CITY OF LONGBEACH

Analysis and Recommendations for Regulating Facial Recognition Technology and Other "Smart" Devices and Platforms

Submitted by:

The City of Long Beach Technology and Innovation Commission

March 23, 2022

CITY OF LONG BEACH

Date: March 23, 2022
To: Mayor Garcia and Members of City Council
From: Technology and Innovation Commission
Re: Analysis and recommendations for regulating facial recognition technology and other "smart" devices and platforms

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In June 2020, in the wake of mass protests demanding racial equity and an end to systemic racism, Long Beach City Council unanimously adopted a sweeping Framework for Reconciliation meant to foster trust-building, as well as to mobilize community members and policymakers for action. In January 2021, the City of Long Beach requested that the Technology and Innovation Commission support the plan's goal to "redesign police oversight and accountability." Specifically, the Commission 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 facial recognition technology (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. The ad hoc subcommittee was also charged with drafting preliminary recommendations for the use of FRT in the City of Long Beach. Between July 2021 and December 2021, the full Commission considered the findings presented by ad hoc subcommittee members. In addition, the Commission hosted presentations from stakeholders representing diverse points of view: the Long Beach Police Department, data privacy experts, an FRT database analyst and officials who developed FRT-related policy in other cities and states. During public comment periods, community members and advocates for civil rights, budget reform, immigrant rights and racial justice shared their perspectives.

Additional research informing this white paper includes findings from a data privacy survey completed by nearly 500 Long Beach residents, which Technology and Innovation Department (TID) staff and Commission members disseminated between November 2019 and August 2020. During this same time period, Commissioners and TID staff facilitated about a dozen focus group discussions with diverse community members.

The Commission is pleased to submit this white paper regarding Long Beach's use of FRT and the implications for City use of the technology. The Commission's findings, analysis and policy recommendations reflect the broad range of research described above. Thank you for your support of the Commission's work and for the invitation to contribute to this critical topic—which involves concerns relevant to public safety, data privacy and racial equity. The City of Long Beach is obligated to implement technology with transparency and accountability, and the Commission exists to assist in any way possible.

Sincerely,

Gwen Shaffer, PhD, Chair

DW Ferrell, Vice Chair

Lisa Mae Brunson, Commissioner

Justin Hectus, Commissioner

Robb Korinke, Commissioner

Andrea White-Kjoss, Commissioner

Parisa Vinzant, Commissioner

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The Technology and Innovation 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. The ad hoc subcommittee was also charged with drafting preliminary recommendations for the use of FRT in the City of Long Beach. Between July 2021 and December 2021, the full Commission considered the findings presented by ad hoc subcommittee members.

The Long Beach Police Department (LBPD) currently uses facial recognition technology (FRT) to generate leads in criminal investigations. Specifically, the Department relies on a database of mugshots dating back to the mid-1990s, maintained by the Los Angeles County Regional Identification System (LACRIS). Critics of FRT cite threats to privacy, human rights violations, possible data theft and racial profiling among their concerns. Significantly, civil rights advocates assert that algorithmic bias leads to false identifications, wrongful arrests and disproportionate harm to members of the BIPOC community (Black, Indigenous and People of Color) and women. Further, media reports chronicle the wrongful arrests and incarcerations of Black men misidentified through FRT.

Despite these downsides, facial recognition does offer societal benefits. It is credited with preventing crimes—including sex trafficking—supporting medical treatments and locating missing persons. Notably, facial recognition has improved dramatically in recent years. As of April 2020, the best face identification algorithm has an error rate of just 0.08 percent and, as of 2018, more than 30 algorithms had achieved accuracies surpassing the best performance achieved in 2014. Additionally, Americans report general support for police use of surveillance technologies, including FRT.

The bedrock of good governance is transparency and accountability, which in turn helps increase public trust and confidence. The recommendations of the Commission reflect this and center the voices of the community members most negatively affected by this technology. The research, expert presentations and community input presented in this white paper inform several policy recommendations that the Commission urges City Council to implement:

1) The Commission concludes it is imperative that Long Beach create an independent commission that possesses authority and oversight of algorithmic-and-surveillance-based technologies across City departments.

2) In light of underlying civil rights, racial equity and justice, and privacy concerns associated with the FRT, the Commission recommends that City Council implement a moratorium on any currently deployed technology, and that the City cease the adoption of any new permanent or pilot programs involving FRT.

3) The Commission recommends that City Council adopt a framework for vetting and continuously monitoring all surveillance technologies capable of collecting personally identifiable information.

Introduction

What is Facial Recognition Technology (FRT)?

Scientific research finds that when we look at faces, we actually process them as a sum of separate parts—such as skin color, the shape of a mouth, or the spacing between someone's eyes and nose.[1] [2] Similarly, facial recognition systems (such as those used by law enforcement) rely on algorithms to analyze biometric data. A database of facial markers is created, and an image of a face that shares significant similarities from that database indicates a possible match. This same principle applies to FRT used for everything from unlocking a mobile phone, to allowing employees entrance to secure office buildings, to verifying a patient prior to dispensing medicine.

As the accuracy of FRT improves, corporations and government agencies are increasingly adopting it. Half of all American adults have their images stored in at least one facial recognition database searchable by law enforcement agencies, according to a Georgetown University study.[3] In May 2018, the FBI reported having access to 412 million facial images for searches. The use of FRT is, arguably, pervasive within the federal government. The General Accounting Office recently audited 24 federal agencies; 19 of them reported one or more FRT-related activities during fiscal year 2020 (digital access and domestic law enforcement were among the most common uses of the technology).[4]

The City of Long Beach's Uses of FRT

By contrast, FRT use is limited at the local level. In fact, just two of 23 City departments currently use it. Specifically, the Technology and Innovation Department issues mobile devices that may be unlocked by looking into the built-in camera. More consequentially, for the past decade, the Long Beach Police Department (LBPD) has used a database of mugshots dating back to the mid-1990s. Officers rely on the database, which is maintained by the Los Angeles County Regional Identification System (LACRIS), to generate investigative leads. According to LBPD, officers then conduct "morphological analyses" on all suspects identified through FRT searches. This involves a systematic method of facial comparison in which a trained police officer describes and compares the features of the face in order to confirm the algorithm's accuracy. An LBPD representative told the Commission in July 2021 that the Department currently uses only LACRIS' FRT system. However, the Department previously participated in a 30-month free trial of Vigilant Solutions' facial recognition system (beginning April 17, 2018 and ending Sept. 28, 2020), according to public records.[5] [6] [7] LBPD also acknowledges using Clearview AI. LBPD adopted a Special Order

[1] Tsao, Livingstone & Freiwald (2009). A face feature space in the macaque temporal lobe. *Nature Neuroscience*, 12(9): 1187–1196.
[2] Perrett, Rolls & Caan (1982). Visual neurons responsive to faces in the monkey temporal cortex. *Exp. Brain Res*. 47: 329–342.
[3] Garvie, Bedoya & Frankle (2016). *The perpetual line-up*. Georgetown Law Center on Privacy & Technology. https://www.perpetuallineup.org/
[4] General Accounting Office (August 2021). Facial recognition technology: Current and planned uses by federal agencies. https://www.gao.gov/assets/gao-21-526.pdf
[5] *Public Records Act Documents from Long Beach Police Department (CA): Facial Recognition Program* (n.d.). CheckLBPD. https://checklbpd.org/documents/#FRP
[6] Profile: Greg Buhl, CheckLBPD.org. MuckRock. https://www.muckrock.com/accounts/profile/CheckLBPD.org/?gclid=CjwKCAiAz--OBhBIEiwAG1rIOmptc9jFF8Fdi137hURTnoY9-yHnYUYImY6W4AooXCeV1uQOtf54nRoCd0kQAvD_BwE
[7] Buhl, G. (2020, November 13). *The Surveillance Architecture of Long Beach: A Decade of LBPD Facial Recognition Technology Use with Inadequate Policy, Oversight, and Transparency (Abridged Version)*. CheckLBPD. https://checklbpd.org/facial-recognition-abridged-report/

regulating departmental use of FRT in March 2021.[8] The Department publicly shared this order on July 27, 2021.

The number of LACRIS database searches conducted by the LBPD jumped during the second part of 2020, as the department investigated about 200 property crimes committed during political demonstrations primarily in downtown Long Beach. From Jan. 1 to May 31, 2020, LBPD detectives made 621 inquiries into the LACRIS system. By comparison, from June 1, 2020 to Dec. 31, 2020 detectives made about 2,700 inquiries into the LACRIS system. The Looting Task Force accounted for 75% of inquiries during that 7-month period. From Jan. 1 to May 31, 2021, the LBPD made about 760 inquiries into LACRIS system—more consistent with the number of searches occurring prior to investigations into looting.[9] Of the 148 searches conducted using Vigilant Solution's FaceSearch FRT system in 2020, 102 of them were made after May 31, 2020.[10] This usage reflects an uptick in reliance on FRT, compared to previous years; specifically, officers conducted 53 searches in 2019 and 89 searches in 2018.[11]

While current public sector use of FRT in Long Beach exclusively involves law enforcement, new implementations of the technology are inevitable. For instance, Delta Airlines, which flies out of the Long Beach Airport, recently launched a program in Detroit and Atlanta enabling passengers to stare into a camera, and then use their "digital identity" to check bags, pass through TSA PreCheck security and board flights without showing a boarding pass or government-issued ID.[12] The Long Beach Water Department has also expressed interest in adopting FRT to "enhance security," according to an internal City survey.[13]

Criticism of FRT

The use of facial recognition, like all technologies that collect personally identifiable information, is accompanied by potential drawbacks. Frequently-voiced concerns include threats to privacy, human rights violations, possible data theft and racial profiling.

Significantly, civil rights advocates condemn the use of FRT. They assert that algorithmic bias leads to false identifications, wrongful arrests and disproportionate harm to members of the BIPOC community (Black, Indigenous and People of Color) and women. In 2018, MIT Media Lab researcher Joy Buolamwini found racial and gender disparities in commercially offered facial recognition technologies. Her research concluded that these systems failed up to 1 in 3 times when classifying the faces of Black women.[14] Similarly, the National Institute of Standards and Technology (NIST) conducted a Facial Recognition Vendor Test that found the error rate for one algorithm exceeded 9 percent when subjects did not look directly at the

[8] Long Beach Police Department (March 18, 2021). *Special Order: Facial recognition technology*. https://citydocs.longbeach.gov/LBPDPublicDocs/DocView.aspx?id=182099&dbid=0&repo=LBPD-PUBDOCS

[9] LBPD Assistant Chief Wally Hebeish, personal communication, Sept. 29, 2021 Commission meeting

[10] Vigilant FaceSearch LBPD Dates Times (2020, December). CheckLBPD. https://checklbpd.org/wp-content/uploads/2020/12/FaceSearch-LBPD-dates-times-.pdf

[11] *Public Records Act Documents from Long Beach Police Department (CA): Facial Recognition Program* (n.d.). CheckLBPD. https://checklbpd.org/documents/#FRP

[12] *Delta News Hub*: Delta's exclusive partnership with TSA streamlines check-in, security in Atlanta. https://news.delta.com/deltas-exclusive-partnership-tsa-streamlines-check-security-atlanta

[13] *City of Long Beach Facial Recognition Inventory (FRT)* (2021). Technology and Innovation Department. http://longbeach.legistar.com/View.ashx?M=F&ID=9830087&GUID=C5403472-0624-4E5E-99E3-2929F7EED03A

[14] Buolamwini, J., & Gebru, T. (2018). Shades: Intersectional Accuracy Disparities in Commercial Gender Classification. *Proceedings of Machine Learning Research*, *81*(1). https://proceedings.mlr.press/v81/buolamwini18a/buolamwini18a.pdf

camera, or when shadows or objects obscured their faces.[15] Further, a 2020 *New York Times* article chronicles the wrongful arrests and incarcerations of three Black men misidentified through FRT.[16] Georgetown Law's Clare Garvie asserts that use of FRT potentially leads to more wrongful arrests. Neither arrested individuals nor the public will likely be aware of this due to the "sheer scope of face recognition in this county," as well the secrecy surrounding law enforcement use of this technology, Garvie concludes.[17]

Both lawmakers and corporations have responded to these concerns. Specifically, Facebook announced plans in November 2021 to discontinue using FRT to automatically tag photos and videos uploaded to the platform. Facebook is also deleting data—collected since 2010—on 1 billion people. Previously, both Amazon and Microsoft suspended sales of facial recognition technology due to concerns over accuracy and bias. More than a dozen U.S. cities ranging from Boston to Portland have banned municipal government use of FRT. In California, the cities of Alameda, Berkeley and San Francisco ban local government use of FRT; Santa Clara County and Davis require transparency and accountability surrounding public agency use of the technology.[18]

Support for FRT

Despite these downsides, facial recognition does offer societal benefits. It is credited with preventing crimes—including sex trafficking—supporting medical treatments and locating missing persons.[19]

Notably, facial recognition has improved dramatically in recent years. As of April 2020, the best face identification algorithm has an error rate of just 0.08 percent, [20] compared to 4.1 percent for the leading algorithm in 2014, according to tests conducted by NIST. The Institute also found that, as of 2018, more than 30 algorithms had achieved accuracies surpassing the best performance achieved in 2014.[21]

Additionally, Americans report general support for police use of surveillance technologies. For example, according to a 2019 Pew Research Center study:[22]

[15] Grother, Ngan & Hanaoka (March 27, 2020). *FRVT Part 2: Identification*. https://pages.nist.gov/frvt/reports/1N/frvt_1N_report.pdf

[16] Hill, K. (2020, December 29). *Another arrest, and jail time, due to a bad facial recognition match.* The New York Times. https://www.nytimes.com/2020/12/29/technology/facial-recognition-misidentify-jail.html

[17] Garvie, C. (2020, June 24). *The untold number of people implicated in crimes they didn't commit because of face recognition.* ACLU. https://www.aclu.org/news/privacy-technology/the-untold-number-of-people-implicated-in-crimes-they-didnt-commit-because-of-face-recognition

[18] Chivukula & Takemoto (February 2021). *Local surveillance oversight ordinances*. Berkeley Samuelson School of Law, Technology & Public Policy Clinic. https://www.law.berkeley.edu/wp-content/uploads/2021/02/Local-Surveillance-Ordinances-White-Paper.pdf

[19] Gargaro (2021, July 20). The pros and cons of facial recognition technology. *ITPro*. https://www.itpro.com/security/privacy/356882/the-pros-and-cons-of-facial-recognition-technology

[20] Grother, Ngan & Hanaoka (March 27, 2020). *FRVT Part 2: Identification*. https://pages.nist.gov/frvt/reports/1N/frvt_1N_report.pdf

[21] Grother, Ngan & Hanaoka (November 2018). *FRVT Part 2: Identification*. https://nvlpubs.nist.gov/nistpubs/ir/2018/NIST.IR.8238.pdf

[22] Smith, A. (2019, September 5). *More Than Half of U.S. Adults Trust Law Enforcement to Use Facial Recognition Responsibly*. Pew Research Center: Internet, Science & Tech. https://www.pewresearch.org/internet/2019/09/05/more-than-half-of-u-s-adults-trust-law-enforcement-to-use-facial-recognition-responsibly/

- 56% of survey respondents trust law enforcement agencies to use facial recognition responsibly.
- 59% of survey respondents support police use of facial recognition in assessing security threats in public places.

Other Surveillance Technologies

Of course, FRT is not the only technology adopted by the City of Long Beach that collects personally identifiable information about residents or conducts surveillance on residents. For instance, in February 2020 Long Beach began contracting with ZenCity, a platform that uses artificial intelligence to aggregate social media posts and related comments about controversial things happening in the community (i.e., Covid restrictions, zoning changes, tax increases, homelessness). The company then produces reports for City officials that analyze the discourse on a particular topic, and the City uses the information to shape its official communications and relevant policies.[23]

In addition, automated license plate readers are mounted on each LBPD patrol vehicle. In November 2020, Long Beach City Council approved a Parking Enforcement Division request for a $400,000 purchase of 17 automated license plate readers. Scanned images of license plates are uploaded, along with GPS and time-date information, to a searchable database. LBPD shares this data with more than 1,000 agencies, according to public records.[24] And the police department acknowledges it inadvertently shared data from automatic license plate readers with Immigration and Customs Enforcement for a 10-month span in 2020—despite a 2018 ordinance barring city agencies from providing information to federal immigration officials. [25] In April 2021, the ACLU of Southern California sent the City a cease-and-desist letter, and the City agreed to stop the practice in June 2021.[26]

Other surveillance technologies are common, as well. U.S law enforcement agencies routinely rely on drones equipped with cameras. While LBPD created a drone program in 2017, the Department is just now developing a policy for drone use.[27] Many police departments also use cell-site simulators—which mimic cell phone towers and emit signals to trick nearby mobile devices into transmitting their locations and identifying information.

[23] Pignataro (May 18, 2021). Long Beach using AI software to monitor how residents feel about COVID-19 policies. *Long Beach Post*. https://lbpost.com/news/zencity-artificial-intelligence-social-media-monitoring-covid-long-beach

[24] Flores (November 17, 2020). City Council to decide whether to buy controversial license plate reader. *Forthe.org*. https://forthe.org/journalism/license-plate-readers/

[25] Hussain & Bhuiyan (2020, December 21). Police in Pasadena, Long Beach pledged not to send license plate data to ICE. They shared it anyway. *Los Angeles Times*. https://www.latimes.com/business/technology/story/2020-12-21/pasadena-long-beach-police-ice-automated-license-plate-reader-data

[26] ACLU of Southern California (2021, April 19). Re: Long Beach Police Department's violations of state law for sharing license plate reader data. https://forthe.org/journalism/aclu-lbpd-alpr/

[27] Buhl, G. (2021, May 27). *The LBPD's drone program: Four drones, zero departmental policy, and yet another reason for the passage of a surveillance equipment transparency ordinance.* CheckLBPD. https://checklbpd.org/drones/

History of Racist Patterns in U.S. Policing

U.S. municipal police departments were first established on the East Coast in the 1830s, beginning in Boston and New York City. By the close of the 19th Century, all major American cities operated a police force.[28] However, in the Southern United States, so-called "slave patrols" formed the basis for organizing police departments.[29] The first slave patrols, created in the Carolina colonies in 1704,[30] primarily existed to deter slave revolts through terror and to discipline slaves who violated plantation rules or attempted to run away. Following the Civil War, these vigilante-style organizations evolved into official police departments that controlled freed slaves. Police enforced "Jim Crow" segregation laws designed to block freed slaves from exercising equal rights and deny them access to the political system.

Two centuries later, systemic racism continues to pervade the U.S. criminal justice system. As noted by Khalil Muhammad—a professor of history, race, and public policy at Harvard Kennedy School—people of color "are assigned the label of criminal, whether they are guilty or not." Muhammad explains how this process jump starts a vicious cycle: police arrest Black people without justification, then classify Black people as dangerous because of their high arrest rates, which further deprives them of their rights.[31]

Numerous social policies are equally to blame for incarceration and violent crime in communities of color—in both Long Beach and nationwide. For instance, between the mid-1980s and mid-1990s, the federal government's War on Drugs, the dismantling of mental health services and harsh prison sentencing guidelines all disproportionately harmed communities of color. In one clear example of systemic racism, Stanford University researchers analyzed data collected between 2011 and 2017 from nearly 100 million traffic stops. They found that police were more likely to pull over Black drivers and to search their cars, compared to white drivers.[32]

Outrage over this type of racial profiling and over police killings ignited the Black Lives Matter movement in the summer of 2020. But long before the death of George Floyd, friction existed between communities of color and law enforcement.[33] For instance, protests erupted in Ferguson, Mo., in 2014, after a police officer shot unarmed 18-year-old Michael Brown. Closer to home, riots broke out in Los Angeles after the 1992 acquittal of police officers who beat Rodney King. Those demonstrators took to the streets nearly three decades after the 1965 Watts riots—which were a response to California Highway Patrol officers pulling over an African American for suspected drunk driving and striking him with a baton.[34]

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[28] Potter (2013). *The history of policing in the United States, Part 1*. Eastern Kentucky University. https://ekuonline.eku.edu/blog/police-studies/the-history-of-policing-in-the-united-states-part-1/

[29] Platt (1982). Crime and punishment in the United States: Immediate and long-term reforms from a Marxist perspective. *Crime and Social Justice 18*.

[30] Reichel (1992). The misplaced emphasis on urbanization in police development. *Policing and Society 3*(1).

[31] North (2020, June 6). How racist policing took over American cities, explained by a historian. *Vox*. https://www.vox.com/2020/6/6/21280643/police-brutality-violence-protests-racism-khalil-muhammad

[32] Pierson, Simoui, Overgoor, et al. (2020). A large-scale analysis of racial disparities in police stops across the United States. *Nature Human Behavior, 4*. https://5harad.com/papers/100M-stops.pdf

[33] Hassett-Walker (2020, June 2). The racist roots of American policing: From slave patrols to traffic stops. *The Conversation*. https://theconversation.com/the-racist-roots-of-american-policing-from-slave-patrols-to-traffic-stops-112816

[34] Dawsey (1990, August 19). To CHP officer who sparked riots, it was just another arrest. *Los Angeles Times*. https://www.latimes.com/archives/la-xpm-1990-08-19-me-2790-story.html

Long Beach officials acknowledge that a history of police brutality and racial bias, coupled with a lack of diversity in policing, has fomented public cynicism of local law enforcement. When accepting his appointment as incoming Police Chief, Wally Hebeish referenced the need to strengthen "public trust" and demonstrate "accountability and transparency." Currently, LBPD is implementing an Early Intervention Program to identify potential personnel issues before they become larger problems. Further, LBPD plans to expand officer training to address community concerns, as well as review and improve police department hiring practices. The City of Long Beach is also attempting to address racial inequities in public safety through strategies and goals laid out in its Framework for Reconciliation. The document commits the City to "systemically look[ing] at the social and economic barriers which perpetuate violence in communities."[35]

Clearly, disparities in policing are ingrained in society and extend far beyond the use of FRT. This sentiment is reflected in public comments made during Commission meetings focused on FRT. As detailed later in this white paper, community members brought up the need to build trust between Long Beach residents and the police department. They also expressed concerns about various surveillance technologies, including automated license plate readers and drones.

The Technology and Innovation Commission's Role in FRT Policy

This Framework for Reconciliation is meant to foster trust-building, as well as to mobilize community members and policymakers for action. The City enlisted the Commission to support the plan's goal to "redesign police oversight and accountability." Specifically, the Commission 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*.[36]

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. The ad hoc subcommittee was also charged with drafting preliminary recommendations for the use of FRT in the City of Long Beach. Between July 2021 and December 2021, the full Commission considered the findings presented by ad hoc subcommittee members.

[35] City of Long Beach (2020, June 9). *Framework for Reconciliation.* https://longbeach.legistar.com/View.ashx?M=F&ID=8595273&GUID=107D5EFA-D10F-4444-B35A-3E7C272887BD

[36] City Manager Thomas Modica (2020, August 11). Memo to the Mayor and City Council. http://longbeach.legistar.com/View.ashx?M=F&ID=8703910&GUID=9CF0DBE4-4386-45EB-A7E5-0C1CF8AC5542

Commission Ad Hoc Subcommittee on FRT: Findings

SWOT (Strengths - Weaknesses - Opportunities - Threats) Findings Overview

To evaluate facial recognition technology overall, the Commission ad hoc subcommittee on FRT conducted research and analysis covering the strengths, weaknesses, opportunities, and threats (SWOT) on FRT in early 2021. In the following four sections, a high-level summary is provided covering the results of the SWOT analysis. Detailed information can be found in documents provided by the subcommittee.[37] [38] [39]

FRT: Strengths

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.[40] Further, use of FRT along with other electronic tools can help police respond quickly to complex events such as terrorism.[41] FRT is credited with preventing human trafficking, as well as with identifying and reuniting missing children and their families.[42] FRT also helps speed up the identification process for deceased people while ensuring bodies are treated with dignity and respect.[43]

FRT: Weaknesses

Studies conducted by academics, public interest groups and governmental agencies highlight concerns with FRT:[44] [45]

[37] TIC Ad Hoc Subcommittee on Facial Recognition Technology (2021, July 28). *Facial Recognition Technology Research* [PowerPoint slides]. Technology and Innovation Commission, City of Long Beach. https://longbeach.legistar.com/View.ashx?M=F&ID=9692419&GUID=896A2EC0-6BCF-4BE2-BC34-4EC61184A4F5

[38] TIC Ad Hoc Subcommittee on Facial Recognition Technology (2021, June 16). Addendum A: Facial Recognition Technology (FRT) – Research. Technology and Innovation Commission, City of Long Beach. https://longbeach.legistar.com/View.ashx?M=F&ID=9670002&GUID=D4C78C12-B5C2-47A4-94DC-D97E89115CCB

[39] Vinzant, P. (2021, August 11). Overview of references and informational sources. TIC Ad Hoc Subcommittee on Facial Recognition Technology. Technology and Innovation Commission. City of Long Beach. https://longbeach.legistar.com/View.ashx?M=F&ID=9717555&GUID=F2496446-8209-4EEC-9B8B-D1EF4065B6F6

[40] IJIS Institute & International Association of Chiefs of Police. (2019, March). Law Enforcement Facial Recognition Use Case Catalog. IACOP. https://www.theiacp.org/sites/default/files/2019-10/IJIS_IACP%20WP_LEITTF_Facial%20Recognition%20UseCasesRpt_20190322.pdf

[41] Ibid.

[42] *History of NIJ Support for Face Recognition Technology*. (2020, March 5). National Institute of Justice. https://nij.ojp.gov/topics/articles/history-nij-support-face-recognition-technology

[43] Khoo, L., & Mahmood, M. (2020). Application of facial recognition technology on identification of the dead during large scale disasters. *Forensic Sci International Synergy*, 238–239. https://doi.org/10.1016/j.fsisyn.2020.07.001

[44] Klare, B., Burge, M., Klontz, J., Bruegge, R., & Jain, A. (2012). Face Recognition Performance: Role of Demographic Information. *IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY*, *7*(6). https://s3.documentcloud.org/documents/2850196/Face-Recognition-Performance-Role-of-Demographic.pdf

[45] Buolamwini, J., & Gebru, T. (2018). Shades: Intersectional Accuracy Disparities in Commercial Gender Classification. *Proceedings of Machine Learning Research*, *81*(1). https://proceedings.mlr.press/v81/buolamwini18a/buolamwini18a.pdf

- A 2019 study by NIST[46] found demographic differences in accuracy rates; specifically, that 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 Islanders. This trend affects women more than men, and young and older adults compared to middle-aged adults.

- Over the last two years, at least three Black men have sued police departments after mistakenly being identified by FRT.[47] The number of wrongful arrests may be higher due to the scope of FRT use within the United States and the secrecy around its use.[48]

FRT reliability been questioned by stakeholders ranging from police chiefs to ACLU lawyers, a concern compounded by commercial FRT vendors' norm of withholding accuracy data.[49] [50] In addition, reviewers may make technical errors using FRT, and reviewers' personal biases may impact FRT use and outcomes.[51] [52] Finally, in general, local governments lack sufficient multi-level review and human backup identification and mitigation policies that rigorously address data, civil liberties, and privacy protections related to FRT.[53] [54]

FRT: Opportunities

There are no easy wins or opportunities when it comes to FRT. However, if identified gaps or issues related to the technology are addressed—and new policies, technologies, and resources are implemented—police departments can create ecosystems necessary to support their ethical, equitable, and legal use of surveillance technologies.[55] [56] This requires budget allocations for training and resources.

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[46] Grother, P., Ngan, M., & Hanaoka, K. (2019, December). *Face Recognition Vendor Test (FRVT) Part 3: Demographic Effects* (NISTIR 8280). National Institute of Standards and Technology. https://nvlpubs.nist.gov/nistpubs/ir/2019/NIST.IR.8280.pdf

[47] Harwell, D. (2021, April 13). *Wrongfully arrested man sues Detroit police over false facial recognition match*. The Washington Post. https://www.washingtonpost.com/technology/2021/04/13/facial-recognition-false-arrest-lawsuit/

[48] Garvie, C. (2020, June 24). *The untold number of people implicated in crimes they didn't commit because of face recognition.* ACLU. https://www.aclu.org/news/privacy-technology/the-untold-number-of-people-implicated-in-crimes-they-didnt-commit-because-of-face-recognition

[49] Ramey, A. (2021, February 26). *Investigating Alabama's use of facial recognition technology*. WPMI. https://mynbc15.com/news/local/investigating-alabamas-use-of-facial-recognition-technology

[50] Dave, P. (2020, June 24). *U.S. activists fault face recognition in wrongful arrest for first time. Reuters. https://www.reuters.com/article/michigan-facial-recognition/us-activists-fault-face-recognition-in-wrongful-arrest-for-first-time-idUSL1N2E02X3*

[51] *Street-level surveillance: Face recognition*. (2021, February 15). Electronic Frontier Foundation. https://www.eff.org/pages/face-recognition

[52] Conarck, B. (2017, May 26). *How a Jacksonville man caught in the drug war exposed details of facial recognition*. Florida Times-Union. https://www.jacksonville.com/news/metro/public-safety/2017-05-26/how-jacksonville-man-caught-drug-war-exposed-details-police

[53] National League of Cities' Facial Recognition Guide (2021), https://www.nlc.org/resource/facial-recognition-report/

[54] *Street-level surveillance: Face recognition*. (2021, February 15). Electronic Frontier Foundation. https://www.eff.org/pages/face-recognition

[55] National League of Cities' Facial Recognition Guide (2021), https://www.nlc.org/resource/facial-recognition-report/

[56] Garvie, Bedoya & Frankle (2016). *The perpetual line-up*. Georgetown Law Center on Privacy & Technology. https://www.perpetuallineup.org/

Building public trust[57] in police's use of surveillance technology through "communication and transparency" is considered a crucial step.[58] Cities should consider formal accountability and transparency systems and processes, such as a surveillance transparency ordinance.[59] [60] [61] (A later section of this paper examines approaches taken by several U.S. cities to incorporate accountability and transparency systems.)

FRT: Threats

Failure to address 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, including:

- lack of reporting accountability of sources and methods used by commercial FRT vendors to build their databases (e.g., Clearview AI).[62]
- lack of transparency around police use and inadequate independent auditing.[63] [64] [65]
- lack of notification to defendants of the role FRT plays in arrest or pretrial disclosure of facial recognition confidence scores. Alternative matches could potentially violate the *Brady* Materiality Standard and undermine public perception of fairness within the criminal justice system.[66] [67]

Even when FRT use incorporates best practices and robust community input, police departments must provide rigorous and ongoing bias trainings to

[57] IJIS Institute & International Association of Chiefs of Police. (2019, March). Law Enforcement Facial Recognition Use Case Catalog. IACOP. https://www.theiacp.org/sites/default/files/2019-10/IJIS_IACP%20WP_LEITTF_Facial%20Recognition%20UseCasesRpt_20190322.pdf

[58] Loudin, A. (2020, March 3). *Police tech can foster (or foil) public trust*. Smart Cities Dive. https://www.smartcitiesdive.com/news/police-tech-can-foster-or-foil-public-trust/573064/

[59] ACLU (2019). *Community control over police surveillance (CCOPS) model bill.* https://www.aclu.org/sites/default/files/field_document/aclu_ccops_model_bill_april_2021.pdf

[60] City News Service. (2021, July 14). *LA Controller Urges Focus on Civilian Privacy as City Adopts New Technology*. KFI AM 640. https://kfiam640.iheart.com/alternate/amp/2021-07-14-la-controller-urges-focus-on-civilian-privacy-as-city-adopts-new-technology/

[61] National League of Cities' Facial Recognition Guide (2021), https://www.nlc.org/resource/facial-recognition-report/

[62] Hill, K. (2020, January 18). *The Secret Company that Might End Privacy as We Know It.* New York Times. www.nytimes.com/2020/01/18/technology/clearview-privacy-facialrecognition.html

[63] Garvie, Bedoya & Frankle (2016). *The perpetual line-up*. Georgetown Law Center on Privacy & Technology. https://www.perpetuallineup.org/

[64] Garvie, C. (2020, June 24). *The untold number of people implicated in crimes they didn't commit because of face recognition.* ACLU. https://www.aclu.org/news/privacy-technology/the-untold-number-of-people-implicated-in-crimes-they-didnt-commit-because-of-face-recognition

[65] Raji, I. D., Buolamwini, J., Gebru, T., Lee, J., Mitchell, M., & Denton, E. (2020, February). *Saving Face: Investigating the Ethical Concerns of Facial Recognition Auditing*. Artificial Intelligence, Ethics, and Society (AIES), New York, NY. https://dl.acm.org/doi/pdf/10.1145/3375627.3375820

[66] Goldberg, R.D. (2021, April 12). *You can see my face, why can't I? Facial recognition and Brady.* Columbia Human Rights Law Review. http://hrlr.law.columbia.edu/hrlr-online/you-can-see-my-face-why-cant-i-facial-recognition-and-brady/

[67] Garvie, C. (2019, May 16). *Garbage in, garbage out.* Georgetown Law Center on Privacy & Technology. https://www.flawedfacedata.com/#results

avoid unintended negative consequences—including claims of biased policing.[68] [69] Additionally, if a city fails to follow best practices, including limiting FRT deployment to the most serious or violent crimes,[70] that city may face lawsuits like one filed against the City of Detroit.[71] If police use of FRT leads to a mistaken arrest or if the public perceives police failed to fully consider privacy concerns, police-public relations may worsen.[72]

The findings in this SWOT analysis lead the Commission subcommittee to propose that the City of Long Beach ban local government use of FRT, as discussed in the Recommendations section of this paper.

Best Practices Research Findings: Multiple Jurisdictions

In the absence of either statewide or federal policy on FRT, U.S cities—including several in California—have led efforts to evaluate the risk-benefit profile of this emerging technology. Of note, California has enacted policies related to other surveillance technologies such as cell site simulators and automated license plate readers.[73] However, the only restriction state lawmakers have adopted around FRT is a temporary prohibition integrating the technology into body-worn police cameras.[74]

Policy approaches on FRT by local governments are largely split between bans of FRT and surveillance ordinances.[75] [76] From a high level, that breakdown is as follows:

[68] *Street-level surveillance: Face recognition*. (2021, February 15). Electronic Frontier Foundation. https://www.eff.org/pages/face-recognition

[69] Stokes, E. (2020, November 24). *Wrongful arrest exposes racial bias in facial recognition technology*. CBS News. https://www.cbsnews.com/news/detroit-facial-recognition-surveillance-camera-racial-bias-crime/

[70] Detroit Police Department. (2019). *Facial Recognition* (Directive No. 307.5). Detroit Police Department Manual. https://detroitmi.gov/sites/detroitmi.localhost/files/2019-09/Revised%20facial%20recognition%20directive%20transmitted%20to%20Board%209-12-2019.pdf

[71] ACLU (2021, April 13). *Michigan father sues Detroit police department for wrongful arrest based on faulty facial recognition technology.* *https://www.aclu.org/press-releases/michigan-father-sues-detroit-police-department-wrongful-arrest-based-faulty-facial*

[72] Bragias, A., Hine, K., & Fleet, R. (2021). *'Only in our best interest, right?' Public perceptions of police use of facial recognition technology.* Police Practice and Research, 22:6, 1637-1654. https://www.tandfonline.com/doi/abs/10.1080/15614263.2021.1942873

[73] Gandhi, A. (2020, July 1). *California County oversight of use policies for surveillance technology.* California Law Review. https://www.californialawreview.org/print/california-county-oversight-surveillance-technology/

[74] *AB-1215 Law enforcement: facial recognition and other biometric surveillance.* (2019, October). California Legislative Information. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB1215

[75] Finch, K. (2021). *Privacy, local governments and facial recognition technologies* [PowerPoint slides]. Future of Privacy Forum. http://longbeach.legistar.com/View.ashx?M=F&ID=9352169&GUID=AD28DA08-AAD2-4445-8D8B-C7E7C05588C4

[76] Chivukula & Takemoto (February 2021). *Local surveillance oversight ordinances*. Berkeley Samuelson School of Law, Technology & Public Policy Clinic. https://www.law.berkeley.edu/wp-content/uploads/2021/02/Local-Surveillance-Ordinances-White-Paper.pdf

- 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 (Note: All of these surveillance ordinances were based on the ACLU's program, Community Control Over Police Surveillance [CCOPS] guiding principles).

Though not as widely done, several cities have created advisory groups and task forces, or studied FRT use. Additionally, the Commission's ad hoc subcommittee members researched other cities about their approach to FRT and spoke with municipal officials to clarify and argument that research:

- **Seattle** adopted a surveillance ordinance with comprehensive staffing to support it, but is moving toward a ban on FRT[77] [78] [79] [80]
    - Due to administrative burden and potential liability, police currently do not use FRT.

- **Portland (OR)** banned FRT with some exceptions due to bias inherent within this technology and the lack of independent entities to certify algorithms and the technology as bias-free.[81]
    - This ban is unique because it applies to FRT use by city government and private businesses.

- **Oakland** has a surveillance vetting framework for surveillance technology,[82] an effort led by its Privacy Commission,[83] and the city banned FRT.[84]
    - Oakland's surveillance ordinance focuses on assessment of and approval of technologies with use and impact policies. It requires annual reporting, as well.

[77] *About Surveillance – The Surveillance Ordinance* (n.d.). City of Seattle. https://www.seattle.gov/tech/initiatives/privacy/surveillance-technologies/about-surveillance-

[78] *Seattle Adopts Nation's Strongest Regulations for Surveillance*. (2017, August 30). ACLU of Washington. https://www.aclu-wa.org/news/seattle-adopts-nation%E2%80%99s-strongest-regulations-surveillance-technology

[79] City of Seattle (2021). *City of Seattle Privacy Program: FPF Overview.* https://drive.google.com/file/d/1MQCTAGI2tZdDGzd7rKU__5nRBTKCWOds/view

[80] *Facial Recognition Technology Ban Passed by King County Council - King County. (2021, June 1).* King County. https://kingcounty.gov/council/mainnews/2021/June/6-01-facial-recognition.aspx

[81] *City Council approves ordinances banning use of face recognition technologies by City of Portland bureaus and by private entities in public spaces*. (2020, September 9). Portland.Gov. https://www.portland.gov/smart-city-pdx/news/2020/9/9/city-council-approves-ordinances-banning-use-face-recognition

[82] *Ordinance Amending Oakland Municipal Code chapter 9.64, which Regulates the City's Acquisition and Use of Surveillance Technology* (2018). Oakland City Council. https://static1.squarespace.com/static/5edeeebc3032af28b09b6644/t/60021ee43aed6408e7ddadc3/1610751716723/View+Legislation.PDF

[83] Privacy Advisory Commission (n.d.). City of Oakland. https://www.oaklandca.gov/boards-commissions/privacy-advisory-board

[84] Fisher, C. (2019, July 18). *Oakland bans city use of facial recognition software*. Engadget. https://www.engadget.com/2019-07-17-oakland-california-facial-recognition-ban.html?guccounter=1

A references document created by the ad hoc subcommittee explains how other U.S. cities implement and regulate their use of FRT.[85] These efforts can inform Long Beach's approach to regulating the technology. But best practices outlined by Georgetown Law's Center on Privacy & Technology warrant deeper exploration in the following section.

Best Practices Research Findings: Georgetown Law

One in two U.S. adults are entered into a law enforcement FRT network.[86] Yet few people know very little about these systems or possess protections for privacy and civil liberties. Georgetown University School of Law researchers seeking to close these gaps conducted a year-long investigation that included more than 100 records requests and interviews with police departments nationwide. Ultimately, they published a comprehensive FRT study, the *Perpetual Line-Up*, in 2016 that included 30 recommendations by stakeholder groups.[87]

Below are the aspects most relevant to Long Beach's effort to regulate FRT. A September 2021 ad hoc subcommittee presentation provides greater detail.[88]

Exclude innocent people.

- Recommends following Michigan's lead requiring the destruction of biometric data from people arrested but later deemed innocent, or who had charges against them dropped or dismissed.

Limit the use of real-time video surveillance to life-threatening public emergencies under a court order backed by probable cause.

- Real-time, continuous face recognition from street public surveillance footage or potential police-worn body cameras would enable police to secretly locate people and track their movements.

Prohibit use of FRT by statute to track down people on the basis of their race, ethnicity, religious or political views.

- Without such prohibitions, the danger exists that FRT could chill free speech or endanger access to education or public health.

Create public reporting requirements and rigorous internal audits for all police use of FRT, including:

- The number of FRT searches run
- The nature of those searches by type of deployment

[85] Vinzant, P. (2021, August 11). Overview of references and informational sources. TIC Ad Hoc Subcommittee on Facial Recognition Technology, City of Long Beach. https://longbeach.legistar.com/View.ashx?M=F&ID=9717555&GUID=F2496446-8209-4EEC-9B8B-D1EF4065B6F6

[86] Garvie, Bedoya & Frankle (2016). *The perpetual line-up*. Georgetown Law Center on Privacy & Technology. https://www.perpetuallineup.org/

[87] Ibid.

[88] TIC Ad Hoc Subcommittee on Facial Recognition Technology (2021, September 22). *Research Focus: FRT Best Practices* [PowerPoint slides]. Technology and Innovation Commission, City of Long Beach. https://longbeach.legistar.com/View.ashx?M=F&ID=9829608&GUID=C622DA86-9DD1-40A3-B996-422ED942E255

- The crimes that those searches were used to investigate
- The arrests and convictions that resulted from those searches
- The databases that those searches accessed
- Any other information that the jurisdiction deems appropriate

As part of its report, Georgetown Law developed a risk framework that helps police departments access, categorize and calculate the risk of various FRT searches by the most common types of deployment: 1) stop and identify; 2) arrest and identify; and 3) investigate and identify.

Best Practices Research Findings:

FRT Transparency Case Study

Adopting new transparency processes may be viewed internally as burdensome. However, the following case study clarifies how the city of Oakland and 20 other jurisdictions, including Bay Area Rapid Transit (BART),[89] have implemented by ordinance a surveillance technology vetting framework for FRT.[90]

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[91]—a process that requires a mindfulness in thinking about and researching the potential impact[92] from use of a technology before its implementation.[93]

- **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.

After public review and input, the department submits its Impact Review and a proposed Use Policy for approval by relevant elected body and/or civilian board. If the technology use policy is approved, then the vetting framework ordinance requires an ongoing annual report for that specific technology.

The **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, the results of audits, and the answers to two key questions:

- Does the technology work in a cost-effective manner at achieving the purported goals?

- Do the benefits of using this technology according to its (proposed) use policy outweigh the potential costs to civil liberties and the taxpayer?

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[89] *Surveillance Technology Reports*. Bay Area Rapid Transit. https://www.bart.gov/about/reports/surveillance
[90] Oakland City Council Ordinance, Municipal Code Chapter 9.64, which regulates the City's acquisition and use of surveillance technology, 2018, https://bit.ly/3fOukeJ
[91] City of Oakland. (2021, January 21). *Approved Impact Reports and Use Policies*. City of Oakland. https://www.oaklandca.gov/topics/approved-impact-reports-and-use-policies
[92] Hofer, B. (2021b, January 10). *BART Gets An "A" For Annual Reporting*. Secure Justice. https://secure-justice.org/blog/bart-gets-an-a-for-annual-reporting
[93] ACLU (2021). Community control over police surveillance (CCOPS) model bill. *https://www.aclu.org/sites/default/files/field_document/aclu_ccops_model_bill_april_2021.pdf*

For BART's first cycle of annual reporting of seven technologies under this surveillance technology vetting framework ordinance, staff from relevant departments collectively rated the administrative burden in producing these reports as a "4" (scale of 1 to 10).[94] Further, staff estimated they collectively spent 100 hours on these seven annual reports, which included building new processes and templates for first-time reports. Research has shown that the lower the administrative burden associated with implementing new systems or processes, the lower the resistance by public servants to that change.[95]

An external organization, Secure Justice, rated BART's annual reporting under this ordinance as an "A" and said it was leading the way in exemplifying transparency.[96] Encouragingly, this group found that BART supplied sufficient specificity and information that the public should have confidence that its use of surveillance technologies "appears responsible, that certain technology is proven to be effective, and where other technologies have not met the standard, BART is ceasing such use so as not to cause taxpayers an undue burden or negatively impact civil liberties."[97]

[94] Hofer, B. (2021b, January 10). *BART Gets An "A" For Annual Reporting*. Secure Justice. https://secure-justice.org/blog/bart-gets-an-a-for-annual-reporting

[95] Moynihan, D.P., & Herd, P. (2018). *Administrative Burden: Policymaking by Other Means*. New York: Russell Sage Foundation.

[96] Hofer, B. (2021b, January 10). *BART Gets An "A" For Annual Reporting*. Secure Justice. https://secure-justice.org/blog/bart-gets-an-a-for-annual-reporting

[97] Ibid.

Summary of Presentations Given to TIC Members

The Commission invited multiple stakeholders to share their expertise on FRT policy or implementation.

Future of Privacy Forum Senior Counsel Kelsey Finch

Future of Privacy Forum Senior Counsel Kelsey Finch presented on April 28, 2021, on "Privacy, Local Governments, & Facial Recognition Technologies.[98] She provided an overview of the types of facial detection, characterization, and recognition technologies as well as the internet privacy concerns. When FRT is used for identification purposes in a one-to-many search, she provided the following privacy concerns: possibility of user tracking or profiling across contexts; possibility of false matches, resulting in false suspicions or accusations; and unexpected use and/or sharing. When assessing the policy approaches taken by local governments, it is primarily split between prohibitions on FRT and surveillance ordinances, although some jurisdictions are enacting internal and technology neutral polices for governmental use of data. Finch said assessing the administrative burden associated with any new FRT policy was key to being able to effectively implement and enforce the policy.

Finch highlighted the following considerations when seeking to develop a policy response to FRT: 1) ensuring that community is engaged and their perspectives and priorities are included; 2) tailoring potential exceptions to FRT use by the nature of the use and the sensitivity of the data; 3) weighing possible unintended consequences; 4) considering accuracy in that while FRT systems are increasingly becoming more effective across all demographic groups, this fact does not necessarily fully address civil rights and equity issues; 5) addressing the scope of application and its impact; 6) allocating needed resources to better ensure enforceability and implementation of the new policy; and 7) monitoring whether there is any complementary or conflicting efforts at the state level.

LBPD Assistant Chief Wally Hebeish

LBPD Assistant Chief Wally Hebeish presented on July 28, 2021. He also attended the September 29, 2021 meeting to field questions, but did not formally present. Hebeish told the Commission that the department uses FRT software exclusively to generate investigative leads in violent crimes "based on reasonable suspicion, not predictive policing or mass surveillance." He said that LBPD officers use FRT to compare a photo of video frame of a suspect they are trying to identify with images in a digital database—maintained by the Los Angeles County Regional Identification System (LACRIS)—containing about 9 million booking photos (aka, mugshots). After FRT software makes a match, trained detectives must confirm the suspect's identity through "traditional means" before arresting or charging the person, Hebeish reported. He 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. Hebeish also noted that the LBPD was in the process of revising its FRT policy when he spoke to the Commission, and that the policy is posted on the Department's website.[99] Hebeish said that FRT is not "baked into" any city-owned security cameras, and LBPD is not currently participating in any FRT trials or pilot projects.

[98] Finch, K. (2021). *Privacy, local governments and facial recognition technologies* [PowerPoint slides]. Future of Privacy Forum. http://longbeach.legistar.com/View.ashx?M=F&ID=9352169&GUID=AD28DA08-AAD2-4445-8D8B-C7E7C05588C4
[99] Long Beach Police Department (March 18, 2021). *Special Order: Facial recognition technology*. https://citydocs.longbeach.gov/LBPDPublicDocs/DocView.aspx?id=182099&dbid=0&repo=LBPD-PUBDOCS

In response to questioning on the rationale for reserving the right to deploy FRT on the City's public safety surveillance, which opened the door to concerns of mass surveillance, Hebeish said this provision would be removed from the department's final FRT policy. Hebeish said FRT searches should not be limited to investigating violent crimes or other felonies, as the importance of solving certain misdemeanors justify FRT searches.

UCLA Law Professor Alex Alben

Alex Alben, an attorney who co-authored the Washington State FRT law (effective July 2021) and teaches at UCLA Law School, presented to the Commission on September 22, 2021. He articulated four principles for guiding any FRT policy:

1. **Notice**: While there exists a reasonable expectation that a person will be video recorded in a public space, most people do not expect that the government is "layering on" FRT. Therefore, public notice is appropriate. However, it is difficult to give effective notice at an intersection or on a police bodycam. But can post notice on a website or signage at the entrance of a building that directs people to a website.

2. **Transparency**: FRT has been criticized, justifiably, for sometimes relying on poor data so that the results are skewed or inaccurate. Therefore, it is important for people to understand which databases or inputs the FRT is drawing on and, to the extent possible, to expose the algorithm used. Although some jurisdictions have enacted outright bans on FRT, Alben believes this fails to solve the problem. Tech that is fair; accurate; transparent; and can be independently tested and verified is a better solution, he said.

3. **Training**: Ongoing training for personnel using FRT properly is especially important.

4. **Meaningful human review**: Whether an algorithm is used for hiring, for public housing, for public benefits, for law enforcement or for another reason, those decisions should be reviewed by humans—who can identify discriminatory impacts. "Meaningful human review" lacks a specific legal definition but Alben believes it is a workable concept. Can't rely exclusively on computers to flag information.

Alben also stressed the importance of requiring all City agencies using FRT to routinely file accountability reports detailing how they use the technology and the sources of "data inputs." He advocated for implementing a data management policy, including a complaint mechanism (timelines for responding to complaints, an appeal process, etc.). Requiring law enforcement officers to obtain a warrant in order to use FRT can help protect civil rights, he noted.

Alben said that, although some jurisdictions have imposed moratoriums on the use of FRT, he is skeptical of this approach because of the difficulty of determining when to lift a moratorium and because it might just "buy time." It is preferable for stakeholders to actively work on ensuring technology is implemented "in the most fair and sensible way," he said. Alben said he advocates for policymakers to adopt a law with lead time built in. For instance, legislative bodies can delay enforcement for a year while relevant agencies prepare and budget for implementing transparency and accountability measures.

In response to questioning about the level of community support that the bill received, Alben acknowledged that industry and law enforcement supported the passage of Washington State's recently adopted FRT law, while civil right advocates opposed it. He said that passing the legislation required compromises—including nixing an accountability measure that would have created a task force with seats for community representatives.

LACRIS Analyst Mark Dolfi

LACRIS (Los Angeles County Regional Identification System) analyst Mark Dolfi said that 64 Los Angeles County law enforcement agencies—including the LBPD—search images with similar biometric data "as an investigative lead." He compared it to how, in the past, detectives used physical mugshot books to create line-ups of suspects. The LACRIS database is simply a new tool for performing that same function, he said. LACRIS is not used for surveillance; the system does not accept drivers' license photos; and it does not scrape the internet for images, Dolfi said. NIST independently tests the FRT algorithm for accuracy, and those findings are public. Dolfi characterized error rates as "minor."

Dolfi described the process for using the LACRIS database and its FRT. First, detectives capture information provided by the arrestee, in the police report, fingerprints and photos. Once investigators are ready to search, they upload the photo and the system creates "template," based on the quality of the image. After the template is created, it is uploaded to the database and an algorithm search for matches. The algorithm does not see race, gender, age, hair color or eye color. First, the template finds the eyes; it then uses a mathematical equation to find the nose, mouth, and other features. Ultimately, the match is based on similarities between the templates. The officers conduct a "morphological analysis," or one-to-one comparison, of the "candidate" and the match. Only trained officers have access to LACRIS' FRT. The organization follows the same FRT standards and best practices developed for the FBI, and training methods adhere to a California Department of Justice user agreement for accessing all criminal data. In addition, Dolfi said, local police departments enforce their own facial recognition policies.

LACRIS does not store data used for each search—the database contains only booking photos (mugshots). However, photos of people who were arrested but never convicted of a crime or who were subsequently exonerated, remain in the database. LACRIS only removes photos in response to court orders, and no statute requires the database to be scrubbed. Additionally, when mugshots are taken, arrestees are not notified that their image will be stored in the LACRIS database, which contains images dating back to "1996 or 1998," Dolfi said. Furthermore, the onus is on the arrested person to hire a lawyer to get a court order from a judge to expunge that person's mugshot from LACRIS.

Community Input

Community Voices on FRT and Related Surveillance Technologies

Through a total of six public meetings on FRT held in April, July, August, September, and October 2021, the Commission has heard from about 24 members of the Long Beach community. The Commission's ad hoc subcommittee on FRT reached out to community-based organizations to share meeting details and encourage participation. As a result, community leaders consistently attended these meetings, including from Long Beach Forward, Black Lives Matter Long Beach, the People's Budget Coalition, and the Long Beach Immigrant Rights Coalition. Having the city's diverse communities who are also most negatively impacted by FRT take part in these public discussions offered the Commission invaluable expertise. Additionally, representatives from the ACLU of Southern California and the Center for Human Rights and Privacy attended commission meetings that addressed the City's use of FRT.

Since April 2021, the Commission has received 36 public comments on facial recognition and related surveillance technologies. Of this, six were received in written form. Of the 30 verbal testimony given by community members, seven were provided in Spanish and interpreted live during the meeting.

While community members expressed a range of concerns related to FRT, all were against the use of FRT by the City and called for either a ban or moratorium on its use. Some of those concerns focused on racial discrimination and bias; civil rights; privacy; and distrust of the Long Beach Police Department. Multiple commenters pointed to research demonstrating that FRT is more likely to misidentify people of color, resulting in "racist impacts" and the "criminalization" of BIPOC (Black, Indigenous, and People of Color) community members.

Several public comments characterized FRT as a threat to civil rights, particularly for residents of BIPOC communities subject to excessive policing and "invasive surveillance technology." During the September 22, 2021 Commission meeting, a community member spoke out about the "deep distrust of the police" that residents feel, particularly since law enforcement increasingly relies on "advanced technology. Other comments suggested that an FRT ban would demonstrate Long Beach's commitment to "centering the Black community."

Several comments made during the July 28, 2021 Commission meeting echoed this sentiment. One speaker accused the City of ignoring "best practices others have developed to reduce the racial bias still present in facial recognition algorithms." Another member of the public characterized FRT as "anti-Black" and "prone to abuse." Calling for a ban on FRT, this person added, "You can't reform a racist software."

Some public comments addressed privacy-invasive technologies used by the city, including automated license plate readers and drones. "We want to ban surveillance technologies…that are laden with racial bias, often used against black people and incorrectly identifying black faces like mine, especially those of black women like me," a resident commented on Aug. 18, 2021. During the July 28, 2021 Commission meeting, a resident expressed concern over a "lack of accountability and the need for real safeguards" in relation to the LBPD's use of "surveillance technologies."

Other public comments reflect distrust of local law enforcement, with several pointing to a 2020 revelation that the LBPD inadvertently shared scanned license plates with federal immigration officials, a practice that continued until June 2021. "How can we trust them to not abuse their power over and over again?" one resident asked. On

July 28, a commenter said, "…we can't trust the police or trust the City unless they protect us…we can't walk safely through the city or drive in the city without [our] information being tracked."

Members of the public also questioned why the City budgets millions of dollars for "surveillance technology," rather than investing in community-building and education. During the July 28, 2021 meeting, Commissioners heard from residents who said: "We demand respect, funding for programs that helps us rather than criminalizing us even more such as this invasive technology," and "Spending money and resources on face recognition…is a waste of resources that can be better spent reinvesting precious dollars into supportive and community affirming services needed by this City."

Survey Methodology on Data Privacy

In addition, the Commission considered Long Beach community members' comfort levels with smart technologies that collect personally identifiable data. 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 of Long Beach website in English and Spanish. The questionnaire is modeled after a "smart cities and data privacy" survey Bannerman and Orasch (2020) administered to Canadian residents during 2018. It is designed to gauge respondents' attitudes toward smart technologies— including those used by law enforcement—and data sharing**.** Prior to the COVID-19 pandemic, staff with the City's Technology and Innovation Department and Commissioners disseminated the paper survey during community events, focus group discussions on data privacy, and neighborhood association meetings. Smart Cities Manager Ryan Kurtzman coordinated these efforts.

While the survey findings shed light on public attitudes toward technologies that collect personally identifiable information, the Commission acknowledges this sample fails to reflect Long Beach's diverse population—despite efforts to reach a demographically representative sample.

One survey question set asked respondents how they felt about local government using their personal information in varied contexts, including to bolster public safety. If respondents indicated support for the practice "only if the city allows me to control how these data are used," they were prompted to identify the terms of that use. Options ranged from "I can opt in" to "I can delete my data" and "My data is aggregated with other data or masked such that my identity is concealed." Another section of the survey directly asked respondents how concerned they were about the prospect of smart technologies violating their privacy rights.

Focus Group Methodology

The interview protocol resented "vignettes" related to the three smart technologies previously described. Smart Cities Manager Ryan Kurtzman and a Commissioner co-facilitated seven focus group discussions with 82 residents who are demographically diverse in terms of age, ethnicity, race, education level and political ideology. A partial list of organizations that participated in data collection efforts is contained in the Appendix**.**

Virtual Community Meeting on the City's Data Privacy Guidelines

On Jan. 20, 2021, Smart Cities Manager Ryan Kurtzman facilitated an hour-long discussion on Zoom to obtain feedback on Long Beach's Data Privacy Guidelines. The City used social media and emails to promote the virtual community meeting to:

- Smart Cities Initiative community stakeholders
- Digital Inclusion community stakeholders
- City Councilmember newsletters and distribution groups
- Community groups via Commissioners

Fifteen community members, three city staff and one Commissioner participated in the meeting.

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 percent of Long Beach respondents felt the practice should be permitted if they maintained control over how data are used, while 34 percent of residents outright rejected the practice. Just 13 percent of people sampled agreed that public safety agencies should "automatically" be permitted to use personal data to prevent crime. These findings reflect the qualitative responses voiced during focus group discussions. Specifically, study participants' comfort levels varied depending on the context in which data are collected and used (i.e., 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. Also, residents ages 40 and older were more likely to express "somewhat" or "strong" concern about police use of their data.

Unprompted, several focus group participants brought up the issue of law enforcement agencies relying on biometric data "to catch bad guys." "What about [the facial recognition software] Clearview and its ability to recognize anyone? We're getting into an awful 1984 situation," commented a member of the Gray Panthers. Another participant in this same focus group agreed that facial recognition and misidentification—"picking the wrong person"—is a legitimate concern. A Smart City Fest attendee asserted that biometrics exemplify the fact that neither private companies nor the government operate in the public interest.

Although, overall, a majority of survey respondents reported that law enforcement agencies *should* have access to personal data, the high percentage of those who completely disagreed with the practice suggests that Long Beach residents tend to distrust local police. Similar concerns were briefly raised during the Jan. 20, 2021 community meeting focused on Long Beach's Data Privacy Guidelines. "We need transparency about the digital tools the city is using," said a participant who specified automated license plate readers, FRT and geolocation collection as concerning. "Many people don't understand how these technologies are being used or what is done with the data." Other participants in this conversation focused on data privacy guidelines urged City officials to provide more robust training for employees, as well as to educate residents on digital literacy and the use of algorithms. "How can we hold the City accountable?" one person wondered aloud.

More than 80 percent of survey participants reported feeling "strongly concerned" or "somewhat concerned" that the use of technologies that collect personal information "could mean less privacy for Long Beach residents." Another

15 percent of participants said they were “slightly concerned” about their privacy, while 5 percent reported feeling “not concerned” about a potential loss of privacy.

“Earn public trust” is among the four principles meant to provide a framework for Long Beach’s Smart City Initiative. Therefore, it is significant that 24 percent of survey respondents identified sharing data with residents as their top smart city goal. Similarly, 23 percent of respondents identified “including all Long Beach communities in decision-making” as a top smart city goal. The qualitative and quantitative findings strongly suggest that, as Long Beach increasingly uses privacy-invasive devices and platforms, the City must put equal effort into fostering trust, practicing transparency and engaging the public. Afterall, if residents lack confidence in public officials—particularly law enforcement—they will reject technologies that further empower these officials.

In sum, the qualitative and quantitative findings from multiple community outreach efforts underscore the need for policy frameworks that incorporate transparency. Such measures would eliminate the need for residents to guess how the City is sharing, storing and analyzing their data. Residents are particularly concerned about who has access to their personal information and the potential for it to be used in unanticipated ways.

Application and Analysis of Racial Equity and Related Lenses

The Technology and Innovation Commission was tasked with supporting implementation of the FRT aspect from the City's Racial Equity and Reconciliation Initiative, thus using an explicit racial equity lens in the commission's evaluation of FRT is not only appropriate, but essential. In keeping with the spirit of what this racial equity and reconciliation effort is meant to reflect, 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.

The Long Beach Equity Toolkit[100] is a clear authority to guide this commission's application of racial equity analysis in this whitepaper. The toolkit emphasizes the focus on the burdens and benefits of decisions, policies, and proposals as the first of seven basic questions that public servants within Long Beach must consider when applying equity lenses in their work:

"Who would benefit or be burdened by this proposal? Would low-income households or communities of color experience a disproportionate burden?"[101]

The TIC ad hoc subcommittee on FRT found that current "face 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."[102] When the Burdens and Benefits question from the 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. Further, the information that the Commission learned from the LACRIS FRT specialist at the September 22 public meeting provided new information about how LBPD's current FRT tool potentially violates the civil rights of Long Beach residents in these additional ways:[103]

- Los Angeles County Sheriff's Department (LASD) does not notify arrested individuals upon booking that their face will become a permanent part of their FRT mugshot database, LACRIS, which searchable again and again, a "perpetual lineup."
- LASD's management of LACRIS does not include any routine scrubbing of its mugshot databases to remove photos of exonerated persons or those not charged or convicted of a crime, although routine scrubbing is an established best practice.

[100] Long Beach Office of Equity (October 2019). *Long beach equity toolkit for city leaders and staff.* City of Long Beach. https://longbeach.gov/globalassets/health/media-library/documents/healthy-living/office-of-equity/city-of-long-beach-office-of-equity-toolkit

[101] Ibid.

[102] TIC Ad Hoc Subcommittee on Facial Recognition Technology (2021, June 16). *Memo: Research, Analysis, and Suggested Recommendations - FRT.* Technology and Innovation Commission, City of Long Beach. https://longbeach.legistar.com/View.ashx?M=F&ID=9670002&GUID=D4C78C12-B5C2-47A4-94DC-D97E89115CCB

[103] Vinzant, P. (2021, October 26). *Memo: Concerns, Questions and Suggested Action on Facial Recognition Technology.* Technology and Innovation Commission, City of Long Beach. https://longbeach.legistar.com/View.ashx?M=F&ID=9919483&GUID=AB124BAA-D2DE-49D7-BDA6-51AD74F9ADAE

- The onus is on the arrested person to hire a lawyer to get a court order from a judge to expunge that person's mugshot from LACRIS. From a racial equity and justice as well as civil rights and civil liberties perspective, this situation is unacceptable, particularly since arrest data in Los Angeles County/Long Beach is disproportionately made up of BIPOC because they are more frequently targeted in policing than White residents.

This information informs the recommendations made by the Commission for a 1) moratorium on FRT, 2) the creation of an independent commission to provide oversight on the city's use of FRT and other surveillance technologies, and 3) the passage of an ordinance-based transparency and accountability process for vetting and potentially approving all surveillance technologies.

While some populations are being harmed by this technology at higher rates than others, *all* residents lose when government deploys emerging technology in an indiscriminate and secretive manner.

Further, the subcommittee considered six topics from the Equity Toolkit for using an equity lens: understanding data; community engagement; decision-making; implementation; unintended consequences; and accountability and communications (pg. 8).

The ad hoc subcommittee applied other applicable lenses—civil rights, civil liberties, ethics, and privacy—in its analysis and recommendations, as well as in the development of this white paper.

Also, community members repeatedly raised racial basis, civil rights, civil liberties, accountability, and privacy concerns during Commission meetings.

> "There really is no set of regulations or limits that will mitigate the serious privacy and civil rights and social risks associated with the technology."
>
> —Mohammad Tajsar, ACLU of Southern California (9/22/21)

Recommendations

Recommendations

The research, expert presentations and community input presented in this white paper inform all three of the distinct actions we recommend City Council take. The bedrock of good governance is transparency and accountability, which in turn helps increase public trust and confidence. The recommendations of the Commission reflect this and center the voices of the community members most negatively affected by this technology.

The Commission urges City Council to implement all three policy recommendations described below:

Policy Recommendation 1: Creation of a Data Privacy Commission

it is imperative that Long Beach create an independent commission that possesses authority and oversight of algorithmic-and-surveillance-based technologies across city departments.

Policy Recommendation 2: Moratorium on FRT

Underlying civil rights, racial equity and justice, and privacy concerns associated with FRT persist. Therefore, the City must pause its use of this technology and ban new or pilot FRT technologies until it can demonstrate that use of this technology poses a favorable enough benefit-to-risk profile to be an asset rather than a liability to City efforts.

And as it relates to the police department's potential use of the LACRIS FRT, the LBPD must demonstrate it is serious about mitigating the clear civil rights and racial equity concerns. For example, while the police department lacks control over the LACRIS FRT because this system is managed by the Los Angeles County Sheriff's Department, LBPD does control whether its policies limit use of FRT to only felonies or serious violent crime as a proactive action to demonstrate the department is not using it as a tool of mass incarceration.

Policy Recommendation 3: Adoption of a Surveillance Technology Vetting Framework and Ongoing Monitoring of These Technologies

Despite its drawbacks, FRT is used for legitimate purposes—such as aiding law enforcement in solving criminal investigations, identifying missing persons and disrupting sex trafficking operations. Furthermore, criticisms surrounding civil rights violations and discriminatory impacts are not isolated to FRT. In fact, both community members and expert witnesses voiced concerns about Long Beach's use of automated license plate readers, drones with cameras and cell site simulators.

Therefore, the Commission proposes that City Council adopt a vetting and monitoring framework that would apply to all surveillance technologies capable of collecting personally identifiable information. For guidance, City Council members can look to the nearly 20 municipal surveillance ordinances already being enforced. (The FRT case study found on page 17 provides an overview of this policy approach, including an externally conducted audit.)

The ACLU also provides model language.[104] Key provisions would mandate that each Long Beach department obtain approval from City Council prior to purchasing/adopting a surveillance technology, or contracting with a third-party vendor that uses surveillance technology and shares data. The ACLU model language would also require that the City department seeking approval must present both an impact report and a use policy to the public and City Council. Council could approve a request to fund, acquire, or use a surveillance technology only if members determine that the benefits of the proposed surveillance technology outweigh its costs, and that the surveillance use policy will safeguard civil rights and avoid disparate impacts on any one group.

Finally, based on language drafted by the ACLU, each department would need to provide City Council and the public with an annual report for each surveillance technology used. City Council would hold a public hearing to review information in the annual surveillance report and reassess whether the technology as implemented continues to meet City standards. This requires ongoing monitoring of surveillance technologies.

[104] ACLU (2022). Model legislation for a surveillance technology and community safety ordinance. https://www.aclunc.org/sites/default/files/13.%20MODEL%20LEGISLATION%20FOR%20A%20SURVEILLANCE%20TECHNOLOGY%20%26%20COMMUNITY%20SAFETY%20ORDINANCE_1.pdf

APPENDIX: Focus Group Participation Information

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Smart City Manager Ryan Kurtzman, Commission Chair Gwen Shaffer, and Commissioner Justin Hectus co-facilitated seven focus group discussions with 82 residents who are demographically diverse in terms of age, ethnicity, race, education level, and political ideology:

Technology Industry Workers

This focus group discussion was held in-person on Nov. 7, 2019 during the Long Beach Smart City Fest. Five event attendees participated.

Older Adults

Two focus groups were held in-person on March 7, 2020 during a regular meeting of the Long Beach Gray Panthers, an alliance that provides education and advocacy on social justice and policy issues affecting older adults. Twenty-eight attendees participated.

Downtown Residents

This focus group discussion was facilitated in-person on March 14, 2020. Eleven neighbors, all working professionals who own units in the same downtown condominium building, participated.

Business Leaders

This focus group discussion was facilitated via Zoom on April 29, 2020 during a meeting hosted by the Long Beach chapter of Rotary International, a network that brings together business leaders for social action and community-building activities. Twenty-three members participated.

Latinx Young Adults

This focus group discussion was facilitated via Zoom on May 21, 2020. Seven young adults (between the ages of 15 and 25) who aged-out of a DAYS Long Beach program for low-income kids but continue to meet weekly, participated, along with one adult advisor.

Teens

This focus group discussion was facilitated via Zoom on July 17, 2020. Seven high school students working at a YMCA summer program participated.

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City of Long Beach
Technology & Innovation Department
411 W. Ocean Blvd.
Long Beach, CA 90802
Visit us at www.longbeach.gov

facebook.com/LongBeachCity
@LongBeachCity