Biometrics at the Border

A federally mandated entry-exit tracking system remains incomplete after a quarter-century. Where do we go from here?

Since 1996, the U.S. government has attempted to implement a comprehensive system to track all arrivals and departures into and out of the country. Over 26 years, 7 bills, and numerous executive orders and federal regulations, the Department of Homeland Security (DHS) and its predecessor agencies have made only incremental and incomplete progress towards a system that Congress has repeatedly mandated in different forms.

While DHS has managed to establish a system for collecting the biometric data of most entrants into the country, in the 26 years since it was originally required, the agency has remained unable to implement a system for tracking the exits of every non-immigrant for whom the government has a record of entry. This is significant because, according to a Center for Migration Studies report, visa overstays account for 62% of the newly undocumented population.[1]

Why has DHS been unable to implement a comprehensive entry-exit system over more than 25 years? What are the benefits of such a system? How should DHS balance those benefits with the anticipated cost of implementation? What about the risks associated with the use of facial recognition technology and modern biometric modalities?

This paper will provide a brief history of congressional mandates regarding the biometric entry and exit system, an overview of DHS capabilities, intentions and challenges, and a discussion of privacy concerns that have arisen as new technology is deployed.

I.   **A Brief History of Relevant Legislation and Regulation**

There is a long history of Congress issuing sweeping (and unachievable) mandates to implement biometric entry and/or exit programs. Under both Democratic and Republican administrations, DHS and its predecessor agency have repeatedly missed deadlines and failed to successfully carry out these mandates.

The entry-exit system was initially conceived by Congress in the 1996 Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) as a method for matching arrival and departure records using biographic data. The bill, which sought to make immigration enforcement more effective, imagined a system that would allow the government to better identify nonimmigrants who had overstayed their visas. Congress gave the Immigration and Naturalization Service (the predecessor agency to DHS) two years to implement this new system.[2]

After the terrorist attacks on September 11, 2001, Congress passed the USA PATRIOT Act, which included a provision mandating biometric identifiers be used in the information collected on

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[1] Richard Gonzalez, "For 7th Consecutive Year, Visa Overstays Exceeded illegal Border Crossings," NPR, January 16, 2019, https://www.npr.org/2019/01/16/686056668/for-seventh-consecutive-year-visa-overstays-exceeded-illegal-border-crossings.

[2] Illegal Immigration Reform and Immigrant Responsibility Act of 1996, H. Rep. 104-828 at 11 (1996) (Conf. Report) https://www.congress.gov/104/crpt/hrpt828/CRPT-104hrpt828.pdf.

arriving aliens.[3] The USA PATRIOT Act was quickly followed by the Enhanced Border Security and Visa Entry Reform Act of 2002, requiring the installation of equipment at all ports of entry to collect biometric information on arriving noncitizens to be checked against the information provided in the visa, passport, or other travel documentation.[4]

The 2004 Intelligence Reform and Terrorism Prevention Act (IRTPA) added to the entry-exit system a requirement to collect biometric *exit* data for all those who were required to provide biometric entry data.[5] Recognizing that DHS — and its predecessor — had lagged in following through on past mandates, the IRTPA also required the agency to submit a report to Congress by mid-2005 providing cost estimates and a rough timeline for biometric entry-exit implementation. The bill also called for DHS to better coordinate government databases that held information on noncitizens.

Despite some progress (much of it localized within the visa waiver program,[6] including the creation of an automated data system for storing and matching the biometric entry and exit records of VWP participants), there was still no comprehensive biometric entry-exit matching system in place by 2016, when an appropriations bill gave DHS a 30-day clock to submit a plan to Congress for entry-exit implementation. That 2016 appropriations bill provided up to $1 billion in funding for implementation of the system by authorizing surcharges on commonly-used nonimmigrant visas like H-1Bs (for highly educated individuals in specialty occupations) and L-1s (for managers and executives).[7]

Soon after taking office in 2017, President Trump issued an executive order requiring "expedited" completion and implementation of a biometric entry-exit system. The order set out a schedule for DHS to report to Congress on progress of setting up a system. In November 2020, DHS issued a notice of proposed rulemaking that sought to further expedite the entry-exit implementation by making pilot programs permanent and removing roadblocks and protections that prevented them from collecting biometric data from noncitizens. The proposed rule was re-opened for public comment in February 2021 and has not yet been finalized.

While a quarter-century of legislative and administrative requirements have resulted in some progress on a comprehensive biometric entry-exit system, implementation remains incomplete and key gaps remain unaddressed.

II.   Biometric Data Collection: State of Play

Today, U.S. Customs and Border Protection (CBP) collects some biometric information from most foreign nationals entering the U.S. and matches it to data stored in government databases. However, after decades of legislation and regulation the process is still full of gaps. The databases are not fully integrated, and the U.S. still has not implemented an effective system for collecting biometric data from those who depart the country. While advances in technology have

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[3] U.S. Government Accountability Office, "Border Security: US-VISIT Program Faces Strategic, Operational, and Technological Challenges at Land Ports of Entry," December 2006, https://www.gao.gov/new.items/d07248.pdf.

[4] GAO, *Border Security: US-Visit Program*, 11.

[5] 8 U.S.C. § 1365b, https://www.law.cornell.edu/uscode/text/8/1365b.

[6] The Visa Waiver Program (VWP) permits visitors from certain, mostly European countries to enter the U.S. without a visa.

[7] Pub. L. 114-113, "Consolidated Appropriations Act, 2016," https://www.congress.gov/bill/114th-congress/house-bill/2029/text.

made such a system more feasible in recent years, current data collection infrastructure is in a state of transition and federal efforts remain ongoing.

Entries

All individuals arriving by land, sea, or air must show a passport or similar identifying document, and CBP collects fingerprints and digital photographs for most arriving foreign nationals. This biometric information is compared with information that may have previously been provided to the U.S. government and stored in government databases, such as a photograph of the individual taken during the visa application process.[8]

For individuals entering the U.S. by air or sea, CBP also receives manifests from the commercial air and sea carriers, or from private boats and aircraft. These manifests include biographic information about the persons arriving. CBP inspects all nonimmigrants upon arrival on U.S. soil and compares the biographic information provided with that on the manifest.[9]

Exits

For individuals departing by air and sea, the carrier provides CBP with passenger manifest data which includes names and passport numbers.[10] CBP matches this biographic data against arrival data and other government data to determine when individuals have left and whether they have complied with the terms of their visas.[11] The government does not collect or match any biographic information on individuals departing by land, although it does get some biographic land-exit data via limited information-sharing agreements with Mexico and Canada.

Whether by land, sea, or air, the government still does not have a comprehensive system in place for collecting biometric data from those departing the U.S. Across all exits in FY 2020, CBP was only able to use biometrics to match 13 percent of noncitizens departing the United States.[12]

Pilot Programs and the Move to Facial Recognition Technology

CBP continues to work to move away from biographic-only data collection and to settle on a biometric collection technology which can be deployed to all ports of entry (POEs) for both arriving and departing travelers. In a required 2016 progress report to Congress, CBP noted that it "will use a traveler's face as the primary way of identifying travelers and facilitating their entry to and exit from the United States, while still leveraging fingerprints for watchlist checks."[13]

Since then, the agency initiated a series of pilot programs designed to test the feasibility of using facial recognition technology to collect data from and match entrants with departures. In 2017, the "Simplified Arrival" process was tested in a number of commercial airports. In Simplified

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[8] Department of Homeland Security, "Fiscal Year 2020 Entry/Exit Overstay Report," September 30, 2021 https://www.dhs.gov/sites/default/files/2021-12/CBP%20-%20FY%202020%20Entry%20Exit%20Overstay%20Report_0.pdf. For details on who is subject to the collection of biometric information at inspection, see 8 CFR § 235.1(f)

[9] DHS, *Fiscal Year 2020 Entry/Exit Report*, 5-10.

[10] DHS, *Fiscal Year 2020 Entry/Exit Report*, 5-10.

[11] DHS, *Fiscal Year 2020 Entry/Exit Report*, 5-10.

[12] DHS, *Fiscal Year 2020 Entry/Exit Report,* 5.

[13] Department of Homeland Security, "Biometric Exit & H-1B and L-1 Fees Spend Plan, Fiscal Year 2017 Report to Congress," June 18, 2018, https://www.dhs.gov/sites/default/files/publications/CBP%20-%20Biometric%20Exit%20and%20H-1B%20and%20L-1%20Fees%20Spend%20Plan.pdf.

Arrival, passengers arriving in the U.S. have their photo taken, and facial recognition technology brings up the passenger's biographic information that can be used by the inspecting officer. [14]

In 2016, CBP began a similar pilot program to use facial technology to collect biometric *exit* data. In this pilot of a technology called the Traveler Verification Service (TVS), CBP cameras capture images of travelers as they moved through the departure gate and compare the live images with a "gallery" of existing images of the travelers listed on the airline's passenger manifest. [15] CBP expanded this pilot program for exit data from one airport to eight in 2017 and then to 15 in 2018. In this timeframe, CBP also began a new phase of the trial in which it allowed airline cameras to connect to the government database to facilitate the matching service. As of November 2020, the process was being piloted at 20 airports around the U.S.[16]

In a November 2020 proposed regulation, DHS sought to make these pilot programs permanent policy, and it provided a timeline to progress with a permanent biometric entry-exit system. In the proposed rule, DHS estimated that facial recognition-based biometric entry-exit system "can be fully implemented at all commercial airports of entry within the next three to five years."[17] No estimates are provided for the implementation of such a system at all land, sea, or private air departure sites. The rule has still not yet been formally implemented.

Storing Records and Taking Action Against Overstays

Both biographic and biometric arrival and departure information for all foreign nationals is collected in a computer system called the Arrival and Departure Information System (ADIS). ADIS aggregates data from multiple border crossing and immigration systems, including those operated by CBP, ICE, and USCIS. ADIS uses this data to generate daily lists of persons suspected of staying beyond their period of authorized admission.[18] The records of individuals on these lists are then cross-checked with other government databases to identify whether they have left, including examining whether certain individuals changed their immigration status.

Many travelers who have been flagged as overstayers have already left the country but did so beyond the term of their permitted stay. These travelers may lose eligibility for the Visa Waiver Program, they may have their visa invalidated, or, depending on the length of their overstay, may be subject to a three- or ten-year bar to re-entry.[19]

Records of individuals who are suspected to have overstayed and are believed by ADIS to currently be in the U.S. may be subject to further investigation. ICE prioritizes potential overstays for investigation based on whether the individuals in question are identified as potential national security or public safety threats. ADIS sends over 1 million potential overstays

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[14] Department of Homeland Security, "Privacy Impact Statement for the Traveler Verification Service," November 14, 2018, https://www.dhs.gov/sites/default/files/publications/privacy-pia-cbp030-tvs-november2018_2.pdf.

[15] DHS, *Privacy Impact Statement, Traveler Verification Service*, 2.

[16] Department of Homeland Security, "Notice of Proposed Rulemaking: Collection of Biometric Data From Aliens Upon Entry to and Departure From the United States," November 19, 2020, https://www.federalregister.gov/documents/2020/11/19/2020-24707/collection-of-biometric-data-from-aliens-upon-entry-to-and-departure-from-the-united-states

[17] DHS, *Collection of Biometric Data*, FR 74164

[18] Department of Homeland Security, "Arrival and Departure Information System — Information Sharing Update," March 7, 2014, https://www.dhs.gov/sites/default/files/publications/privacy-pia-cpb-adis-update-20140305.pdf

[19] DHS, *Fiscal Year 2018 Entry/Exit Report*, 8.

each year for ICE to review, but under 10,000 of those leads actually result in an investigation, with only a small fraction of those leading to arrests.[20]

III.   Why Is Implementation Taking So Long?

In the 26 years since an entry-exit was first required, CBP has faced — and continues to face — numerous challenges with implementation. These challenges include inadequate infrastructure, logistical roadblocks, technical difficulties, bureaucratic inefficiencies, and a lack of funding.

The government has repeatedly encountered a lack of sufficient infrastructure to facilitate the implementation of a comprehensive entry-exit system. A 2017 Government Accountability Office (GAO) audit of years of CBP pilot programs found that longstanding infrastructure problems needed to be addressed before a biometric exit system was realistic.[21] Most ports of entry and exit are simply not built to facilitate a comprehensive tracking system, limitations which are most evident at land ports. Persons entering and exiting by land are traveling using various modes of transportation, including trains, buses, cars, and on foot. CBP does not receive advance notice of many land arrivals and departures, as they might from air or sea carriers, because most land border crossers are using their own vehicle or traveling on foot. Severe processing delays already exist at land ports, driving a need for efficiency that does not comport with a comprehensive tracking system. These factors have contributed significantly to CBP's inability to effectively implement a system that adequately tracks land exits.

But these infrastructure challenges are not limited to land entries and exits. A September 2018 DHS Office of Inspector General report assessed CBP's ability to implement a biometric air exit program at the top 20 U.S. airports for all foreign departures. Through 2017, the report found that daily airline operations played a key role in preventing CBP from reaching its targets. One problem encountered during a 2017 pilot was compressed boarding schedules when an airplane arrived late to its gate or when there was an unexpected gate change. In these cases, airline personnel would dispense with collection of biometric data and allow passengers to board without confirmation through the CBP process. The alternative was customers missing connecting flights or departures, which would disrupt and inconvenience the public and generate significant costs for the airlines.

In addition to these infrastructure and logistical roadblocks, CBP has also for decades run into several technical difficulties implementing the new tracking technologies. For example, a 2006 GAO report found that an early attempt at biometric tracking at land ports called US-VISIT faced rampant computer processing delays and technical problems.[22] In another example, a 2018 OIG report on a biometric air exit tracking pilot program revealed similar challenges. That report found that problems with the system frequently resulted in passengers being bypassed for biometric data collection. At the end of the pilot program, due to these technical shortcomings, CBP had conducted biometric processing for only 22% of the target 2 million passengers.[23] CBP

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[20] Department of Homeland Security, "Comprehensive Strategy for Overstay Enforcement and Deterrence," March 18, 2020, https://www.dhs.gov/sites/default/files/publications/ice_-_comprehensive_strategy_for_overstay_enforcement_and_deterrence.pdf.
[21] Department of Homeland Security, Office of Inspector General, "DHS Tracking of Visas is Hindered by Insufficient Technology," May 1, 2017, https://www.oig.dhs.gov/sites/default/files/assets/2017/OIG-17-56-May17_0.pdf.
[22] GAO, *Border Security: US-Visit Program.*
[23] Department of Homeland Security, Office of Inspector General, "Progress Made but CBP Faces Challenges Implementing a Biometric Capability to Track Air Passenger Departures Nationwide,"

has repeatedly faced these types of technological challenges in the 26 years since Congress first mandated biometric entry-exit system.

Another significant challenge is interoperability. Standing up an entry-exit system requires coordination across a multitude of different agencies, systems, and even governments, which need to work together and share information for the entry-exit system to be effective. Efforts to coordinate across various agencies, systems, and governments has proven to be a significant challenge. ADIS attempts to aggregate data from five separate CBP information systems, an ICE international student tracking system, a USCIS record-keeping system, a National Protection and Programs Directorate (NPPD) system, and data provided in information sharing agreements with Canada and Mexico.[24] Dozens of other databases track data that might be relevant to overstays but are not integrated into ADIS. A May 2017 OIG report found that the lack of data sharing and insufficient technology to integrate information from different agencies significantly hinders effective tracking.[25]

Another challenge is funding. Appropriations bills in 2016 and 2018 established a dedicated funding stream for the entry-exit system by tacking on a surcharge for L-1 and H-1B visa fees. The amount of revenue was capped by Congress at $1 billion, and the surcharge would terminate in 2027. However, revenue from the surcharge has fallen short of projections. Due to a reduction in visa applications, revenue dropped 38 percent during 2017 alone. The COVID-19 pandemic resulted in an additional decline in visa applications in 2020, further impacting revenues. As of September 2020, the revised revenue projection is $240 million short of the $1 billion cap.[26] Even aside from the shortfalls, the structure of this revenue stream is also a problem. Because the collection of fees occurs incrementally over 10 years, CBP has found it challenging to marshal resources for needed lump sum infrastructure investments in in the early years of the entry-exit system.[27] Beyond these challenges, using H-1B and L-1 fees diverts funds away from U.S. Citizenship and Immigration Services (USCIS), an agency responsible for processing numerous immigration applications and benefits that itself is facing significant fiscal challenges.[28]

Further straining federal resources, CBP incorrectly assumed that airlines would purchase the cameras needed to capture passenger images at departure gates. As of the time of the OIG report, airline officials were reluctant to cover these costs, disclaiming responsibility to fund equipment for the federal entry-exit program, effectively placing these costs back onto CBP.

Staffing has also proven to be a significant problem, as airlines similarly have opted not to provide staff to operate the cameras and take photos of departing passengers, after CBP assumed they would. In addition, plans to collaborate with TSA to assist with biometric collection have not yet been implemented, reflecting the broader interoperability challenges that have plagued the whole system. In light of this shortfall, CBP plans to hire additional officers to (among other duties) respond to system problems and to conduct inspections in cases where the Traveler Verification Service (TVS) system fails to match the passenger's photo to a gallery

September 21, 2018, 22-23, https://www.oig.dhs.gov/sites/default/files/assets/2018-09/OIG-18-80-Sep18.pdf.

[24] DHS, *Arrival and Departure Information System,* 2.

[25] DHS OIG, *DHS Tracking of Visa Overstays,* 7.

[26] DHS, *Biometric Entry-Exit H-1B and L-1 Fees*, 2.

[27] DHS, *Comprehensive Entry/Exit Plan*, 22.

[28] Suzanne Monyak, "USCIS director: federal immigration funds 'critical' to agency," Roll Call, February 2, 2022, https://rollcall.com/2022/02/02/uscis-director-federal-immigration-funds-critical-to-agency/.

photo. Yet, even with the additional CBP staffing, the OIG assessed that the staffing plans are likely to be inadequate, based on what was learned from the pilot programs.[29]

Unforeseen staffing shortages have only compounded funding challenges. Given the shortfall in revenue from lower-than-expected L-1 and H-1B application volume, CBP had hoped it would be able to *reduce* the number of additional officers hired from 441 to 148.[30] Instead, it has had to increase staffing to make up for staffing shortfalls arising from airline non-participation and the difficulties in coordinating with TSA.

IV.   The Pros and Cons of Biometric Tracking

While CBP continues to push for the implementation of a biometric entry and exit system, as required repeatedly by statute and regulation, there has been less internal discussion as to whether the potential benefits of a comprehensive biometric tracking system are worth the significant costs and negative externalities associated with it. Benefits of implementing biometric tracking include an improved understanding of visa overstays and an improved ability to locate those who have overstayed their visas. The costs of such a system include the substantial number of taxpayer dollars it requires to implement, as well as privacy concerns. Critics have asserted that the benefits of such a system have been overrated, arguing that the additional efficacy of biometric data over biographic information is limited and noting the negative impact biometric data collection has had on the efficiency of processing at the border.

Benefits

The key benefit of a more comprehensive biometric entry-exit system is the enhanced ability to track overstays. Biometric entry-exit would be a valuable tool in determining which nonimmigrants are violating the terms of their admission to the U.S. This would be helpful in several areas.

First, better tracking of entries and exits generally means improved insight into which groups of individuals are more likely to overstay their visas. DHS relies on overstay data to make determinations about whether nationals from particular countries with low overstay rates should be eligible for the Visa Waiver Program (VWP), or whether others from countries with high rates should face additional restrictions. But without fully implementing biometric entry-exit, the overstay data DHS generates has been found to be faulty and imprecise and the department has faced criticism for relying on it to make these determinations. A more effective tracking system would lead to better, more accurate data that would be better suited for making these VWP determinations.

ICE would be better situated to investigate visa fraud and penalize visa overstayers if a biometric entry-exit tracking system was implemented. According to a 2019 Center for Migration Studies report, visa overstayers make up as much as 62% of the total unauthorized immigrant population in the U.S. In addition, number of visa overstays significantly exceeded the number of unauthorized crossings at the U.S.-Mexico border for each year between 2010 and 2017.[31] These are not rare occurrences, and better entry-exit tracking would reduce false leads for ICE officers to investigate, as current inadequacies frequently result in targets that have already

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[29] Office of Inspector General, *Progress Made*, 25-26.

[30] Department of Homeland Security, *Biometric Entry-Exit H-1B and L-1* Fees, ii.

[31] Robert Warren, "US Undocumented Population Continued to Fall from 2016 to 2017 and Visa Overstays Significantly Exceeded Illegal Crossings for the Seventh Consecutive Year," *Journal on Migration and Human Security* Vol. 7, no. 1 (March 2019): 19–22. doi:10.1177/2331502419830339.

adjusted status or departed the country.[32] It would also more accurately identify persons for whom admission should be denied in the future due to breaching the terms of their status.

A comprehensive entry-exit system also yields national security benefits. Effective biographic and biometric data collection can help DHS check individuals against law enforcement databases and terrorist watch lists, identifying potential threats more efficiently and preventing them from entering the U.S.[33]

Costs

There are also some notable costs and concerns associated with a biometric tracking system.

One cost of implementing such a system is, of course, the substantial financial investment that is required. A September 2020 DHS expenditure plan for the program — the most recent available — lists estimated costs of continuing to grow biometric entry/exit programs at approximately $530 million from FY 2022 through FY 2027.[34] This amount may be an underestimate, as it assumes airports and other private actors will assume part of the financial burden for planned upgrades and pilot programs, and it does not include costs for all entry and exit sites (only accounting for implementation costs in 20 of 150 international airports, for example).

Another significant cost of implementing a biometric entry-exit system is the impact on efficiency of processing at ports of entry. CBP is charged with the "dual mission of facilitating U.S. travel and securing U.S. borders," and the agency has a responsibility to ensure both are effective.[35] At land ports, processing delays associated with security checks already cost local, state, and national economies billions of dollars and thousands of jobs. According to a February 2021 report from the San Diego Association of Governments, delays at California ports of entry alone cost the region's economy $3.4 billion and up to 88,000 jobs.[36] Implementing additional biometric entry and exit collection mechanisms at these land ports could create negative externalities, including longer wait times and delays. Some of these delays could be eased through building new infrastructure at ports of entry, but this creates additional costs and, temporarily, is likely to lead to further delays during construction.

In addition, the facial-recognition technology now being piloted has raised alarms with some civil rights and privacy groups. According to the Electronic Privacy Information Center (EPIC), the absence of regulation on the collection, retention, dissemination and use of biometric identifiers pose privacy concerns for individuals and to First Amendment rights.[37] In March 2019, Senators Edward Markey (D-Massachusetts) and Mike Lee (R-Utah) echoed these privacy concerns, issuing a statement that objected to the lack of clear limits on the use of facial recognition data and stating that DHS "should pause their efforts until American travelers fully

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[32] DHS OIG, *DHS Tracking of Visa Overstays*, 7-16.
[33] Bipartisan Policy Center, "Entry-Exit System: Progress, Challenges, and Outlook," May 2014, iii, https://bipartisanpolicy.org/report/immigration-entry-exit-system/.
[34] DHS, *Biometric Entry-Exit H-1B and L-1 Fees*, 10-11.
[35] Government Accountability Office, "Facial Recognition: CBP and TSA are Taking Steps to Implement Programs, but CBP Should Address Privacy and System Issues Performance," September 2020, https://gao.gov/products/gao-20-568.
[36] SANDAG, "Impacts of Border Delays at California-Baja California Land Ports of Entry," February 2021, https://www.sandag.org/uploads/publicationid/publicationid_4745_28761.pdf
[37] Electronic Privacy Information Center, "EPIC v. CBP (Biometric Entry/Exit Program)," https://epic.org/foia/dhs/cbp/biometric-entry-exit/default.html.

understand exactly who has access to their facial-recognition data, how long their data will be held, how their information will be safeguarded, and how they can opt out of the program altogether."[38] In June 2021, Senator Markey also joined five other Democratic Senators in introducing the *Facial Recognition and Biometric Technology Moratorium Act*, that would require Congressional consent for any use of facial recognition tools.

A September 2020 GAO report reviewed CBP's implementation of facial recognition technology in 27 airports, finding significant and persistent privacy concerns. The report noted that CBP did not properly inform people about the use or scope of the technology, and that it was not adequately auditing its commercial partners to ensure they were abiding by privacy requirements that had been set out.[39] Concern about lack of safeguards on the government's collection of biometric data were reinforced in June 2019 when CBP suffered a massive data breach in which approximately 184,000 traveler images and license plate images were stolen from the computer network of a subcontractor.[40]

These costs loom particularly large when many of the benefits associated with effective biometric entry-exit tracking may not be as large as once thought. Biographic-only exit data collection has proven effective for matching 97% of arrival records.[41] Also, given ICE's limited capacity, it is unlikely that a comprehensive biometric system would result in a significant number of additional ICE arrests of current visa overstayers. Currently, ICE only investigates a small fraction of leads provided by ADIS.[42] Additionally, biometric tracking may be useful to identify overstays, but it does nothing to enhance the agency's ability to *locate* those individuals.

V.   Recommendations

The benefits of an improved, comprehensive entry-exit system remain clear, but additional action should be targeted to maximize those benefits while minimizing the costs and privacy concerns associated with some pilot programs. Additional actions should include:

1. **Improve funding mechanism and expand funding for entry-exit systems.** Use of USCIS processing fees to fund entry-exit programs diverts funding from USCIS -- an already under-resourced agency that faces significant deficits and backlogs across multiple departments. This funding stream also has proven to be inadequate to fully support to entry-exit programs, with revenue from the fees falling far short of projections. Rather than continuing to rely on these revenue streams for comprehensive entry-exit programs, Congress should appropriate separate funds that allow DHS confidence and flexibility to implement entry-exit programs.

2. **Improve overstay enforcement functions and capabilities.** A system that effectively identifies overstays will not be useful unless we create better systems for enforcing overstays and preventing overstays from occurring in the first place. A special enforcement unit within DHS could improve information sharing about overstays posing

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[38] Ed Markey, "Senators Markey and Lee Call for Transparency on DHS Use of Facial Recognition Technology" (Press Release), March 12, 2019, https://www.markey.senate.gov/news/press-releases/senators-markey-and-lee-call-for-transparency-on-dhs-use-of-facial-recognition-technology.
[39] GAO, *Facial Recognition*, 71-72.
[40] Department of Homeland Security Office of Inspector General, "Review of CBP's Major Cybersecurity Incident During a 2019 Biometric Pilot," September 21, 2020, https://www.oig.dhs.gov/sites/default/files/assets/2020-09/OIG-20-71-Sep20.pdf.
[41] BPC, *Entry-Exit System,* 13.
[42] DHS, *Comprehensive Strategy for Overstay Enforcement*, 9-10.

particular risks to public safety. This could include focusing additional resources on effectively communicating with individuals about their impending lack of legal status — encouraging them to remedy their status or leave the country before physical enforcement is required. Programs already exist to notify international students and VWP participants as they approach the end of their status.[43]

3. **Invest in pilot programs at land ports of entry.** Ports of entry along our land borders are already in major need of reform and modernization. The multiple ongoing infrastructure projects aimed at upgrading land ports of entry present an opportunity to improve biometric and biographic screening of arriving and exiting individuals. Ongoing and planned pilot programs should continue at air and seaports, but additional programming for land exits is a particular need and should receive particular emphasis.

4. **Create new, tougher safeguards on privacy.** Collection of biometric information — including use of facial recognition technology — will remain a key component of our entry-exit system. However, the Biden administration and Congress should work to establish privacy safeguards that require all programs to honor fundamental principles like data quality and integrity, security, accountability, and purpose specification, in line with DHS's Fair Information Practice Principles.[44]

5. **Monitor costs and benefits.** The federal government should not forge ahead with programs that are ineffective or overly costly. All pilot programs relating to entry-exit systems should include reporting requirements that include clear metrics indicating success or failure, such as improvement in match-rate, processing efficiency, or impact on overstays. DHS should continuously monitor the quality of the entry-exit system to determine where improvements are most needed and where they are no longer necessary.

VI.   Conclusion

For more than two-and-a-half decades, CBP has worked towards the implementation of a comprehensive entry-exit tracing system. While initially the agency's mandate referred only to biographic data collection, the task soon required compiling travelers' biometric data, first using fingerprints and then slowly transitioning to facial recognition technology.

In that time, CBP has set up a system which aggregates data from numerous different agencies and includes the collection of robust biometric entry data. Nearly every nonimmigrant entering the U.S. is subject to biometric screening and the exit data the agency collects matches over 97% of arrival records. The system helps identify national security threats at our border and alerts ICE to potential visa overstays.

But even after all this time, CBP remains years away from a comprehensive biometric entry-exit system. Challenges persist related to funding, technical difficulties, interoperability issues, and inadequate infrastructure. Implementing comprehensive biometric exit tracking remains particularly challenging.

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[43] DHS, *Fiscal Year 2018 Entry/Exit Report*, 9
[44] Department of Homeland Security, "The Fair Information Practice Principles," 2008, https://www.dhs.gov/publication/privacy-policy-guidance-memorandum-2008-01-fair-information-practice-principles.

To address these challenges and carry out these longstanding federal mandates, Congress and the administration should find new funding streams to carry out pilot programs at land ports of entry, work to improve privacy safeguards and smart overstay enforcement functions, and carefully monitor progress to maximize benefits while minimizing costs.