maintained by the Los Angeles County Regional Identification System (LACRIS) to conduct FRT searches on individuals suspected of committing a crime by doing “morphological analyses”
 - This process involves a trained police officer describing and comparing the features of the matched face to confirm the algorithm’s accuracy
- LBPD informed the Commission in July 2021 that the Department only currently uses LACRIS’ FRT system but acknowledged it had participated in a 30-month free trial of Vigilant Solutions’ Facial Recognition System and a free trial from Clearview AI.

Introduction: City of Long Beach's Uses of FRT (cont'd)

LBPD informed the Commission in July 2021 that the Department only currently uses LACRIS' FRT system

- But the Department acknowledged it had participated in a 30-month free trial of Vigilant Solutions' Facial Recognition System and participated in a free trial from Clearview AI
- LBPD adopted a Special Order regulating department use of FRT in March 2021; this document was publicly shared on the Department's website on July 27, 2021

The number of LACRIS database searches conducted by LBPD significantly increased during the second part of 2020, which the Department attributed to its investigation of 200 property crimes during political protests after May 31, 202

- LBPD stated that the Looting Task Force accounted for 75% of the 2700 inquiries into the LACRIS system between June 1, 2020, to December 31, 2020

Introduction: Criticism of FRT

Criticisms of FRT include threats to privacy, human rights, and racial profiling, which have led to bans and other governmental actions

- Civil rights advocates condemn use of FRT due to algorithmic bias
 - This algorithmic bias leads to false identifications, wrongful arrests, and disproportionate harm of Black, Indigenous and People of Color (BIPOC) and women
 - Racial and gender disparities were found by MIT Media Lab researcher Joy Buolamwini and the National Institute of Standards and Technology (NIST)
- More than a dozen U.S. cities ranging from Boston to Oakland have responded to these concerns by banning local use of FRT whereas Santa Clara County and Davis require transparency and accountability measures around use of FRT

Introduction: Support for FRT

FRT use is credited with identification of suspects and prevention of crimes and has support of the majority of Americans for responsible police use

- FRT helps police solve crimes, including human trafficking, and locate missing persons
- A 2019 Pew Research Center study found general support of police use of surveillance technologies
 - 56% of survey respondents trust law enforcement agencies to use FRT responsibly
 - 59% of survey respondents support police use of FRT in assessing security threats in public places

Introduction: Other Surveillance Technologies

The City of Long Beach use other technologies that collects personally identifiable information about residents and that conduct surveillance

- In February 2020, Long Beach contracted with ZenCity, a platform that uses artificial intelligence to aggregate social media posts and related comments on controversial topics within the community, which is then used by city staff to inform official communications and relevant policies
- LBPD and the Parking Enforcement Division use automated license plate readers to scan images of license plate, along with GPS and time-data information, into a searchable database
- LBPD uses other surveillance technologies such as drones equipped with cameras

Introduction: History of Racist Patterns in U.S. Policing

While municipal police departments in the East Coast can trace its roots to the 1830s, in the South, its history can be traced to so-called “slave patrols” in the Carolina colonies in 1704 that deterred slave revolts through terror

- These “slave patrols” evolved into official police departments that controlled freed slaves and enforced “Jim Crow” laws designed to strip freed slaves of their rights
- Systemic racism continues to pervade the U.S. criminal justice system, leading to disproportionate police traffic stop and searches, arrests, and incarceration of BIPOC
- Outrage and protests over racial profiling and police killings have been underway since the 1960s, and more recently following the murder of George Floyd
- Long Beach officials have acknowledged that a history of police brutality and racial bias has fomented public cynicism and distrust of local law enforcement

Introduction: TIC's Role in FRT Policy

The City enlisted the Commission to support the Racial Equity and Reconciliation Initiative's goal to "redesign police oversight and accountability" and use of FRT

- Specifically, TIC was asked to: *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"*
- The Commission formed a 3-member ad hoc subcommittee to evaluate FRT, broadly, and to research and analyze best practices in FRT use by law enforcement agencies in other U.S. jurisdictions while considering racial equity impacts
 - This subcommittee was also charged with drafting preliminary recommendations
- Between July 2021 and December 2021, the full Commission considered the findings presented by subcommittee members, presenters, and community members

Findings: Overview of SWOT Analysis on FRT

To evaluate facial recognition technology overall, TIC's ad hoc subcommittee on FRT conducted research and analysis, which informed initial recommendations provided to the full Commission

- This data and analysis was organized into the following sections: Strengths, Weaknesses, Opportunities, and Threats (SWOT)
 - While the introductory slides summarized some of the research from this SWOT analysis, greater detail is provided in the following slides

Findings: SWOT “Strengths” Analysis

Legitimate uses of FRT in policing exist when strong privacy, civil rights, and civil liberties safeguards are established and followed

- FRT assists police in identifying or eliminating potential criminal suspects
- Use of FRT along with other electronic tools can help police respond quickly to complex events such as terrorism
- FRT is credited with preventing human trafficking, as well as identifying and reuniting missing children and their families
- Facial recognition technology helps speed up identification processes for deceased people while ensuring bodies are treated with dignity and respect

Findings: SWOT “Weaknesses” Analysis

Studies conducted by academics, public interest groups, and governmental agencies highlight concerns around bias, accuracy, and reliability of FRT

- A 2019 NIST study found demographic differences in accuracy rates of FRT has greater impacts for BIPOC, women, and young adults
 - There was a higher chance of false positives in running one-to-one verification FRT searches by factors of 10 to beyond 100 times for Black and African Americans, Native American, American Indian, Alaskan Indian, and Pacific Islander, a trend that affects women more than men, and young and older adults compared to middle-aged adults
- Further, over the last two years at least three Black men have sued police departments after mistakenly being identified by FRT; yet the number of wrongful arrests may be higher due to the scope of FRT use within the U.S., and the secrecy around its use

Findings: SWOT “Opportunities” Analysis

There are no easy wins or opportunities when it comes to FRT, but if identified gaps or issues are addressed and new policies and resources are allocated, it may be possible for police to use surveillance technologies in ethical and equitable ways

- Budget allocations for specialized training and resources are required
- Building public trust in police’s use of surveillance technology like FRT through “communication and transparency” is considered a crucial step
 - Cities should consider implementing formal accountability and transparency systems and processes, such as surveillance technologies ordinances

Findings: SWOT “Threats” Analysis

Failure to address the issues related to FRT can erode public trust and spur claims that a city or police department is using racially biased and harmful technology

- Accountability remains a chief concern for civil rights and community activists with FRT
 - There's lack of reporting accountability of sources and methods used by FRT vendors to build their databases
 - There's lack of transparency around police use of FRT and inadequate independent auditing
 - There's lack of notification to defendants of the role FRT plays in arrest or pretrial disclosure of facial recognition confidence scores
- If a city fails to follow best practices, including limiting FRT deployment to the most serious or violent crimes, it may face lawsuits like the one filed against the City of Detroit

Findings: Best Practices Research – Multiple Jurisdictions

Policy approaches on FRT by local governments are largely split between bans of FRT and surveillance ordinances, including:

- Roughly 17 bans against FRT that are mainly focused on police and government use with several in tandem with surveillance ordinances
- About 19 surveillance ordinances in place that are technology-neutral frameworks based on expected privacy review, focused on government use
- With variance in approaches, a look at three specific cities is illustrative
 - **Seattle** adopted a surveillance ordinance with comprehensive staffing to support it
 - **Portland (OR)** banned FRT with some exceptions due to bias inherent within the technology and lack of independent entities to certify algorithms and technology as bias-free
 - **Oakland** has a surveillance vetting framework and has banned FRT use

Findings: Best Practices Research – Georgetown Law

With one in two U.S. adults in a law enforcement FRT network, yet with very little known publicly about these systems or guaranteed protections for privacy and civil liberties, Georgetown sought to close these gaps with a one-year investigation called the *Perpetual Line-Up*; the most relevant recommendations for Long Beach include:

- Exclude innocent people from biometric databases that FRT searches are run against
- Limit the use of real-time video surveillance to life-threatening public emergencies under a court order that is backed by probable cause
- Prohibit use of FRT by statute to track down people based on their race, ethnicity, religious or political views
- Create public reporting requirements and rigorous internal audits for all police use of FRT

Findings: Best Practices Research – FRT Case Study

As first debuted in Oakland, for each piece of surveillance technology, the relevant department must provide for public review and input on an Impact Review and a proposed Use Policy , and if approved, must undergo Annual Review

- **Impact Review:** During the analysis of the technology, any privacy, civil liberties/civil rights, racial bias, and/or accuracy concerns are identified
- **Proposed Use Policy:** Any concerns identified in the impact review process are specifically addressed and/or mitigated
- **Annual Review:** Requires the department to demonstrate how the technology has been used, whether public safety goals are being met, how much it has cost the taxpayer, and the results of audits
 - Audits identify if technology is used in cost-effective ways and whether continued use outweighs the potential costs to civil liberties or civil rights

Presentations to TIC: Privacy Perspective

Future of Privacy Forum Senior Counsel Kelsey Finch presented to the TIC on April 28, 2021, on “Privacy, Local Governments, & Facial Recognition Technologies”

- An overview was provided of the types of facial detection, characterization, and recognition technologies as well as the inherent privacy concerns
 - When FRT is used for identification in one-to-many search, there are privacy concerns related to potential user tracking or profiling across contexts; possibility of false matches resulting in false accusations; and unexpected use and/or sharing of data
- Finch provided a high-level overview of local policy approaches to FRT that has been included in Commission’s report
- Seven privacy considerations were made to guide local governments’ policy responses to FRT, which were examined as part of the subcommittee’s research and analysis

Presentations to TIC: Law Enforcement Perspective

LBPD Assistant Chief Wally Hebeish presented at the Commission's July 28, 2021 meeting, and answered questions during TIC's September 29, 2021 meeting on the Department's use of FRT, including providing the following information:

- The Department uses FRT software exclusively to generate investigative leads and trained detectives must confirm the suspect's identity through "traditional means" before making an arrest
- LBPD is currently only using the facial recognition system from Los Angeles County Regional Identification System (LACRIS), which is a digital mugshot database
- Hebeish stressed that the technology boosts the efficiency of investigations and that it is not employed for "random surveillance," nor for "scanning crowds" during political demonstrations or other large-scale public events
- LBPD is revising its FRT policy, and that a provision around reserving the right to deploy FRT on the City's public safety surveillance system would be removed from the final FRT policy

Presentations to TIC: Legal Perspective

Alex Alben, an attorney who co-authored the Washington State FRT law and who teaches at UCLA Law School, presented to the Commission on September 22, 2021

- Alben articulated four principles for guiding any FRT policy: notice, transparency, training, and meaningful human review
- Also, Alben highlighted the importance of all city agencies using FRT to file ongoing accountability reports of FRT use and sources of “data inputs”
- Implementation of a data management policy, including a complaint mechanism is advised
- Alben said requiring law enforcement officers to obtain a probable cause warrant to use FRT can help protect people’s civil rights
- For jurisdictions that have not yet deployed FRT, Alben said he wasn’t in favor of moratoriums on the use of FRT because it was preferable that stakeholders actively work on ensuring the technology is implemented “in the most fair and sensible way”

Presentations to TIC: Law Enforcement (LACRIS) Perspective

Mark Dolfi, of the Los Angeles County Sheriff's Department, manages the Los Angeles County Regional Identification System (LACRIS) FRT system used by LBPD provided information about this system and appropriate use, including:

- Dolfi described the process for using the LACRIS database and its FRT:
 - Detectives upload a photo of an arrestee or individual suspected of a crime (known as "candidate") and the system creates a "template" from based on the quality of the image
 - After the template is created, it is uploaded to the database and an algorithm searches for matches; this process first finds the eyes, then uses a mathematical equation to find the nose, mouth, and other features
 - A "match" is based on similarities between the templates, but the officers conduct a "morphological analysis" or a one-to-one comparison of the "candidate" and the "match"
- Photos of exonerated and never charged people stay in database unless court-order provided

Community Input: FRT and Related Surveillance Technologies

Through a total of six public meetings on FRT held in April, July, August, September, and October 2021, TIC has heard from many Long Beach community members

- While community members expressed a range of concerns related to FRT, all were against the use of FRT by the City and called for a ban or moratorium on its use
 - Community members highlighted concerns based on racial discrimination and bias, civil rights, civil liberties, privacy, and distrust of LBPD
 - Multiple commentators pointed to research that FRT is more likely to misidentify people of color, resulting in “racist impacts” and the “criminalization” of BIPOC that are already subject to excessive policing and at greater risk of “invasive surveillance technology”
- Many public comments addressed privacy-invasive technologies used by the city, including automated license plate readers (ALPR) and drones, as lacking in accountability
- Community members questioned why the City budgets millions of dollars for “surveillance technology,” rather than investing in community-building and education

Data Privacy: Survey & Focus Group Methodology

In addition, the Commission considered Long Beach community members' comfort levels with smart technologies that collect personally identifiable data through a survey and a series of focus group discussions

- Between November 1, 2019, and August 5, 2020, about 460 people who live, work or attend school in Long Beach completed a data privacy survey printed in English, Spanish, Khmer and Tagalog; a digital version of the survey was also available on the City's website in English and Spanish
 - One survey question set asked respondents how they felt about local government using their personal information in varied context, including to bolster public safety
- An interview protocol presented "vignettes" related to smart technologies to seven focus group discussions with 82 residents who were demographically diverse in terms of age, ethnicity, race, education level, and political ideology
 - Smart Cities Manager Ryan Kurtzman and a Commissioner co-facilitated these discussions

Data Privacy: Community Engagement Findings and Analysis

The most contested survey question asked whether law enforcement agencies should be allowed to use personal data collected via the Internet, smartphone apps or social media activity to predict future behaviors and take action to prevent crime or emergencies

- About 42% of respondents felt the practice should be permitted if they maintained control over how data are used, while 34% of respondents outright rejected the practice; these findings reflect the qualitative responses voiced during focus group discussions
 - Specifically, study participants' comfort levels varied depending on the context in which the data are collected and used (e.g., to improve public safety, generally, or to target a specific individual)
 - Focus group participants' attitudes toward the primary actors—the LBPD—also influenced how likely they were to support the idea of law enforcement using privacy-invasive technologies
 - Unprompted, several focus group participants mentioned the issue of law enforcement agencies and concern in relying on biometric data; concern around FRT use and misidentification arose too
 - While a majority of respondents said police should have access to personal data, a general trend of distrust in local police was detected

Application & Analysis: Racial Equity and Related Lenses

The TIC Ad Hoc Subcommittee on FRT applied a racial equity lens at all stages of its work, including research, analysis, discussion, and formulation of suggested recommendations to the entire Commission

- When the Burdens and Benefits question from the City's Equity Toolkit is considered, it becomes evident that Long Beach's communities of color experience a disproportionate burden by the City's use of FRT, which is a concern that was further underscored by the information the Commission learned from the LACRIS FRT specialist at TIC's September 22 public meeting
- Other applicable lenses—civil rights, civil liberties, ethics, and privacy—were applied by the subcommittee's analysis and recommendations, as well as in the development of this white paper
- This information informs the recommendations made by the Commission for the creation of an independent commission to provide oversight of the City's use of FRT and other surveillance technologies; the passage of an ordinance-based surveillance transparency and accountability vetting framework; and the call for a ban or moratorium on FRT

Policy Recommendations on FRT

The research, expert presentations, and community input presented in this white paper inform the following proposed policy recommendations for City Council's consideration:

- NOTE: To be inserted—preferably during TIC's 3/23 meeting—after approval and vote of proposed recommendations by the Commission