



Biometric Entry-Exit H-1B and L-1 Fees Spend Plan

September 13, 2019

Fiscal Year 2019 Report to Congress



**Homeland
Security**

U.S. Customs and Border Protection

Message from the Deputy Commissioner of CBP

September 13, 2019

I am pleased to submit the following “Biometric Entry-Exit H-1B and L-1 Fees Spend Plan,” which has been prepared by U.S. Customs and Border Protection (CBP).

The report has been compiled pursuant to the language set forth in Senate Report 115-283, which accompanies the Fiscal Year (FY) 2019 Department of Homeland Security (DHS) Appropriations Act (P.L. 116-6).

The report provides a detailed expenditure plan for biometric air entry-exit activities, which outlines how innovative technology and effective collaboration with airports and airlines will minimize the need for additional CBP staffing. This report also provides a spend plan for the H-1B and L-1 fees and other resources being applied to exit implementation in FY 2019 and FY 2020.



Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable Lucille Roybal-Allard
Chairwoman, House Appropriations Subcommittee on Homeland Security

The Honorable Chuck Fleischmann
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable Shelley Moore Capito
Chairman, Senate Appropriations Subcommittee on Homeland Security

The Honorable Jon Tester
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

I would be pleased to respond to any questions you may have. Please do not hesitate to contact my office at (202) 344-2001.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Perez", written over a circular stamp or seal.

Robert E. Perez
Deputy Commissioner
U.S. Customs and Border Protection

Executive Summary

The 9/11 Commission stated that “a biometric entry-exit system is an essential investment in national security.”¹ This Biometric Entry-Exit H-1B and L-1 Fees Spend Plan describes estimates to expend funds authorized by the FY 2016 DHS Appropriations Act (P.L. 114-113), which allows up to \$1 billion over a period of 10 years, for the implementation of a Biometric Entry-Exit Program.

This spend plan is based on a projection for all 10 years of the H-1B and L-1 fee fund. CBP’s primary focus in FY 2017 and FY 2018 was to develop the back-end infrastructure for biometric entry-exit. Although the Congressional Budget Office originally estimated an annual fee collection of \$115 million per year, actual collections have been lower than expected each year since FY 2016 and have continued to decline. Estimates for FY 2019 fee collections are \$55 million to \$60 million. At an estimated \$60 million in collections per year going forward, the Biometric Entry-Exit Program would be approximately \$240 million short of the \$1 billion authorized through FY 2027. Despite the decrease, however, the Biometric Entry-Exit team has managed the program within budget and without operational impact to date. Nevertheless, should the reduction continue and not be rectified in the future, operations may be affected to include staffing and expansion to sea and land environments.

CBP’s Biometric Entry-Exit Program has developed a biometric matching service that allows biometric exit to be integrated seamlessly into current airport operations. The back-end infrastructure is fully scalable for nationwide deployment. Partnership with the airlines has maximized the use of the fee funds for this development while allowing airports and airlines to select biometric collection equipment that meets their specific needs. CBP’s partnership with airlines, airports, and other industry stakeholders is essential to successful implementation of a nationwide biometric entry-exit system.

CBP originally identified a staffing requirement of 441 CBP officers to optimize outbound enforcement support for the Biometric Entry-Exit Program. However, because of the unexpected fee reductions since 2016, CBP has eliminated the funding of CBP officers from the spend plan in order to develop, operate, and maintain all non-officer requirements of the Biometric Entry-Exit Program. CBP has added this CBP officer requirement to the Workload Staffing Model.

CBP intends to update the spend plan annually on the basis of fees collected per year and the refined deployment schedule of biometric entry-exit capabilities at airports. CBP will continue to assess the program as deployed to recognize operational and technical efficiencies that can lower the overall cost of the program. The legislation that authorized collection of this fee originally was set for expiration in FY 2025; this date has changed to FY 2027. The current spend plan reflects cost through FY 2025. A long-term funding solution is required to cover operations and maintenance and technology refresh of the solution beyond FY 2027.

¹ National Commission on Terrorist Attacks Upon the United States (9/11 Commission Report), p. 389.



Biometric Entry-Exit H-1B and L-1 Fees Spend Plan

Table of Contents

I.	Legislative Language.....	1
II.	Background.....	2
III.	Discussion.....	4
	A. Scope.....	4
	B. CBP’s Biometric Entry-Exit Vision for Air	5
	C. Cost Elements and Assumptions.....	6
	1. IT Investment.....	6
	2. Entry-Exit Network Upgrade Costs.....	6
	3. Entry Device Upgrades and Infrastructure Costs	7
	4. Entry Applications.....	7
	D. Programmatic and Operational Support	8
	1. Program Management	8
	2. Communications.....	8
	E. Technology Innovation Costs	9
	F. CBP Officers.....	9
IV.	Spend Plan Estimate	10
	Spend Plan Assumptions:	11
V.	Conclusion	12
	Appendix – List of Acronyms.....	13

I. Legislative Language

This document was compiled pursuant to the legislative language set forth in Senate Report 115-283, which accompanies the Fiscal Year (FY) 2019 Department of Homeland Security (DHS) Appropriations Act (P.L. 116-6).

Senate Report 115-283 states:

The Department is directed to provide a spend plan for H-1B and L-1 fee revenues and any other resources being applied to biometric exit implementation not later than 30 days after the date of enactment of this act.

II. Background

The U.S. Customs and Border Protection (CBP) Office of Field Operations (OFO) developed a long-term strategy to implement a comprehensive biometric entry-exit solution. On the basis of the new funding authorized under the FY 2016 DHS Appropriations Act (P.L. 114-113), OFO established a program of record (PoR) for the Biometric Entry-Exit Program in FY 2018. As a part of the PoR, OFO completed program artifacts, which documented concepts of operations and operational requirements for the comprehensive biometric entry-exit solution. These concepts and requirements are informed by CBP's past and ongoing market research, including findings from biometric experiments² conducted to date and partnership with the DHS Science and Technology Directorate. The initial focus of the program is to implement the Biometric Air Exit segment of the program; however, the program scope has expanded to cover all travel modes.

CBP's long-term vision for seamless end-to-end travel leverages a traveler's face to streamline identity confirmation and to replace repetitive manual checks of paper documentation. To achieve that vision, CBP built an innovative facial comparison service. This robust, cloud-based service leverages existing advance passenger information to create a prepopulated "gallery" of face images from U.S. Government holdings. These photographs can come from passport applications, visa applications, or interactions with CBP at a prior border encounter where CBP typically takes a photograph. The facial comparison service compares a live photo of the traveler to the gallery of face images to identify the traveler biometrically and to enable CBP to confirm and expedite the traveler's arrival or departure. This expansive back-end infrastructure currently can handle all arriving and departing flights and is fully scaled to support a nationwide biometric entry-exit solution.

CBP's partnership with airlines, airports, and other industry stakeholders is critical to accomplish implementation of a nationwide biometric entry-exit system, and CBP is committed to a process that meets the needs of all public and private stakeholders. If CBP were to deploy a government-only solution, cumbersome layers would be added to existing travel processes, which would have adverse effects on travel as a whole. Instead, CBP is partnering with air industry stakeholders to complete the biometric entry-exit system while simultaneously facilitating legitimate trade and travel. Partnerships with airlines and airports have demonstrated significant benefits including faster boarding times, enhanced customer experience, and improved utilization of CBP staff. CBP is committed to working with its travel industry partners to transform the travel process and to enhance the passenger experience. CBP's goal is to ensure a seamless, secure travel experience for everyone.

As of July 2019, the Biometric Entry-Exit Program has completed 27 commitments to Biometric Exit from airlines and airport partners. Airports and airlines have invested in biometric collection equipment at 20 locations and now are using CBP's biometric comparison service to

² Experiments have included Biometric Exit Mobile, Pedestrian Biometric Exit, 1-to-1 Face Comparison, and Atlanta Departure Information System Test, among others.

perform biometric exit processing. CBP will facilitate additional commitments with other major international airports and airlines, and will continue to support current partners as they expand.

The Biometric Air Entry segment of the program also has seen significant updates. On the basis of the success of the Biometric Air Exit segment using facial comparison, CBP has developed a facial comparison entry process. This updated entry process makes the inspection process more efficient and improves the throughput of travelers arriving in the United States. By virtually eliminating the administrative tasks involved in scanning a travel document and recollecting fingerprints from returning visitors, CBP can devote more resources to interviewing a traveler to determine his or her admissibility. Additionally, the use of facial comparison results in better security by reducing the imposter threat. Since implementation of the new facial comparison entry process, CBP officers successfully have intercepted seven imposters in the airport environment who then were denied admission to the United States. As of July 2019, CBP officers at 15 locations, including 4 preclearance locations, now have leveraged facial comparison on more than 13.6 million entry passengers on more than 169,000 arriving flights.

III. Discussion

In 2016, Congress funded the Biometric Entry-Exit Program through up to \$1 billion in fees, collected by U.S. Citizenship and Immigration Services (USCIS), on H-1B and L-1 applications through FY 2027.³ The Congressional Budget Office initially estimated an annual fee collection for the fees dedicated to Biometric Exit of \$115 million per year. This estimate indicated that fee collections would provide enough funding to reach the congressional authorization of \$1 billion prior to the FY 2027 end-date. CBP determined that \$1 billion in fee collections would allow CBP to deploy and maintain full biometric air entry and exit operations through the end of FY 2027, as well as conduct some biometric pilot operations in the land and sea environments. At this time, the biometric fee account will continue to be underfunded for several years and may not reach the \$1 billion cap by 2027.

Since inception, the fees collected by USCIS have fallen short of the Congressional Budget Office projections and also have decreased each year since 2016. The lower-than-projected collection of fees is a result of a narrow interpretation of the fee statute. Estimates for FY 2019 fee collections are \$55 million to \$60 million. At an estimated \$60 million in collections per year going forward, the Biometric Entry-Exit Program would be approximately \$240 million short of the \$1 billion authorized through FY 2027.

The spend plan, which is based on updated future-year estimates as of July 2019, represents actuals through FY 2019 and factors in the program lifecycle cost estimate (LCCE) updates. A full LCCE is completed and updated, at least annually, as part of the Biometric Entry-Exit PoR. CBP's focus is on the air environment with continued pilot projects for sea and land operational environments. This spend plan does not include funding details for the expected expansion of biometric capabilities to sea and land ports of entry.

A. Scope

This document describes each of the cost elements required to continue implementation of the biometric air exit solution and the integration of biometric devices and applications in the air entry environment. While covering 10 years, this document focuses primarily on the next 2 years because those costs can be estimated with the most fidelity:

- **Information Technology (IT) Investment**, to include network and infrastructure costs, as well as upgrades or creation of entry and exit applications to support biometric entry-exit data collection;
- **Programmatic and Operational Support**, to include costs for management of the program, including acquisition, stakeholder management, and communications; and
- **Technology Innovation**, to continue furthering biometric entry-exit in the air, land, and sea environments.

³ P.L. 114-113 was originally in effect until September 20, 2025, but was amended to extend the end date to 2027. See 49 U.S.C 40101.

B. CBP's Biometric Entry-Exit Vision for Air

Working in partnership with the air travel industry, CBP is leading the transformation of air travel using biometrics as the key to enhancing security and unlocking benefits that dramatically improve the entire traveler experience. CBP is working toward full implementation of biometric exit in the air environment to account for more than 97 percent of departing commercial air travelers from the United States. CBP envisions that facial comparison can automate manual processes for many of the routine aspects of airline travel. Ultimately, this will make air travel more convenient and easier for travelers while simultaneously making it more secure. Facial comparison also reinforces identity checks at multiple stages in the traveler journey while meeting the Biometric Exit mandate.

A comprehensive system that leverages both biographic and biometric data is key to supporting CBP's mission. Adding biometrics provides greater assurance of the accuracy of information already collected by CBP and will allow for future facilitated processing upon both entry and exit. CBP will use facial comparison technology as the primary way of comparing travelers to their travel document and facilitating their entry to and exit from the United States. Benefits of facial comparison include faster boarding times, enhanced customer service, improved utilization of CBP staffing, and faster flight clearance times on arrival.

Despite advancements in facial comparison technology, fingerprints remain a foundational aspect of CBP's biometric system. Because fingerprint scans have proven to be an effective law enforcement tool, CBP will continue to capture fingerprints as the initial identification biometric during first-time encounters for certain foreign nationals. This will enable CBP to continue to leverage fingerprints for watchlist checks.

The CBP biometric air entry and exit solution utilizes facial comparison to streamline passenger processes throughout the air travel continuum. A facial comparison process at the time of boarding provides airport and airline entities with the opportunity to provide a convenient way for in-scope foreign nationals⁴ to meet their exit requirement utilizing existing information systems and available data. CBP's system offers a facial comparison service at no cost to airline and airport partners, whose investment in biometric collection devices replaces manual identification of traveler identification and boarding passes. CBP currently is supporting pilots including biometric check-in, baggage drop, Transportation Security Administration document checks, self-boarding gates, and other equipment. This system ultimately enables a biometric-based entry-exit system to provide significant benefits to private-sector air travel partners, in addition to establishing a biometric air exit system for the government.

⁴ An "in-scope" traveler is any person who is required by law to provide biometrics upon exit from the United States, pursuant to 8 CFR 235.1(f)(ii)

C. Cost Elements and Assumptions

1. IT Investment

CBP has built the system to support biometric entry-exit that is fully scalable to support international air entry and exit nationwide, with cost estimates at the top 20 airports.

Scalable Infrastructure and System Maintenance

CBP has built a biometric matching service that facilitates investment in biometric collection hardware and software by airlines, airports, or other stakeholders. CBP has the capacity to support increased usage of the CBP biometric matching service as more airlines participate. Costs associated with operating and maintaining the service under current requirements include the cost of monitoring the health of the application, troubleshooting software and system-related issues, fixing software defects, and performance testing and management of system interoperability. Additional test, evaluation, and monitoring for matching algorithm performance is captured within this cost. System maintenance also includes the integration of other transportation modes and applications into the system as they are deployed, developing and testing innovative concepts to facilitate biometric operations, enhancing disaster recovery, and upgrading infrastructure over time.

Estimated IT Investment Cost	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total*
Phase III - Scalable Infrastructure and Systems Maintenance	\$0.00M	\$4.75M	\$22.03M	\$22.44M	\$20.26M	\$20.49M	\$20.90M	\$21.34M	\$21.81M	\$154.01M

*Total may not add correctly due to rounding.

2. Entry-Exit Network Upgrade Costs

CBP began implementing the necessary network infrastructure at the top 20 airports starting in FY 2017 to support biometric entry-exit. To increase the quality of biometrics at entry, CBP has included costs to upgrade entry networks at airports; these networks will support the additional bandwidth requirements needed for enhanced multimodal biometrics collection and processing during entry transactions.

The following table summarizes the cost elements and assumptions for the top 20 international airport sites.

ELEMENT	COST	DESCRIPTION
Entry-Exit Network Installations	~\$140,000 per terminal or site	Each airport where CBP processes foreign arrivals requires network upgrades to support the additional bandwidth for the collection of multimodal biometrics. The cost includes site survey and design costs as well as installation. Currently, at most airports where CBP processes international travelers, CBP does not have a network presence at the departure gates and terminal. This cost is to install and maintain a network infrastructure to support the connection to the CBP network where public Wi-Fi or cellular services are not available. CBP found that installing “as a service” networks are more cost-effective and provide a more consistent budget allocation year over year. The installation may be wireless or wired. CBP will implement CBP Wi-Fi where cellular network is not sufficient to support CBP officers.

Additionally, operating costs for entry-exit networks include providing network operations center support. The total cost to upgrade, install, and maintain network services to all departure gates and entry lanes is estimated at \$97.35 million through FY 2025. This will support CBP officers’ mobile presence and will help to facilitate processing and potential enforcement actions.

3. Entry Device Upgrades and Infrastructure Costs

In addition to upgrading the biometric exit environment, CBP will provide necessary entry upgrades at the top 20 airports to facilitate biometric exit operations. The entry device upgrades include entry network cameras and fingerprint devices to ensure the high-quality capture of biometrics that can be used to facilitate a higher success rate of matching in both the entry and exit environments. Network cameras will facilitate a hands-off, less administrative process for CBP officers and will allow officers to focus on purpose and intent, as well as to facilitate lawful travelers further through the CBP process.

ELEMENT	COST	DESCRIPTION
Entry Lane Device Upgrade	\$15,200 per entry lane	Each entry lane will require new multimodal biometric hardware to be procured and installed. New e-Passport readers, fingerprint scanners, and network cameras are included in this cost. The estimated cost per lane includes site survey, site design, procurement, and shipment and installation of all specialized equipment needed to perform biometric processing.

Total costs for entry upgrades through FY 2025 in this spend plan are estimated at \$24.03 million.

4. Entry Applications

To support the collection and verification of multimodal biometrics, existing CBP entry applications require upgrades to support new device interfaces, transmission of biometric data, and verification of biometric data. In FY 2019, the Simplified Arrival application supports automated photo capture. The application will work in any platform (desktop, tablet, phone, etc.). The costs associated with the entry applications include development, testing, training, and security. Estimated outyear costs include the cost to maintain change requests to the

applications. Estimates are based on prior work efforts modifying CBP primary applications and current requirements.

Estimated IT Investment Cost	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Entry Application	\$4.31M	\$12.72M	\$10.65M	\$9.10M	\$9.35M	\$9.54M	\$9.73M	\$9.92M	\$9.92M	\$85.24M

Operations and maintenance (O&M) of these applications include performance monitoring to identify and resolve risks prior to negative impact on mission performance. O&M costs also includes tier two and three support for any deficiencies or outages and provide system engineering, testing, and production training. O&M costs are evaluated annually and revised on the basis of performance and evolving requirements.

D. Programmatic and Operational Support

1. Program Management

Program management support will be required over the lifecycle of the Biometric Entry-Exit Program. The program management costs are made up of government full-time equivalents and contractor support. The program management office is responsible for the Biometric Entry-Exit Program operations including upholding standards; maintaining and establishing public and private partnerships; coordinating integration of the biometric entry-exit solution; addressing the privacy, legal, and regulatory challenges of implementing a biometric entry-exit solution; monitoring performance; and reporting.

Contractor support costs for program management also are included in the overall estimate for program management services. In the initial years of the program, the total cost allocated for program management support from contractors is higher than in outyears to support the acquisition and program management documentation, oversight, requirements, deployment, and test and evaluation. Contract support staff will drop off as the program reaches O&M status because this is the natural progression of contract support services. The table below provides the annual programmatic and IT costs that will fund contract services.

Contractor Support Costs	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Program Management Costs	\$20.14M	\$13.66M	\$12.41M	\$9.77M	\$7.00M	\$6.62M	\$5.04M	\$5.20M	\$5.34M	\$85.18M

2. Communications

Communications will consist of both national and local outreach for biometric entry-exit to educate travelers. Additionally, resources will be required to work with travel authorities such as airports and airlines to ensure that biometric entry-exit solutions are integrated with existing travel processes. Estimated costs for communications and outreach are based on programs of similar size and complexity, such as the Western Hemisphere Travel Initiative (WHTI)/Land Border Integration (LBI).

The communications and outreach costs include a communications team to support the overall planning and national implementation of the program. The communications team will be responsible for developing an overall media and marketing plan for the industry and travelers, producing materials, and establishing and maintaining a communications website. These costs are largely front-loaded in the early years of the program because of the planning and educational requirements as the program matures. These costs are reduced greatly in the outyears and serve primarily as a maintenance function as stakeholders’ knowledge of the program increases. An additional budget of \$250,000 per airport for onsite and local communications and outreach was estimated for each airport in the year that it is deployed.

Communications Costs	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Communication Team	\$1.25M	\$0.60M	\$2.84M	\$2.86M	\$2.65M	\$2.30M	\$1.54M	\$0.78M	\$0.79M	\$15.61M
Local Communication and Outreach		\$0.50M	\$1.00M	\$1.00M	\$1.00M	\$0.50M	\$0.50M	\$0.50M	\$0.00M	\$5.00M
Website		\$0.25M	\$0.13M	\$0.06M	\$0.06M	\$0.07M	\$0.07M	\$0.07M	\$0.07M	\$0.78M
Total	\$1.25M	\$1.35M	\$3.97M	\$3.92M	\$3.71M	\$2.87M	\$2.11M	\$1.35M	\$0.86M	\$21.39M

E. Technology Innovation Costs

CBP will continue to conduct biometric entry and exit innovation tests in air, land, and sea operational environments to implement CBP’s strategic vision fully. CBP will work with stakeholders to implement these tests. CBP will perform operational pilots of new and emerging technologies, which could facilitate biometric entry-exit. The cost of the pilots might include hardware, software, deployment, and operations, but costs, if any, will vary by the type of test. CBP utilized historical cost data from previous biometric entry-exit pilots for the estimate. The following table provides the number of pilots per year, in addition to costs to facilitate and enhance data exchange with bordering countries.

Innovation Pilot Cost	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Pilots Per Year	5	4	5	4	2	2	2	2	2
Cost	\$10.20 M	\$6.68 M	\$7.97 M	\$6.37 M	\$3.19 M				

F. CBP Officers

CBP currently performs watchlist vetting of departing travelers. On the basis of law enforcement information, CBP must respond to watchlist hits identified such as wants and warrants, and those travelers unlawfully present in the United States without inspection. An additional 441 CBP officers are required to perform this additional enforcement work nationwide. This increased workload originally was supported by the Biometric Entry-Exit Fee authorization, but because of the decline of that fee (see page 4), CBP has moved the officer staffing to the overall unmet requirement in the Workload Staffing Model.

IV. Spend Plan Estimate

The Biometric Entry-Exit Program has developed a biometric matching service that allows biometric exit to be integrated seamlessly into current airport operations. The back-end infrastructure is fully scalable for nationwide deployment. The partnership with the airlines has maximized the use of the fee funds for this development while allowing airports and airlines to select biometric collection equipment that meets their specific needs. This ensures a simple and integrated exit process for travelers. The CBP system leverages a cloud hosting environment, minimizing cost because database management is handled through services rather than through onsite personnel. In addition, the program management support team has adhered to and met all privacy and security requirements.

In developing the facial comparison system, CBP implemented a privacy-by-design approach to ensure that CBP embedded data protection into its use of facial comparison technology. CBP employs four primary safeguards to secure data: secure storage, a short retention period, irreversible biometric templates, and secure encryption during data storage and transfer. Additionally, CBP has a rigorous process in place to review data and metrics associated with biometric facial comparison-matching performance. The program also is undergoing thorough cybersecurity testing to optimize system integrity and penetration testing to ensure protection of personally identifiable information.

The chart on the next page presents the spend plan estimate to deploy the biometric entry-exit capability at the top 20 airports, based on the anticipated fee funding level of \$619 million. All nonlabor requirements are projected to be affordable under the current funding estimates from fee collections. Because H-1B and L-1 fee collections are expected to be significantly lower than the \$1.0 billion envisioned when the fee was enacted, CBP is focusing on program and system development.

The final deployment schedule will be dependent upon the completion of public and private partnerships.

Section A on the next page shows the overall spend plan to utilize the \$619 million in fee funding through the end of 2025. The funding is applied to technical investment, programmatic and operational support, and technology innovation to provide biometric entry-exit capabilities at the top 20 airports.

Top 20 Airports – Spend Plan Based on Current Funding Estimates

	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Estimated Fee Funding Per Year	\$140.74 M	\$59.52 M	\$60.00 M	\$60.00 M	\$60.00 M	\$60.00 M	\$60.00 M	\$60.00 M	\$60.00 M	\$620.26 M
Estimated Carry-over Funding from Previous Year	\$0.00 M	\$70.08 M	\$53.20 M	\$30.85 M	\$11.69 M	\$8.22 M	\$5.44 M	\$4.27 M	\$2.94 M	
Total Funding Available	\$140.74 M	\$129.60 M	\$113.20 M	\$90.85 M	\$71.69 M	\$68.22 M	\$65.44 M	\$64.27 M	\$62.94 M	\$620.26 M
IT Investment (Non-Recurring and O&M)	\$35.05 M	\$53.76 M	\$32.68 M	\$31.54 M	\$29.61 M	\$30.02 M	\$30.63 M	\$31.26 M	\$31.74 M	\$306.28 M
Phase I - Operationalize Departure Information Systems	\$0.43 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.43 M
Phase II - Build Enterprise Services and End-State Biometric Exit solution	\$30.31 M	\$36.29 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$66.59 M
Phase III - Scalable Infrastructure and System Maintenance	\$0.00 M	\$4.75 M	\$22.03 M	\$22.44 M	\$20.26 M	\$20.49 M	\$20.90 M	\$21.34 M	\$21.81 M	\$154.01 M
Entry Applications w/O&M	\$4.31 M	\$12.72 M	\$10.65 M	\$9.10 M	\$9.35 M	\$9.54 M	\$9.73 M	\$9.92 M	\$9.92 M	\$85.24 M
Programmatic and Operational Support	\$21.39 M	\$15.00 M	\$16.37 M	\$13.70 M	\$10.71 M	\$9.48 M	\$7.15 M	\$6.55 M	\$6.21 M	\$106.56 M
Program Management	\$20.14 M	\$13.66 M	\$12.41 M	\$9.77 M	\$7.00 M	\$6.62 M	\$5.04 M	\$5.20 M	\$5.34 M	\$85.17 M
Communications and Stakeholder Management	\$1.25 M	\$1.35 M	\$3.96 M	\$3.93 M	\$3.71 M	\$2.86 M	\$2.11 M	\$1.35 M	\$0.87 M	\$21.39 M
Technology Innovation Costs	\$10.20 M	\$6.68 M	\$7.97 M	\$6.37 M	\$3.19 M	\$47.16 M				
Site Deployments: Top 20 airports	\$4.03 M	\$0.95 M	\$25.33 M	\$27.55 M	\$19.97 M	\$20.09 M	\$20.21 M	\$20.33 M	\$20.33 M	\$158.78 M
Entry Booth Infrastructure Upgrades	\$3.64 M	\$0.00 M	\$9.19 M	\$8.19 M	\$0.60 M	\$24.03 M				
Entry/Exit Network Upgrades - terminal + gates (w/O&M)	\$0.39 M	\$0.89 M	\$13.29 M	\$13.85 M	\$13.76 M	\$13.78 M	\$13.79 M	\$13.81 M	\$13.81 M	\$97.35 M
Exit Gate Equipment - (Public/Private Partnership)	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M	\$0.00 M
Site Operations and Maintenance	\$0.00 M	\$0.07 M	\$2.85 M	\$5.51 M	\$5.61 M	\$5.71 M	\$5.82 M	\$5.92 M	\$5.92 M	\$37.40 M
Total Programmatic and IT Investment	\$70.66 M	\$76.40 M	\$82.34 M	\$79.16 M	\$63.47 M	\$62.78 M	\$61.17 M	\$61.33 M	\$61.46 M	\$618.78 M
Funding Remaining	\$70.08 M	\$53.20 M	\$30.85 M	\$11.69 M	\$8.22 M	\$5.44 M	\$4.27 M	\$2.94 M	\$1.48 M	\$1.48 M

* The above numbers represent multiple cost factors that are rounded to the nearest ten thousands' place. The calculations in this table are based on the actual unrounded numbers. Any marginal discrepancies in the summation of numbers in this table represent the variance between the rounded and actual numbers.

Spend Plan Assumptions:

- When the H-1B and L-1 fee was enacted for the CBP Biometric Entry-Exit Program, a funding level of approximately \$1 billion was estimated. The spend plan now reflects a figure that is 38 percent lower at \$619 million. The current spend plan is based on an estimate of a \$619 million overall program budget through FY 2025, which does not allow fee funds to support CBP officers for the program. This spend plan does not reflect the full current LCCE of the entire program, which represents the full requirements, not constrained by funding limits. The spend plan only pertains to those areas of the LCCE that will be funded with Biometric Fee funds.
- The current fee-collection forecasts estimate that funding will accumulate at \$60 million per year from FY 2019 to FY 2025, with actual collection levels being used for FY 2016, FY 2017, and FY 2018.
- The \$619 million is applied to IT investment, programmatic and operational support, and technology innovation to provide biometric entry-exit capabilities at the top 20 airports.
- Deployment of exit capability to airports will require public and private partnerships.
- Airlines and airports will provide the front-end camera devices at departure gates and will rely upon their own business relationships with travelers to capture and submit biometrics to the CBP back-end system for verification.

V. Conclusion

Development of a biometric exit system has been a significant challenge because of funding and infrastructure limitations in all environments. U.S. ports of entry were never designed for any kind of departure control. Although biometric entry collection was implemented in 2004, only limited progress toward biometric exit implementation was made until this was transferred to CBP in 2013. Until very recently, there was significant private-sector opposition to deployment of biometric exit because of fears that it would hinder an already complicated and harried travel process.

CBP took a different approach to solving the challenges associated with biometric exit implementation and recognized that the path to successful implementation was through partnership and collaboration with airports and airlines. In partnership with airports and airlines, CBP devised a “tokenless” facial comparison solution, eliminating the step of having first to “read” or handle the passports physically. This resulted in an exit solution that is flexible and feasible with minimal hardware requirements. CBP was also able to leverage facial comparison technology while simultaneously running fingerprints against watchlists.

CBP has used the Biometric Entry-Exit H-1B and L-1 Fee authorized by Congress to build the back-end infrastructure and to provide programmatic and operational support to enable biometric entry-exit at the top 20 airports, which are used by greater than 97 percent of departing commercial air travelers. Beginning in FY 2018, CBP has enabled airlines and airport authorities to plug into the CBP back-end infrastructure. As airlines and airports deploy biometric capture devices, CBP intends to continue to provide CBP officers to respond to law enforcement alerts and as well as to new exceptions generated by the biometric exit solution.

CBP will continue to explore opportunities to partner with airports and airlines to integrate facial comparison into travel processes to benefit both facilitation and national security. As CBP continues to look for efficiencies through partnerships and other transformation initiatives, CBP will consider other long-term solutions that would cover the cost of the biometric entry-exit program, including officer staff, O&M, and technology refresh of the solutions into the future. In the coming years, CBP will achieve the 9/11 Commission’s mandate to complete a biometric entry-exit system in the air environment.

Appendix – List of Acronyms

Acronym	Definition
CBP	U.S. Customs and Border Protection
DHS	Department of Homeland Security
FY	Fiscal Year
IT	Information Technology
LCCE	Lifecycle Cost Estimate
O&M	Operations and Maintenance
OFO	Office of Field Operations
PoR	Program of Record
USCIS	U.S. Citizenship and Immigration Services