OFFICE OF INSPECTOR GENERAL

CBP's Border Security Efforts – An Analysis of Southwest Border Security Between the Ports of Entry –

Homeland Security

February 27, 2017

OIG-17-39

OFFICE OF INSPECTOR GENERAL
Department of Homeland Security

Washington, DC 20528 / www.oig.dhs.gov

February 27, 2017

The Honorable Beto O'Rourke
U.S. House of Representatives
1330 Longworth House Office Building
Washington, DC 20515

Dear Congressman O'Rourke:

In your March 28, 2016 letter to the Department of Homeland Security Office of Inspector General (OIG), you requested that we update the 1993 Sandia National Laboratories study, *A Systematic Analysis of the Southwest Border*. You asked that we analyze audit and research reports on southwest border security issued since 2003, focusing specifically on actions taken by U.S. Customs and Border Protection (CBP) in response to the Sandia study recommendations. We have completed our review and analysis of relevant reports from DHS OIG, Government Accountability Office (GAO), and Congressional Research Service (CRS) issued in this timeframe.

In summary, although CBP likely did not act in direct response to the Sandia report, it has instituted many border security programs and operations that align with the report's recommendations. However, our review and analysis of DHS OIG, GAO, and CRS reports also highlighted some continuing challenges to CBP in its efforts to secure the southwest border. In particular, CBP does not measure the effectiveness of its programs and operations well; therefore, it continues to invest in programs and act without the benefit of the feedback needed to help ensure it uses resources wisely and improves border security. CBP also faces program management challenges in planning, resource allocation, infrastructure and technology acquisition, and overall efficiency. Finally, coordination and communication with both internal and external stakeholders could be improved.

We provided a draft of this report to CBP for comments. We have incorporated the technical comments as appropriate and have enclosed a copy of CBP's management comments. Consistent with our responsibility under the *Inspector General Act*, we will provide copies of this report to appropriate congressional committees with oversight and appropriation responsibility over the Department of Homeland Security. We will post a version of the report on our website.

The results of our review are enclosed.

You may call me with questions, or your staff may contact Laurel Loomis Rimon, Acting Assistant Inspector General for Inspections and Evaluations, at (202) 254-4100.

Sincerely,

John Roth
Inspector General

Enclosure

Background

In 1993, Sandia National Laboratories (Sandia) published a study on the state of the security along the United States/Mexico border. In the study, Sandia identified measures and made recommendations designed to increase border security and to gain control of areas of rampant illegal immigration and drug trafficking. Sandia recommended a two-part strategy of enforcement and containment. As the keystone of the enforcement strategy, Sandia recommended construction of a three-layer barrier fence. For containment in rural areas and locations with varied terrain, Sandia recommended:

- Surveillance or sensor systems
- Vehicle cable and concrete vehicle barriers
- Passive surveillance combined with patrol strategy
- Movable and static checkpoints and key transit points
- Graded penalties for repeat offenders, "deep" deportation,[1] and fast judicial actions

At the time of the Sandia study, border security was the responsiblity of the U.S. Border Patrol, the enforcement arm of the Immigration and Naturalization Service (INS), which was part of the Department of Justice. The *Homeland Security Act of 2002* established DHS, and on March 1, 2003, U.S. Customs and Border Protection (CBP) became responsible for securing of the Nation's borders and ports of entry.[2] Currently, CBP guards nearly 2,000 miles of U.S. land border with Mexico, seeking to deter, detect, and interdict illegal entry of people and contraband into the United States while facilitating lawful travel and trade. CBP also enforces applicable U.S. laws, including those pertaining to illegal immigration, narcotics smuggling, and illegal importation. Within CBP, the Border Patrol uses its $3.8 billion operating budget to secure areas between ports of entry. According to CBP, the Border Patrol's more than 21,000 agents accomplish this mission using surveillance, sensor alarms and aircraft sightings, and interpreting and following tracks. Traffic checkpoints, city patrols, transportation checks, and anti-smuggling investigations are also used.

[1] Deep deportation is transporting illegal aliens to interior areas of Mexico rather than transporting and releasing them in the immediate border area. Deep deportation is thought to discourage immediate re-entry into the United States.
[2] *Homeland Security Act of 2002* (PL 107-296, November 25, 2002)

Results of Review

From our review of audit and research reports on southwest border security issued by DHS OIG, GAO, and CRS since 2003,[3] we concluded that CBP likely did not act in direct response to the Sandia report, but it has instituted many border security programs and operations that align with the report's recommendations. However, our review and analysis of these reports also highlighted some continuing challenges to CBP in its efforts to secure the southwest border. In particular, CBP does not measure the effectiveness of its programs and operations well; therefore, it continues to invest in programs and act without the benefit of the feedback needed to help ensure it uses resources wisely and improves border security. CBP also faces program management challenges in planning, resource allocation, infrastructure and technology acquisition, and overall efficiency. Finally, coordination and communication with both internal and external stakeholders could be improved.

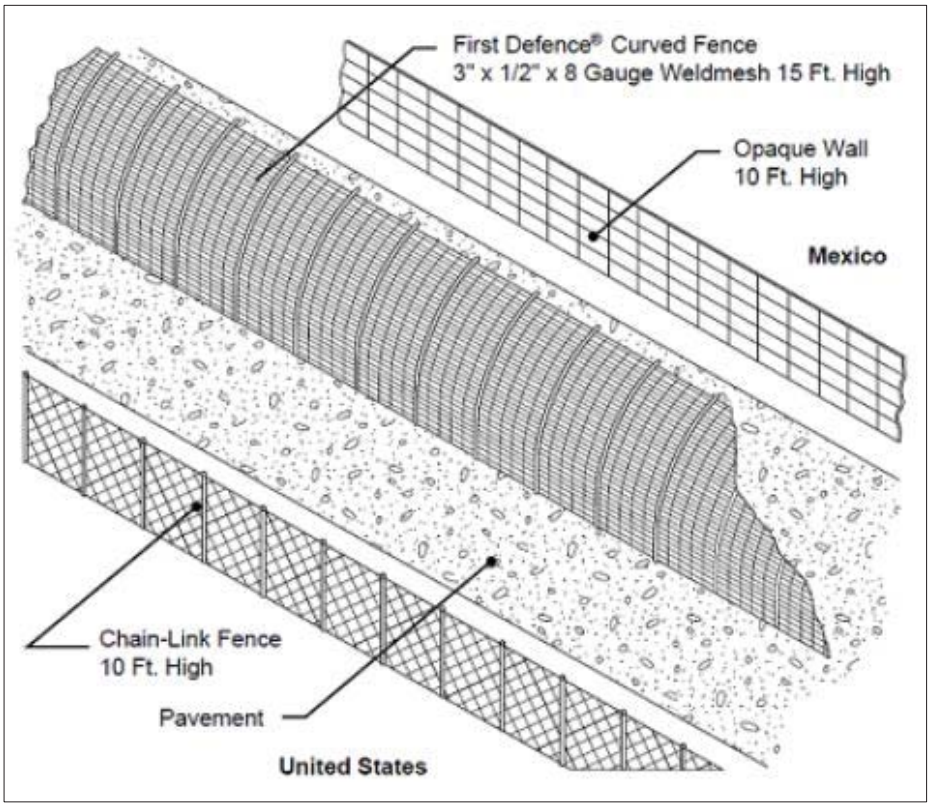
CBP Has Taken Actions that Correspond to Sandia Study Recommendations

In its 1993 study, Sandia categorized the entire border region into two distinct categories: urban and rural. Sandia recommended a two-pronged border security strategy of enforcement and containment. For enforcement and gaining control of urban areas, Sandia recommended construction of a border fence. Rural area threats were considered less common, and Sandia recommended containment through measures such as sensor placement, surveillance, vehicle barriers, checkpoint operations, and consequence programs.

Urban Control Recommendations and Actions Taken

Sandia determined that the urban landscapes of the southwest border presented the most imminent threat to border security and recommended construction of a border fence.

[3] Appendix B contains a list of DHS OIG, GAO, and CRS reports reviewed for this report.



Source: A Systematic Analysis of the Southwest Border, Sandia, 1993

Figure 1: Border fence described in Sandia report

According to Sandia, the border fence depicted in Figure 1 would discourage illegal entry in the vulnerable, overrun urban areas of San Diego, California and El Paso, Texas.

Since the Sandia study was published, CBP has constructed many miles of fence in many southwest border sectors.

Some of the first projects were completed in the urban areas identified in the study – San Diego, California and El Paso, Texas. According to a CBP official, in the early 1990s, migrants easily crossed the border into San Diego, but the Border Patrol tightened security in that area. Migrants then searched for other routes through the more rugged terrain of the southwest into the United States.[4]

Currently on the southwest border, there are about 354 miles of pedestrian fencing, mostly in urban areas in California, Arizona, and Texas. In addition to constructing pedestrian fences in urban areas, CBP also erected several miles of fence in the rural areas of the Yuma Sector (Arizona). Yuma Border Patrol Sector Intelligence Unit cites border fencing as the most significant factor contributing to decreased illegal alien and narcotic smuggling in the Yuma area of responsibility.

[4] Koscak, P (2016). From Padilla, Manuel, Rio Grande Valley Chief Patrol Agent, as quoted in Frontline June 2016: *A Perilous Journey, Humanitarian Program Aims to Save Live*. Available from https://www.cbp.gov/frontline/frontline-june-2016-border-security-initiative.

Portions of the current pedestrian fencing in San Diego, California are composed of a corrugated steel landing mat, which is approximately 10 feet high; other sections consist of 18-foot high bollards. Additionally, the El Paso, Texas area is completely fortified by pedestrian fencing. Portions of that fence are 10 feet high, as recommended by Sandia, and are topped with barbed wire. The El Paso area also has 18-foot bollard and wire mesh fencing.

Pedestrian fence in San Diego sector *Source:* CBP

Pedestrian fence in Yuma Sector *Source:* CBP

Some rural areas in the Yuma Sector (Arizona) are protected by a pedestrian fence made of 20-foot transparent steel mesh and a "floating" fence with gaps that allow sand to flow through, but which are not big enough for people or vehicles to pass.

Figure 2 shows the miles of pedestrian fencing, as of November 2, 2016, in all CBP sectors along the southwest border.

Figure 2: Southwest Border Pedestrian Fencing

Sector	Pedestrian Fence Miles
San Diego, CA	45.9
El Centro, CA	44
Yuma, AZ	62.9
Tucson, AZ	71.8
El Paso, TX	64.7
Big Bend, TX	4.6
Del Rio, TX	4.0
Laredo, TX	1.2
Rio Grande Valley, TX	54.9
TOTAL	**354 miles**

Source: CBP data

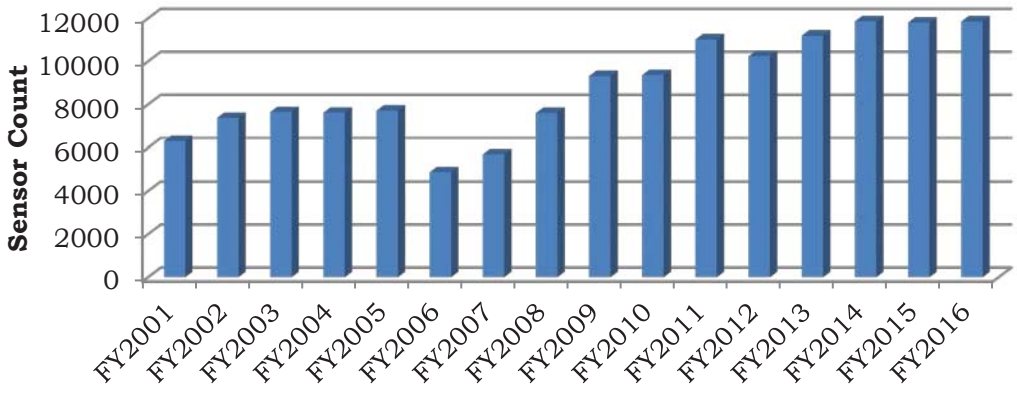
Rural and Near Border Containment Recommendations and Actions Taken

Sandia determined that threats to rural, near-border areas varied, depending on the terrain and environment. Because no single remedy could ensure border security in these areas, Sandia recommended containment through measures such as sensor placement, surveillance, vehicle barriers, checkpoint operations, and consequence programs.

Sensor systems, such as fixed and mobile platforms

The Border Patrol used unattended ground sensors before Sandia published its study and continues to use them today. CBP asserts that these sensors increase situational awareness of activity in areas that are difficult to persistently patrol. As shown in figure 3, the number of sensors assigned to the southwest border sectors has nearly doubled since fiscal year 2001, going from just over 6,000 to almost 12,000 in FY 2016. Also, the sensors and the supporting software have undergone numerous upgrades since 2001.

Figure 3: Southwest Border Sensor Inventory, FYs 2001-2016



Source: OIG analysis of CBP data

Passive surveillance combined with an optimized patrol strategy

Sandia recommended passive surveillance combined with an optimized patrol strategy as part of a containment strategy for open areas in rural, near-border regions. According to the report, targeted surveillance would allow the Border Patrol to efficiently and effectively apply manpower to areas at risk of illegal incursions.

Documentation from CBP showed the Border Patrol has an inventory of technology solutions to augment surveillance. These capabilities include long-

range surveillance with equipment, such as the Integrated Fixed Tower network[5] in the Tucson sector; and short- to medium-range equipment, such as Mobile Surveillance Capability units.[6] Mobile Video Surveillance Systems,[7] which will provide additional short- to medium-range capabilities, are being procured. A CBP directive provides for the use of radiation detection equipment, such as personal radiation detectors and radiation isotope identifiers, to enhance detection capabilities at checkpoints.[8]

Vehicle barriers

Sandia recommended vehicle barriers in rural areas. CBP has installed barriers, using steel bollards, to prevent illegal vehicle entry. Most of the vehicle barriers along the southwest border are in rural areas where, according to CBP, pedestrian traffic is uncommon or easily detected. These barriers are designed to deny vehicle entry, while allowing pedestrians and animals to pass freely. As of November 2, 2016, CBP records showed there were about 300 miles of vehicle barriers along the southwest border.

Permanent and tactical checkpoints at key transit points

As a component of the containment strategy, Sandia recommended 24-hour highway checkpoints. According to the study, the checkpoints would decrease the smuggling of illegal aliens and narcotics into the interior of the United States. In an effort to apprehend illegal aliens and smugglers who make it past the first line of border security measures, the Border Patrol operates checkpoints across the southwest border. CBP divides immigration checkpoints into:

- Permanent – permanent buildings and traffic controls
- Tactical – movable equipment and contains no permanent buildings

Sandia reported that the Border Patrol operated 29 permanent checkpoints on the southwest border. As shown in figure 4, as of May 2016, the Border Patrol reported it operated 33 southwest border permanent checkpoints. According to the Border Patrol, it can operate 182 tactical checkpoints, based on operational requirements.

---

[5] The Integrated Fixed Tower network assists in providing long-range, persistent surveillance to detect, track, identify, and classify items; it provides data, video, and geospatial locations of items of interest.
[6] Mobile Surveillance Capability Units provide long-range mobile surveillance in remote border areas. Vehicle-borne equipment houses integrated equipment comprising radar, camera, and an operator console.
[7] Mobile Video Surveillance Systems will provide short to medium-range surveillance in border areas. The equipment consists of a mast-mounted monitoring system configured on Border Patrol vehicles.
[8] *CBP Directive No. 5290015,* December 24, 2003.

Figure 4: Permanent Checkpoints at Southwest Border, as of May 2016

Sector	Number of Permanent Checkpoints
San Diego	5
El Centro	2
Yuma	3
Tucson	0
El Paso	7
Big Bend	4
Del Rio	5
Laredo	5
Rio Grande Valley	2
TOTAL	**33**

Source: OIG analysis of CBP data

Consequence Delivery System

Sandia identified policies it believed would strengthen the enforcement and containment strategy. According to the report, "graded penalties for repeat offenders … deep deportation, and fast judicial actions" would enhance the effectiveness of border security efforts. These recommendations closely resemble elements of the Border Patrol's Consequence Delivery System (CDS), which aims to deter repeated illegal border crossings. According to CBP, CDS is designed to guide CBP decision-making based on an evaluation of the unique situation of each individual to identify the administrative or criminal consequence most likely to deter further illegal activity. Between January and October 2011, the Border Patrol implemented CDS in all southwest border sectors to standardize its application of consequences for illegal entry into the United States. According to Border Patrol officials, agents use sector-specific data to evaluate the circumstances of the illegal entry and determine an appropriate criminal or administrative consequence such as repatriation to a different location from the point of entry, referral of prosecution to Mexico, or Federal criminal prosecution, among other options. However, in recent congressional testimony, then acting Border Patrol Chief said that the ability to impose consequences also depends on factors imposed by states and judicial districts.[9]

Although not considered a consequence, a Mexico bilateral humanitarian effort, begun in 2004 and known as the Mexico Interior Repatriation Program (MIRP),

[9] Vitiello, Ronald, U.S. Border Patrol Acting Chief. Written testimony for a Senate Committee on the Judiciary, Subcommittee on Immigration and the National Interest hearing *"Declining Deportations and Increasing Criminal Alien Releases – The Lawless Immigration Policies of the Obama Administration,"* May 19, 2016

resembled the "deep deportation" recommended by Sandia. CBP intended to use MIRP to break the smuggling cycle by returning Mexican nationals apprehended in Tucson and Yuma to their places of residence in the Mexican interior. While CBP no longer repatriates Mexican nationals through MIRP, in February 2008, CBP initiated the Alien Transfer and Exit Program (ATEP), which similarly aims to separate aliens from their smuggling cells, although through a different method. CBP uses ATEP in conjunction with other consequences to move Mexican nationals from the area of apprehension to a different sector at the conclusion of deportation proceedings just prior to repatriation.

CBP Faces Continuing Challenges in Three Key Areas

In researching and analyzing the results of reviews of CBP, we identified three trends that point to needed improvements in CBP's efforts to secure the southwest border. Generally, CBP concurred with DHS OIG and GAO recommendations and took steps to address them.

Measuring the Effectiveness of Programs and Operations

As far back as 1993, Sandia recognized that identifying measures of effectiveness is critical to controlling the border. In the *2012–2016 Border Patrol Strategic Plan* (Plan), CBP also acknowledged the importance of measuring effectiveness, noting that it was developing "measures of performance" and "indicators of impact" for all objectives in the Plan.[10] However, in a 2012 report examining the Plan, GAO cited data limitations that precluded comparing the overall effectiveness of resource deployment in Border Patrol sectors.[11] In his March 2016 testimony, the acting Border Patrol Chief reiterated the need for performance measures, but fell short of describing any processes underway for developing them. Instead, he remarked that the magnitude of the border, integrated operations, and individuals' motivation to cross the border illegally are challenges to establishing metrics.[12]

The Border Patrol currently uses the number of apprehensions as an indicator of the volume of illegal migration. It is OIG opinion that fewer apprehensions indicate more success in programs and security measures, but CBP has not

[10] U.S. Customs and Border Protection, 2012-2016 Border Patrol Strategic Plan; available from https://www.cbp.gov/sites/default/files/documents/bp_strategic_plan.pdf
[11] GAO-13-25; *Border Patrol: Key Elements of New Strategic Plan Not Yet in Place to Inform Border Security Status and Resource Needs*; December 10, 2012
[12] Vitiello, Ronald, U.S Border Patrol Acting Chief. Written testimony for a House Committee on Homeland Security, Subcommittee on Border and Maritime Security *"Transparency Trust and Verification: Measuring Effectiveness and Situational Awareness along the Border,"* March 1, 2016

used this standard. In August 2009, GAO found that the Border Patrol did not calculate the amount of illegal activity circumventing the checkpoints. Therefore, checkpoint apprehensions were not a reliable indicator of total illegal activity or an appropriate measure of effectiveness.[13] In September 2016 testimony, the then Border Patrol Chief acknowledged that a recent decline in apprehensions was a positive result.[14] However, program reviews have shown that CBP does not build this type of effectiveness measurement into its programs at the outset. For example, OIG found that the concept of operations for CBP's Unmanned Aircraft System (UAS) program cited increased apprehensions as a program expectation, but the document did not list measurable performance standards for apprehensions.[15]

OIG and GAO have issued multiple reports assessing how well DHS and CBP determine effectiveness of programs and operations. In general, the reporting shows that, although CBP has implemented many new programs to address border security issues, it has struggled to develop measures of effectiveness. For example, both OIG and GAO have pointed out that using apprehension numbers as a performance goal measurement does not indicate program results and therefore limits accountability, as well as DHS and congressional oversight. OIG also concluded that CBP may sometimes skew its measurements and analyze data to attain the most successful outcome, rather than use best practices for accurate measurement. In general, DHS and CBP agreed with the recommendations in these reports and took steps to address the issue. However, as the following reports illustrate, CBP's insufficient or, in some cases, nonexistent performance measurement is a continuing trend.

- In a 2009 report, GAO pointed out that the performance measures established by the Border Patrol did not help determine whether checkpoints were operating efficiently or effectively.[16]

- In December 2014, OIG reported that CBP planned to expand its UAS program without having developed performance measures to determine its effectiveness. DHS OIG acknowledged that the UAS program had contributed to border security, but without verifiable performance

[13] GAO-09-824; *Border Patrol: Checkpoints Contribute to Border Patrol's Mission, but More Consistent Data Collection and Performance Measurement Could Improve Effectiveness;* August 31, 2009
[14] Morgan, Mark, Chief, U.S. Border Patrol. Written testimony for a House Committee on Homeland Security, Subcommittee on Border and Maritime Security hearing *"Moving the Line of Scrimmage: Re-Examining the Defense in Depth Strategy,"* September 13, 2016
[15] OIG-15-17; *U.S. Customs and Border Protection's Unmanned Aircraft System Program Does Not Achieve Intended Results or Recognize All Costs of Operations*; December 24, 2014
[16] GAO-09-824; *Border Patrol: Checkpoints Contribute to Border Patrol's Mission, but More Consistent Data Collection and Performance Measurement Could Improve Effectiveness;* August 31, 2009

measures, CBP could not demonstrate how much the program had improved border security. Further, CBP limited operation of a sensor on the unmanned aircraft to primarily focus on an area around a single Border Patrol station to "increase the certainty of a positive law enforcement resolution," such as apprehensions.[17]

- The Border Patrol credits the CDS for a decrease in alien recidivism (re-crossing the border illegally). However, in a May 2015 report on one CDS program, Operation Streamline (renamed the Criminal Consequence Initiative), OIG concluded that although the Border Patrol measured Streamline's effect on re-entry of illegal aliens, its metrics did not reflect an alien's crossing history, re-entry, or re-apprehension over multiple years. As a result, the Border Patrol was not fully and accurately measuring Streamline's effect on deterring aliens from entering and re-entering the country illegally.[18]

- In January 2016, OIG reported that the Border Patrol could not determine the efficiency and effectiveness of its Special Operations Group because of a lack of formal performance measures. Although the Border Patrol was developing and implementing performance measures, at the time of the report, the program had been in place for 9 years.[19]

Managing Programs

Although Sandia offered some minor technology-based solutions for gaining control of near-border rural areas, it recommended against costly technology investments, stating that advanced technologies typically "did not provide benefit commensurate with cost." CBP went in a different direction, acquiring technology through America's Shield Initiative (ASI), the Secure Border Initiative (SBI), and currently, the Arizona Border Surveillance Technology Plan. Through the duration of these initiatives, GAO and DHS OIG reports have highlighted program management issues. In particular, CBP has had trouble ensuring it has enough staff to adequately manage programs and contractors, and that it sufficiently oversees acquisitions, builds metrics into program planning and management, and collects reliable and complete data for cost estimating and program performance.

In 2004, DHS initiated ASI, which was intended to expand the capabilities of INS' Integrated Surveillance Intelligence System, using sensors, cameras, and

[17] OIG-15-17; *U.S. Customs and Border Protection's Unmanned Aircraft System Program Does Not Achieve Intended Results or Recognize All Costs of Operations*; December 24, 2014
[18] OIG-15-95; *Streamline: Measuring Its Effect on Illegal Border Crossing*; January 27, 2016
[19] OIG-16-34; *CBP's Special Operations Group Program Cost and Effectiveness Are Unknown*; January 29, 2016

databases. ASI was short lived; in September 2005, the DHS Deputy Secretary said the program should be reevaluated, and in a January 2006 response to GAO CBP noted intent to incorporate the program into SBI. In reviewing ASI, GAO determined that managers had not performed some key elements of effective program management, including ensuring adequate staffing, defining roles and responsibilities, and defining acquisition management processes.

In November 2005, DHS launched SBI, a multibillion dollar program. According to CBP, SBI would secure the Nation's borders and reduce illegal immigration through enhanced surveillance technologies, increased staffing, and infrastructure improvements. CBP planned to deploy SBI*net*, the technology component of SBI, an infrastructure that included cameras, radars, sensors, as well as command, control, communications, and intelligence technologies, along the southwest border in phases. Initial plans were to complete 387 miles by December 31, 2008. According to DHS, it had implemented an effective program management process to provide a solid foundation for SBI, but SBI was plagued by similar issues.

Throughout the life cycle of SBI, GAO audited the initiative and its technology component, SBI*net*, and issued reports detailing CBP's program management challenges and shortcomings. For example, in a September 2009 report, GAO found that CBP had not followed the best practice of conducting a program evaluation to determine the overall contribution of the SBI deployed tactical infrastructure to border security. [20] In a subsequent report, GAO also noted that project scheduling did not adequately capture all necessary activities, assign resources to them, and reflect schedule risks. Ultimately, in May 2010, GAO recommended CBP should limit funds spent on SBI*net* to in-progress projects and should curtail future investment, which lacked adequate economic justification. In that report, GAO also made a final recommendation to CBP to improve key program management areas.[21]

In 2010, DHS OIG reviewed $267 million worth of items acquired in 2008 for SBI*net*. As a result of its review, OIG determined that SBI program officials were not consistently updating information for identifying cost overruns and determining program progress. OIG also found that officials did not ensure contractors completed program steps before moving on to next steps. Finally, according to OIG, there was not enough staff to oversee contractor activities.[22]

---

[20] GAO-09-896; *Secure Border Initiative: Technology Deployment Delays Persist and the Impact of Border Fencing Has Not Been Assessed*; September 9, 2009
[21] GAO-10-340; *Secure Border Initiative: DHS Needs to Reconsider Its Proposed Investment in Key Technology Program*; May 5, 2010
[22] OIG-10-96; *Controls over SBInet Program Cost and Schedule Could Be Improved*; June 16, 2010

SBI*net* experienced significant schedule delays and cost overruns, eventually delivering technology systems to two areas in Arizona. In January 2011, DHS cancelled SBI*net* because it was not meeting viability and cost effectiveness standards.

Citing high costs and unnecessary complexity, DHS decided to replace SBI with the Arizona Border Surveillance Technology Plan, a technology "menu" offering tailored solutions based on operational needs. In November 2011, GAO reported on CBP's issues managing this new technology plan. Specifically, CBP had analyzed alternatives and reached out to potential vendors, but did not document the analysis to justify major decisions concerning border surveillance technologies. CBP also had not defined the mission benefits expected from implementing the plan. The component did not plan to assess the effectiveness and suitability of SBI*net* to help make decisions on alternatives for implementing the new plan. Finally, CBP's 10-year life cycle cost estimate was based on a rough cost estimate analysis, and component officials could not determine a level of confidence in their estimate.[23]

As the reports on ASI, SBI*net*, and the Arizona Border Surveillance Technology Plan illustrate, to make certain significant investments in technology for enhanced security, CBP needs to ensure it bases program management on solid fundamentals and follows good business practices.

Coordination and Communication with Stakeholders

According to Sandia, at the time it published its report, the largest threat to the southwest border was the illegal entry of people and narcotics between the ports of entry. Today, CBP must also deal with the threat of terrorist organizations or terrorists crossing the southwest border. This new threat, in addition to continued border security challenges of illegal border crossers and drug organizations, make coordination and communication essential.

DHS OIG and GAO have examined CBP's coordination among some stakeholders, both internal and external to DHS, issuing multiple reports and making recommendations for improvement. For example, in 2007, DHS OIG reported that although coordination and interoperability between CBP and U.S. Immigration and Customs Enforcement (ICE) had improved, communication between headquarters and field personnel, and intelligence and information sharing could be enhanced.[24] In 2012, OIG reported again on the need to improve coordination between CBP and ICE Homeland Security Investigations

[23] GAO-12-22; *Arizona Border Surveillance Technology: More Information on Plans and Costs Is Needed before Proceeding*; November 4, 2011
[24] OIG-07-38; *DHS' Progress in Addressing Coordination Challenges between Customs and Border Protection and Immigration and Customs Enforcement;* April 13, 2007

in their efforts to counter the threat posed by cross-border tunnels.[25] OIG also issued two reports on the need for DHS to better coordinate with and support the National Network of Fusion Centers.[26] [27]

In one of two reports examining border security threats on tribal and other federal lands, GAO highlighted minimal interagency coordination in information sharing, strategies, joint operations, and budget requests among DHS, the Department of the Interior, and the U.S. Department of Agriculture;[28] in the second report, GAO pointed out coordination issues between the Border Patrol and some Native American tribal representatives.[29] Finally, in a 2013 review of information sharing among field-based Federal, state, and local entities, GAO concluded that Federal agencies were not holding these entities accountable for coordination or assessing opportunities for enhancing coordination to reduce potential overlap and find efficiencies.[30]

Conclusion

At times, CBP's efforts to secure the southwest border appear to be sisyphean, but to ensure it is continually improving its capabilities and securing the border in an evolving threat environment, it needs to consistently and accurately measure effectiveness and carefully manage its programs and operations. The ability to accurately measure effectiveness requires complete and accurate data. The reports we reviewed identify this as an ongoing issue — data is often unreliable and incomplete and statistics are sometimes subject to misinterpretation. Program management includes building in measures of effectiveness, planning thoughtfully, getting feedback on performance, and carefully acquiring infrastructure and technology. Given CBP's vast mission and widely dispersed operations, as well as evolving threats, these efforts are herculean, but essential, to ensure the border is secured through responsible use of financial, technological, and human resources. Full transparency and accurate accounting of costs and spending in program planning and operations are also vital to the effort. Without these elements, CBP risks investing in expensive technology and infrastructure that is neither justified nor useful in accomplishing its mission. Today, the southwest border is still porous, and

[25] OIG-12-132; *CBP's Strategy to Address Illicit Cross-Border Tunnels;* September 26, 2012
[26] OIG-11-04; *Information Sharing with Fusion Centers Has Improved, but Information System Challenges Remain*; October 26, 2010
[27] OIG-12-10; *DHS' Efforts to Coordinate and Enhance Its Support and Information Sharing with Fusion Centers;* November 16, 2011
[28] GAO-11-177; *Border Security: Additional Actions Needed to Better Ensure a Coordinated Federal Response to Illegal Activity on Federal Lands;* November 18, 2010
[29] GAO-13-352; *Border Security: Partnership Agreements and Enhanced Oversight Could Strengthen Coordination of Efforts on Indian Reservations*; April 5, 2013
[30] GAO-13-471; *Information Sharing: Agencies Could Better Coordinate to Reduce Overlap in Field-Based Activities*; April 4, 2013

questions remain as to whether CBP's significant investments have resulted in better security.

Objective, Scope, and Methodology

DHS OIG was established by the *Homeland Security Act of 2002* (Public Law 107–296) by amendment to the *Inspector General Act of 1978*.

We conducted this review under the authority of the *Inspector General Act of 1978*, as amended, and according to the *Quality Standards for Inspection and Evaluation* issued by the Council of the Inspectors General on Integrity and Efficiency.

In response to a congressional request (see appendix C), we reviewed DHS OIG, CRS, and GAO reports issued from 2003 to the present. We also reviewed and analyzed program data submitted by CBP.

The Office of Inspections and Evaluations major contributors to this report are: Angela Garvin, Chief Inspector; Lorraine Eide, Lead Inspector; Jennifer Berry, Senior Inspector; and Kelly Herberger, Communications Analyst.

Appendix A
Sandia Study Summary

Sandia National Laboratories

Systematic Analysis of the Southwest Border
Summary of the 1993 Report

Exceptional Service in the National Interest

The Study

In September 1991, Sandia National Laboratories was tasked by the Office of National Drug Control Policy, through the Immigration and Naturalization Service (INS) Research and Development Program, to study the United States/Mexico border and recommend measures for improving border enforcement community (BEC) control between ports of entry (POE). A Sandia team worked with the Border Patrol to develop a baseline characterization of all nine southwest border sectors, gathering extensive data by using interviews, questionnaires, mile-by-mile ground and aerial mapping, study of existing infrastructure, and direct observation of day-to-day operations. The team participated in "ride alongs" and was present during both routine apprehensions and major drug interdictions.

Recommendations

The analysis determined that, typically, the insertion of advanced technologies did not provide benefit commensurate with cost. It was found that the largest impact on illegal immigration and drug trafficking would be realized by achieving control of the borderline in urban areas with a multi-layer, multi-element barrier, combined with regularly timed, armed patrols.

In remote areas, the study recommended a containment strategy, supported by installing additional stationary and mobile sensors and, inland from the border, 24/7, all-weather traffic checkpoints on roads. In all areas, the study highlighted the need for additional staffing to ensure sufficient personnel to execute operations, supported by improved data and voice communications. Other areas considered part of a system solution included improved coordination among border enforcement organizations; supportive policies such as positive identification of all apprehended illegal aliens, graded penalties for repeat offenders, expedited judicial actions, and adequate incarceration facilities; and identification of system-wide interactions. The 1993 report also included sector-specific recommendations based on a comprehensive analysis of the threat, infrastructure, available resources, and environment in each of the nine Border Patrol sectors.

The Details

The study considered four types of "adversaries": commuter aliens, illegal aliens, nondrug contraband smugglers, and drug smugglers. The most common tactic was to cross in urban areas, where the exposure time was minimized, and overwhelm Border Patrol resources with a large number of simultaneous crossings. Drug smugglers add technologies such as radio frequency jammers and night vision devices, and their operations were well coordinated, with multiple vehicles, including aircraft, and military-style logistical support.

The southwestern U.S. border region runs 1,635 miles from the Pacific Ocean to the Gulf of Mexico, and is highly variable, traversing urban, suburban, and rural environments and a wide variety of terrain. No single model or strategy could span these variations, so a framework was developed to define the border in terms of the most significant factors with respect to threat, available infrastructure, and operational flexibility. Globally, these factors were found to be population density and terrain. The terrain categories and their distributions are shown in Figure 1.

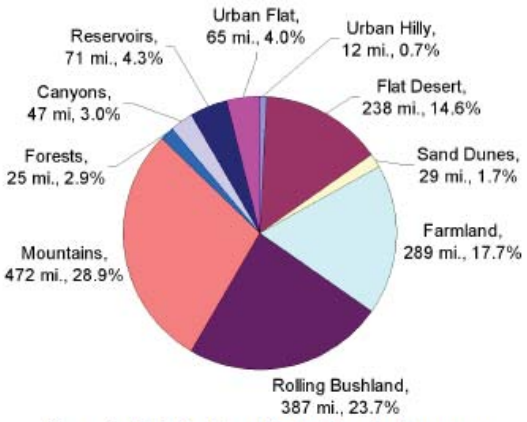


Figure 1. U.S. Southern Border Terrain Summary

Sandia National Laboratories

The study grouped its recommendations into two strategic areas:

Enforcement at the borderline in urban areas

The 77 miles categorized as either Urban Flat or Urban Hilly constituted only 4.7% of the border but accounted for two-thirds of all illegal alien apprehensions. Reducing the overall volume of traffic, adding delay to illegal crossings, reducing enforcement response time, and redirecting border crossers to areas more easily controlled were discussed as ways to improve control of these areas. The recommendation was to construct and develop tactics around a multi-layer, multi-element barrier with extensive lighting and patrol access roads, as shown in Figure 2.

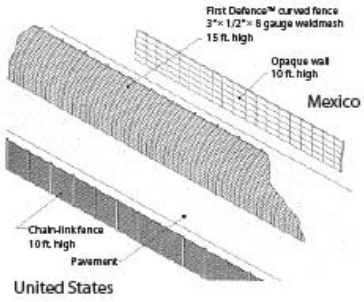


Figure 2. Three-Fence Barrier System

The study recommended that the multiple fence barrier system extend beyond the urban areas, and at least one mile on each side of the established POEs. Patrols were advised to continuously monitor the road between the fences, with the interval between passages of a patrol vehicle commensurate with the delay time provided by the second fence.

Containment within the Near-Border Region

For the 95% of the border not in urban areas or associated with POEs, elaborate barrier systems are not suitable. Detection of illegal crossings requires surveillance or sensor systems, the specifics of which are dictated by the local terrain and operational resources. In areas of known heavy traffic, fixed electronic sensors were recommended for an optimal deployment. Where terrain channels traffic into specific routes, the fixed sensors could be augmented by the tactical use of mobile systems. In open areas where traffic is not naturally channeled, available technologies such as buried cable and microwave transmitter - receiver pairs were considered desirable, but prohibitively expensive and difficult to maintain and defend. Open water areas were the exception where ground and marine radar systems could be effective. The recommendation for open areas was to combine passive surveillance methods with an optimized patrol strategy. The study also recommended using vehicle barriers to delay illegal crossings, cable barriers, and concrete highway barriers, as well as both fixed and relocatable checkpoints at key road and rail transit points.

The study recommended R&D investment in several areas where an advance in capability would have the largest potential impact on enforcement effectiveness. These included, among others:

- Development of metrics to measure and track effectiveness
- Robust and economical long-line, mobile, airborne, and adaptable sensor networks
- GPS enabled tags for agents and smart software to map, track, and predict engagements

For more information, contact:
Curt Nilsen, 925-294-1407, canilse@sandia.gov

Sandia National Laboratories is a multiprogram laboratory managed & operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

SAND2010-4950P (July 2009)

Appendix B
Reports Reviewed

DHS OIG

OIG-07-38; *DHS' Progress in Addressing Coordination Challenges between Customs and Border Protection and Immigration and Customs Enforcement*; April 13, 2007
OIG-09-56; *Progress in Addressing Secure Border Initiative Operational Requirements and Constructing the Southwest Border Fence*; published April 15, 2009
OIG-10-96; *Controls over SBInet Program Cost and Schedule Could Be Improved*; June 16, 2010
OIG-11-04; *Information Sharing with Fusion Centers Has Improved, but Information System Challenges Remain*; published October 26, 2010
OIG-12-05; *U.S. Customs and Border Protection's Management of the Purchase and Storage of Steel in Support of the Secure Border Initiative*; November 7, 2011
OIG-12-10; *DHS' Efforts to Coordinate and Enhance Its Support and Information Sharing with Fusion Centers*; November 16, 2011
OIG-12-132; *CBP's Strategy to Address Illicit Cross-Border Tunnels;* September 26, 2012
OIG-12-85; *CBP's Use of Unmanned Aircraft Systems in the Nation's Border Security*; May 30, 2012
OIG-15-17; *U.S. Customs and Border Protection's Unmanned Aircraft System Program Does Not Achieve Intended Results or Recognize All Costs of Operations*; December 24, 2014
OIG-15-95; *Streamline: Measuring Its Effect on Illegal Border Crossing*; January 27, 2016
OIG-16-34; *CBP's Special Operations Group Program Cost and Effectiveness Are Unknown*; January 29, 2016

GAO

GAO-05-435; *Border Patrol: Available Data on Interior Checkpoints Suggest Differences in Sector Performance;* July 22, 2005
GAO-06-295; *Border Security: Key Unresolved Issues Justify Reevaluation of Border Surveillance Technology Program;* February 22, 2006
GAO-07-309; *Secure Border Initiative: SBInet Expenditure Plan Needs to Better Support Oversight and Accountability;* February 15, 2007
GAO-08-1086; *Secure Border Initiative: DHS Needs to Address Significant Risks in Delivering Key Technology Investment;* September 22, 2008

GAO-09-824; *Border Patrol: Checkpoints Contribute to Border Patrol's Mission, but More Consistent Data Collection and Performance Measurement Could Improve Effectiveness;* published August 31, 2009
GAO-09-896; *Secure Border Initiative: Technology Deployment Delays Persist and the Impact of Border Fencing Has Not Been Assessed*; September 9, 2009
GAO-10-158; *Secure Border Initiative: DHS Needs to Address Testing and Performance Limitations That Place Key Technology Program at Risk*; January 29, 2010
GAO-10-340; *Secure Border Initiative: DHS Needs to Reconsider Its Proposed Investment in Key Technology Program*; May 5, 2010
GAO-11-6; *Secure Border Initiative: DHS Needs to Strengthen Management and Oversight of Its Prime Contractor*; October 18, 2010
GAO-11-38; *Southwest Border: More Timely Border Patrol Access and Training Could Improve Security Operations and Natural Resource Protection on Federal Lands*; October 19, 2010
GAO-11-177; *Border Security: Additional Actions Needed to Better Ensure a Coordinated Federal Response to Illegal Activity on Federal Lands*; November 18, 2010
GAO-11-68; *Secure Border Initiative: Controls over Contractor Payments for the Technology Component Need Improvement*; May 25, 2011
GAO-12-22; *Arizona Border Surveillance Technology: More Information on Plans and Costs Is Needed before Proceeding*; November 4, 2011
GAO-12-518; *Border Security: Opportunities Exist to Ensure More Effective Use of DHS's Air and Marine Assets*; March 30, 2012
GAO-13-25; *Border Patrol: Key Elements of New Strategic Plan Not Yet in Place to Inform Border Security Status and Resource Needs*; December 10, 2012
GAO-13-471; *Information Sharing: Agencies Could Better Coordinate to Reduce Overlap in Field-Based Activities*; April 4, 2013
GAO-13-352; *Border Security: Partnership Agreements and Enhanced Oversight Could Strengthen Coordination of Efforts on Indian Reservations*; April 5, 2013
GAO-14-368; *Arizona Border Surveillance Technology Plan: Additional Actions Needed to Strengthen Management and Assess Effectiveness*; March 3, 2014
GAO-14-494; *Border Security: Opportunities Exist to Strengthen Collaborative Mechanisms along the Southwest Border*; June 27, 2014
GAO-15-201; *Border Security: Additional Efforts Needed to Address Persistent Challenges in Achieving Radio Interoperability*; March 23, 2015

CRS

CRS R41237; *People Crossing Borders: An Analysis of U.S. Border Protection Policies*; May 13, 2010
CRS R42138; *Border Security: Immigration Enforcement between Ports of Entry*; December 31, 2014
CRS R44386; *Border Security: Metrics between Ports of Entry*; February 16, 2016

Appendix C
Congressional Request Letter

BETO O'ROURKE
16TH DISTRICT, TEXAS

COMMITTEE ON
HOMELAND SECURITY

COMMITTEE ON
VETERANS' AFFAIRS

1721 LONGWORTH BUILDING
WASHINGTON, DC 20515
(202) 225-4831

309 N. OREGON, SUITE 210
EL PASO, TX 79901
(915) 541-1400

orourke.house.gov

Congress of the United States
House of Representatives
Washington, DC 20515

March 28, 2016

The Honorable John Roth
Inspector General
Department of Homeland Security
245 Murray Lane, SW
Washington, D.C. 20528

Dear Inspector General John Roth:

Twenty-five years ago Sandia National Laboratories was tasked by the Office of National Drug Control Policy, through the Immigration and Naturalization Service (INS) Research and Development Program, to study the United States-Mexico border and recommend measures for improving border enforcement community (BEC) control at and between ports of entry (POE). I write to request that the Department of Homeland Security (DHS), Office of Inspector General review and update the information contained in this study. We cannot expect DHS to carry out its strategic plan to secure our borders and facilitate the legitimate flow of goods and people with information that is more than two decades old.

The 1993 study identified steps that the then-INS Border Patrol could take to enhance security along the southwest border. These recommendations were considered by the INS Commissioner and subsequently included into a strategic plan that has helped shape our government's border policies to this day. Notably, the report noted that the challenge of decreasing risk at the U.S.-Mexico border must be done so as not to adversely impact the flow of legitimate commerce and traffic. Considering today that the 25 land ports of entry along the nearly 2000 mile U.S. – Mexico border handle more than $400 billion in trade that supports 6 million jobs throughout the U.S, it is necessary that the department tasked with securing our borders and facilitating trade accomplishes this goal with a balanced approach to security and the economic prosperity.

Accordingly, I respectfully request the Department of Homeland Security Office of Inspector General update the 1993 Sandia National Laboratory study, "Systematic Analysis of the Southwest Border" with an analysis of any significant audit and research reports on Southwest Border Security completed since 2003. The study should also specifically make note of any evaluations of actions taken in response to the Sandia study. My hope is that this study will provide us perspective on the state of our security and trade facilitation efforts along the southwest border as well as areas for improvement. Further, it may provide us with background on whether another in-depth report is needed to best assess such programs.

Thank you for your consideration of this request and service to the country. My office looks forward to collaborating further with your office to better understand that state of the U.S.-Mexico border.

Sincerely,

Beto O'Rourke

Beto O'Rourke
Member of Congress

Appendix D
CBP Response Memorandum

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

MEMORANDUM FOR: John Roth
Inspector General
Department of Homeland Security

JAN 1 3 2017

FROM: Sean M. Mildrew
Chief Accountability Officer
Office of Accountability

SUBJECT: Management's Response to OIG's Draft Report: CBP's Border Security Efforts – An Analysis of Southwest Border Security Between the Ports of Entry

Thank you for the opportunity to review and comment on draft report *CBP's Border Security Efforts – An Analysis of Southwest Border Security Between the Ports of Entry*. U.S. Customs and Border Protection (CBP) appreciates the Department of Homeland Security (DHS) Office of Inspector General's (OIG) work in planning and conducting its review and issuing this report.

Securing our Nation's borders by preventing the entry of terrorists and their weapons, while preventing the illegal entry of people and contraband between the ports of entry is the primary mission of the U.S. Border Patrol. U.S. Border Patrol (USBP) works with our CBP, interagency, state, local, tribal, territorial, and international partners to secure the more than 6,000 miles of land border between the POEs that we share with Mexico and Canada and 2,000 miles of coastal waters surrounding the Florida Peninsula and the island of Puerto Rico. In addition to the vast area of operation, USBP conducts its mission in extreme weather and terrain variations–24/7.

Given the complexities of the border and a continuously evolving threat, a calculated border security strategy is vital. Toward this end, in 1994, the U.S. Border Patrol managed border threats through deterrence. In 2004, in response to the September 11, 2001 terrorist attacks, the USBP strategy was resource based; leading to substantial increases in personnel, technology, and infrastructure. In 2012, as transnational criminal organizations became more sophisticated, USBP employed a risk-based strategy, consisting of information, integration, and rapid response. Currently, the USBP strategy is evolving into a multi-disciplinary, multi-dimensional, and multi-layered enforcement

Management's Response *CBP's Border Security Efforts – An Analysis of Southwest Border Security Between the Ports of Entry*

posture. This strategy is characterized by threat-based, intelligence-driven, and operationally focused enforcement actions.

As our strategy continuously evolves to confront complex border threats, so does our ability to demonstrate our commitment to securing America at its fringes. Since the 1993 Sandia National Laboratories analysis, we have developed and implemented monumental organizational and operational changes to demonstrate our commitment to the American taxpayer–and their security. Most recently, we are collaborating with external organizations to assist with the development of effectiveness measures for checkpoint operations, surveillance and situational awareness capabilities. Internally, we have instituted a requirements management process to specifically identify resources, including human, required to secure the border. The requirements management process is rigorous and is grounded in field commander and agent input. With regard to our stakeholders, our Border Community Liaison program has leveraged thousands of communication opportunities with those who reside in the communities we protect.

Our outreach success is reflected in the unprecedented International Association of Chiefs of Police community policing award recently received by the Falfurrias Border Patrol Station for involving community stakeholders in the development of the Falfurrias Strategic Plan 2020. Additionally, we are in the final stages of instituting a Strategic Communications Division at Headquarters in Washington, D.C. to develop, increase, and quantify stakeholder communication efforts internally, with policy makers, and non-governmental organizations.

In response to CBP's Border Security Efforts-An Analysis of Southwest Border Security Between the Ports of Entry, to reiterate, multiple advances have been accomplished over the past two and a half decades which parallel the recommendations of the 1993 Sandia National Laboratories study. USBP and CBP recognize the need for relevant performance measures to verify the effectiveness of our operations and assets. Furthermore, as border security operations become increasingly integrated, the ability to quantify individual contributions to shared outcomes becomes increasingly complex. We will continue to collaborate with internal and external partners to enhance current metrics, and develop new metrics, that provide meaningful outcome-focused measures of illegal activity, trends, and effectiveness.

CBP will continue to evolve by designing, implementing, and measuring our effectiveness through our efforts to secure the border in light of a dynamic border security threat. To this end, we look forward to continued support and cooperation with non-governmental organizations as well as our inter- and intra-agency partners.

Management's Response *CBP's Border Security Efforts – An Analysis of Southwest Border Security Between the Ports of Entry*

The OIG did not issue any recommendations in the draft report.

Again, thank you for the opportunity to review and comment on this draft report. Technical comments were previously provided under separate cover. Please feel free to contact me if you have any questions. We look forward to working with you in the future.

Appendix E
Report Distribution

Department of Homeland Security

Secretary
Deputy Secretary
Chief of Staff
Deputy Chiefs of Staff
General Counsel
Executive Secretary
Director, GAO/OIG Liaison Office
Assistant Secretary for Office of Policy
Assistant Secretary for Office of Public Affairs
Assistant Secretary for Office of Legislative Affairs
Commissioner, CBP
Chief, Border Patrol
CBP Liaison

Office of Management and Budget

Chief, Homeland Security Branch
DHS OIG Budget Examiner

Congress

Congressional Oversight and Appropriations Committees
Honorable Beto O'Rourke, Congressman

ADDITIONAL INFORMATION AND COPIES

To view this and any of our other reports, please visit our website at: www.oig.dhs.gov.

For further information or questions, please contact Office of Inspector General Public Affairs at: DHS-OIG.OfficePublicAffairs@oig.dhs.gov. Follow us on Twitter at: @dhsoig.

OIG HOTLINE

To report fraud, waste, or abuse, visit our website at www.oig.dhs.gov and click on the red "Hotline" tab. If you cannot access our website, call our hotline at (800) 323-8603, fax our hotline at (202) 254-4297, or write to us at:

Department of Homeland Security
Office of Inspector General, Mail Stop 0305
Attention: Hotline
245 Murray Drive, SW
Washington, DC 20528-0305