Department of Homeland Security Border Security Metrics Report

May 1, 2018

Homeland Security

Message from Homeland Security

May 1, 2018

The "Department of Homeland Security Border Security Metrics Report" is submitted pursuant to the Fiscal Year (FY) 2017 National Defense Authorization Act (NDAA), which directs that "Not later than 180 days after the date of the enactment of this section, the Secretary (of Homeland Security) shall develop metrics, informed by situational awareness, to measure the effectiveness of security between ports of entry, at ports of entry, in the maritime environment and to measure the effectiveness of the aviation assets and operations of Air and Marine Operations of U.S. Customs and Border Protection." The Act further directs the Secretary to annually assess, report, and implement the specified metrics.

The outcome-based performance measures called for by the Act are the most comprehensive, rigorous set of border security metrics required of the Department of Homeland Security (DHS) to date. Through previous efforts, DHS has established processes and procedures to collect and analyze essential data to meet most, but not all, of the Act's requirements. This initial report identifies which measures are still unavailable; DHS commits to continuing efforts to produce all the measures required by the Act no later than submission of the next annual report.

DHS considers this report to be the beginning of a consequential dialogue with Congress and the American public wherein defensible data create the foundation for discussions of border security policies and strategies. This initial report focuses on providing data and information on DHS methodological approaches. In accordance with the Act, future annual reports will include trend analysis of the measures being reported.

Thank you for your continuing support and commitment to strengthening the operating effectiveness of DHS.

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

The Honorable Ron Johnson
Chairman, Senate Committee on Homeland Security and Governmental Affairs

The Honorable Claire McCaskill
Ranking Member, Senate Committee on Homeland Security and Governmental Affairs

The Honorable Michael McCaul
Chairman, House Committee on Homeland Security

The Honorable Bennie Thompson
Ranking Member, House Committee on Homeland Security

Inquiries relating to this report may be directed to the DHS Office of Legislative Affairs at (202) 447-5890.

Sincerely,

James W. McCament
Deputy Under Secretary
Office of Strategy, Policy, and Plans

DHS Border Security Metrics Report

TABLE OF CONTENTS

I. LEGISLATIVE LANGUAGE

Section 1092 of the FY 2017 National Defense Authorization Act (NDAA), signed into law December 23, 2016, directs the Secretary of Homeland Security to provide annually to the Committee on Homeland Security of the House of Representatives and the Committee on Homeland Security and Governmental Affairs of the Senate specific "Metrics for Securing the Border Between Ports of Entry," "Metrics for Securing the Border At Ports of Entry," "Metrics for Securing the Maritime Border," and "Air and Marine Security Metrics in the Land Domain." The NDAA further directs that the Secretary "in accordance with applicable privacy laws, make data related to apprehensions, inadmissible aliens, drug seizures, and other enforcement actions available to the public, law enforcement communities, and academic research communities."

II. INTRODUCTION

As President Donald Trump indicated in Executive Order 13767 "Border Security and Immigration Enforcement Improvements" (January 25, 2017), border security is critically important to the national security of the United States. The Department's ability to measure its border-security inputs, activities, outputs, and outcomes is essential to the effective and efficient management of the Department, including management of the new activities and investments directed by the President's Executive Orders on border security and immigration enforcement.

Comprehensive and rigorous performance management data provide DHS leadership with the foundation to support responsible evidence-based decision-making for resource allocation and investments and for operational and mission management. Further, DHS implementation of this approach provides a pair of unifying border security goals under the Department's mission to secure and manage U.S. borders. As summarized in the DHS Quadrennial Homeland Security Review (QHSR), the Department's first two goals under the border security mission area are to "Secure U.S. Air, Land, and Sea Borders and Approaches" by preventing illegal entry and to "Safeguard and Expedite Lawful Travel and Trade" by safeguarding key nodes, conveyances, and pathways, and by managing the risk of people and goods in transit. Ultimately, the border security metrics described in this report are designed to assess the ability of the Department's border security policies and investments to achieve these outcomes.

For analytic purposes, the metrics included in this report may be divided into four categories:

- Inputs: Resources acquired or expended to secure the border. Examples of border security inputs include the number of U.S. Customs and Border Protection (CBP) Office of Field Operations (OFO) officers and U.S. Border Patrol (USBP) agents deployed, miles of fencing and other border infrastructure, and numbers of aircraft committed to the border security mission.

- Activities: Specific actions taken to secure the border. Examples of border security activities include illegal border crossers apprehended, travelers admitted or denied admission at ports of entry (POE), and pounds of narcotics seized.

- Outputs: Immediate results of enforcement activities as they relate to the border security goals. Examples of border security outputs include the rate at which intending unlawful border crossers are apprehended or interdicted, and the accuracy of screening results for travelers and goods at POEs.

- Outcomes: The ultimate impacts of border security policies. As defined by the QHSR, the most important border security outcomes are the numbers of illegal migrants and quantities of illegal goods entering the United States (Goal 2.1), and the ease with which lawful travelers and goods pass through POEs (Goal 2.2).

In general, border security *inputs* and *activities* are directly observable and can be measured with a high degree of reliability. Policymakers have direct control over resource allocation, and data on inputs are available in budget and acquisitions documents. Operational agencies also track enforcement activities as part of their case management process. In short, the Department knows exactly how many agents it deploys, how many miles of fence it erects, how many aliens it apprehends, and how many travelers it admits. Input and activity measures tend to provide insight into the level and type of enforcement effort undertaken—what the Department is doing—that are useful for workload management and tactical decision-making; but in and of themselves these metrics typically provide limited insight into the state of border security.

Outcome and *output* measures often provide more insight than inputs and activities when it comes to evaluating border security and may be powerful tools for policy and program evaluation. Yet many output and outcome metrics are difficult to measure directly because illegal border crossers actively seek to evade detection, and some flows are undetected and therefore can never be measured directly. This challenge is nearly universal when measuring illegal activities, which is why law enforcement agencies typically rely on crime *reports* as indicators of *total* criminal activities, for example. Measuring border security outputs and outcomes is also difficult because of the diversity and complexity of the enforcement mission along the United States' 6,000 miles of land borders, 95,471 miles of coastline, and 350

POEs. Moreover, enforcement outcomes only partially depend on border security policies, since immigration flows also reflect numerous factors outside enforcement agencies' control, including the broader set of U.S. immigration policies and numerous economic, demographic, and other structural factors.

Historically, DHS and the legacy Immigration and Naturalization Service addressed these measurement challenges by relying on alien apprehensions (an activity metric) as a proxy measure of illegal immigration between POEs (an outcome metric). More recently, CBP and DHS have initiated a number of new estimation strategies to better model unknown flows. These efforts have focused primarily on border security between POEs in the land domain (NDAA § 1092(b)), a domain that has been identified by Congress and the last several Administrations as a top enforcement priority. Some of this research remains a work in progress as DHS is not yet able to validate certain modeling assumptions or to quantify the uncertainty around its new estimation techniques. In addition, many of the metrics in this report remain limited to the southwest border. The Department's future work on border metrics will continue to refine these new indicators of border security between POEs and expand data collection and methodologies to the northern border, while also developing additional indicators of border security, including those identified as incomplete in this report.

Pursuant to the NDAA, this report covers a mix of input, activity, output, and outcome metrics between POEs, at POEs, in the maritime domain, and with respect to air and marine security in the land domain. While most of these measures involve data the Department has tracked for many years, some remain under development or fall outside the scope of the Department's existing measurement methodologies. This report includes the following information for each border security metric:

- Definition of the metric and brief description of how the metric contributes to the Department's understanding of border security;
- Discussion of the Department's current methodology for producing the metric and related methodological limitations; and
- Available data, including historical data where possible, and brief discussion of implications for the current state of border security.

The following sections of this report provide this information for each metric directed by the NDAA. In addition to the specific metrics identified in sections §1092(b) – (e), this report includes supplemental measures that inform the Department's assessment of the state of border security between POEs, as directed by NDAA § 1092(g)(3)(D).

III. SEC. 1092 BORDER SECURITY METRICS

§ 1092(b) METRICS FOR SECURING THE BORDER BETWEEN PORTS OF ENTRY

§ 1092(b)(1)(A)(i) Attempted unlawful border crosser apprehension rate

Definition

In general, the attempted unlawful border crosser apprehension rate is defined as the proportion of attempted border crossers that is apprehended by USBP:

$$Apprehension\ Rate = \frac{Apprehensions}{Unlawful\ Entry\ Attempts}$$

While USBP has reliable administrative data on apprehensions, the Department does not have an exact count of unlawful entry attempts since an unknown number of illegal border crossers evade detection. As a result of this so-called "denominator problem," the Department must estimate the apprehension rate. Current methodologies allow DHS to produce two apprehension rate estimates:

Model-based apprehension rate ($AR_{Model\text{-}based}$) – Based on statistical modeling, the estimated share of all attempted unlawful border crossers between land POEs that is apprehended.

Observational apprehension rate ($AR_{Observational}$) – Based on direct (unlawful border crossers observed by USBP) and indirect (residual evidence of a border crosser, i.e. footprints) observations of attempted unlawful border crossers, the estimated share of observed attempted unlawful border crossers that is apprehended.

The apprehension rate is an *output measure* that describes the difficulty of illegally crossing the border successfully.

A conceptual limitation of apprehension rate data is that they include information about *border apprehensions*, but exclude information about *turn backs* (see section 1092 (b)(1)(A)(iv) for definition), which are a key element of USBP's enforcement strategy, with underlying operational implications. In this sense, measures of the apprehension rate understate USBP's overall enforcement success rate. On the other hand, some analysts consider information about turn backs difficult to interpret since an unknown share of turn backs make additional entry attempts.

Methodology and Limitations

Model-based apprehension rate

The Model-based apprehension rate is based on the repeated trials model (RTM) methodology. As explained in detail in Appendix A, the RTM methodology yields an estimated partial apprehension rate (PAR) for southwest border crossers, which focuses on a relatively small share of attempted unlawful border crossers. Following the calculation of the PAR, the $AR_{Model\text{-}based}$ methodology consists of four additional steps.

First, all attempted unlawful border crossers are divided into two groups, which are labeled "impactable" and "non-impactable" by traditional DHS enforcement policies. Impactable border crossers include adults without children who are not asylum seekers and (prior to 2017) are not from Cuba. Aliens in this group are described as impactable because they are generally subject to the full range of DHS and Department of Justice (DOJ) enforcement consequences, and therefore potentially impacted by existing border enforcement. Non-impactable border crossers include unaccompanied minors, family units, individuals who request asylum, and (prior to 2017) Cubans. Aliens in this group are described as non-impactable because, historically, they have usually been released into the United States with

a Notice to Appear in immigration court for legal proceedings on a future date, rather than being subject to immediate DHS enforcement consequences. These aliens are assumed generally to be "non-impactable" by traditional DHS enforcement activities at the border because even if they are apprehended they are typically unlikely to be immediately removed or returned.[1]

Second, the $AR_{Model\text{-}based}$ methodology assumes an apprehension rate for each of these two groups: 1) all attempted unlawful border crossers in the impactable population are assumed to be apprehended at the partial apprehension rate generated by the RTM methodology; and 2) all unlawful border crossers in the non-impactable population are assumed to intentionally present themselves to a USBP agent or OFO officer and therefore to have a 100 percent apprehension rate. Notably, these assumptions do not reflect the actual behavior of all border crossers, as noted below, but they serve to construct a probability model.

Third, the partial apprehension rate is used to calculate the total number of impactable aliens making illegal entry attempts. The methodology assumes (in the previous step) that all impactable aliens are apprehended at the PAR rate generated by the RTM methodology:

$$PAR = \frac{Apprehensions_{\ Impactable}}{Attempts_{\ Impactable}}$$

Mathematically, this equation can be re-arranged to define the total number of impactable aliens making an illegal entry attempt as follows:

$$Attempts_{\ Impactable} = \frac{Apprehensions_{\ Impactable}}{PAR}$$

Since non-impactable aliens are assumed to have a 100% apprehension rate, the number of entry attempts of non-impactable aliens is equal to the number of their apprehensions.

Finally, the total apprehension rate is calculated as a weighted average of the total numbers of impactable and non-impactable aliens attempting unlawful entry times their respective apprehension rates:

$$AR_{\ Model\text{-}based} = \frac{(Attempts_{\ Impactable} * PAR) + (Attempts_{\ Non\text{-}impactable} * 100)}{(Attempts_{\ Impactable} + Attempts_{\ Non\text{-}impactable})}$$

The current $AR_{Model\text{-}based}$ methodology makes a number of assumptions that cannot be fully validated. First, the $AR_{Model\text{-}based}$ methodology builds on the RTM's partial apprehension rate, and so incorporates all of the RTM modeling assumptions and associated limitations discussed in Appendix A. In addition, the current $AR_{Model\text{-}based}$ methodology also assumes: that the entire cohort of border crossers can be divided into impactable and non-impactable groups, that the entire impactable group is apprehended at the same rate as RTM aliens included in the PAR analysis, and that the entire non-impactable group is apprehended 100 percent of the time. Each of these additional assumptions introduces potential biases into the estimated apprehension rate.

The Department has not precisely quantified the impact of these assumptions on the $AR_{Model\text{-}based}$ estimates. For these reasons, DHS considers the $AR_{Model\text{-}based}$ methodology to be a work in progress. DHS is working to refine the $AR_{Model\text{-}based}$ methodology to address these limitations and to more precisely describe their impact on the $AR_{Model\text{-}based}$ estimate. The estimated apprehension rates reported here may be updated in the future as the Department continues to refine the model-based estimation methodology.

[1] Cubans were considered "non-impactable" between 1995 and January 2017 because they were routinely granted parole into the United States if they reached U.S. soil, under the wet-foot/dry-foot policy. The Obama Administration terminated the special parole component of the wet-foot/dry-foot policy in January 2017.

Observational apprehension rate

The observational apprehension rate is calculated as the ratio of USBP apprehensions to the sum of apprehensions and observed (directly or indirectly) got aways:

$$AR_{Observational} = \frac{Apprehensions}{Apprehensions + Got\ Aways}$$

"Got aways" are defined as subjects at the southwest border who, after making an illegal entry, are not turned back or apprehended, and are no longer being actively pursued by USBP agents.

Since 2014, USBP has implemented a standard, southwest border-wide methodology for determining when to report a subject as a got away. Some subjects are observed directly as evading apprehension or turning back; others are acknowledged as got aways or turn backs after agents follow evidence that indicate entries have occurred such as foot sign (i.e. tracks), sensor activations, interviews with apprehended subjects, camera views, and communication between and among stations and sectors. The scope of these data includes all areas of the southwest land border at or below the northernmost law enforcement posture (typically a USBP checkpoint) within a given area of responsibility, and those individuals apprehended less than 30 days after entering the United States.

In an effort to maintain reliable best practices, command staff at all southern border stations ensure all agents are aware of and utilize proper definitions for apprehensions, got aways and turn backs at their respective stations. They also ensure the necessary communication takes place between and among sectors and stations to minimize double-counting when subjects cross more than one station's area of responsibility. In addition to station-level safeguards, designated USBP Headquarters components validate data integrity by utilizing various data quality reports.

The primary limitation to $AR_{Observational}$ is that the denominator excludes an unknown number of unobserved got aways. Over the past several years, DHS has invested millions of dollars in technology that has facilitated the ability to see and detect more at the border. Improvements in situational awareness give DHS an ever-increasing, real-time ability to understand how much illegal activity agents are encountering at the immediate border and their ability to respond. As a result, despite the fact that overall border entries are substantially lower today than in any previous fiscal year, agents are currently interdicting slightly *lower* percentages of the total known flow. This observation reflects USBP's increased domain awareness—i.e., that through technological advances, the agency has improved its awareness of illegal entry attempts (known got aways)—rather than experienced a drop in enforcement effectiveness. Increasing situational awareness narrows the gap between the known and unknown flow, and puts DHS in a position to build ever better observational estimates of border security. The Department will continue to refine these observational estimates and is currently working on a methodology to estimate their statistical reliability.

An additional methodological limitation is that the estimated count of got aways aggregates potentially subjective observations from thousands of individual agents. USBP has taken a number of steps to establish reliable turn back and got away methodologies, as discussed above.

Available Data and Discussion

Table 1 provides the estimated model-based apprehensions rate for FY 2003 – FY 2016 and the estimated observational apprehension rate for FYs 2006-2016, the years for which these data are available.

Since FY 2003, the model-based apprehension rate has climbed from less than 35 percent to nearly 65 percent in FY 2016. These increases reflect a higher apprehension rate for "impactable" border crossers as well as an increase in the share of border crossers who are "non-impactable" and therefore assumed to be apprehended 100 percent of the time.

The observational apprehension rate has also shown improvements since FY 2006. Despite its limitations, the upward trend in $AR_{Observational}$ is noteworthy because it independently reinforces the upward trend observed in the model-based estimate. Moreover, with increasing situational awareness along the border during this period, it is likely that CBP detects an increasing share of total got aways over time. As a result, the upward trend in $AR_{Observational}$ likely under-estimates the actual increase in the total share of attempted border crossers that is apprehended.

Table 1.
Model-Based and Observational Apprehension Rates, FY 2003 – FY 2016

Fiscal Year	Model-based Apprehension Rate	Observational Apprehension Rate
2003	34.1	NA
2004	37.0	NA
2005	39.1	NA
2006	39.2	63.5
2007	40.2	64.1
2008	44.6	67.7
2009	47.2	70.7
2010	46.6	74.4
2011	46.1	79.4
2012	48.0	77.5
2013	51.0	70.8
2014	65.5	74.8
2015	63.5	76.7
2016	64.8	79.4

§ 1092(b)(1)(A)(ii) Detected unlawful entries

Definition

Detected unlawful entries – The total number of attempted unlawful border crossers between land POEs who are directly or indirectly observed or detected by USBP.

Detected unlawful entries is an *outcome measure* that describes the numbers of migrants detected crossing or attempting to cross the border unlawfully. Detected unlawful entries is not a comprehensive outcome measure since it excludes undetected unlawful entries, as discussed below. The ratio of detected to undetected unlawful entries, also discussed below, is an *output measure* that describes the Department's ability to detect unlawful entries.

Methodology and Limitations

The number of detected unlawful entries is calculated as the sum of turn backs, got aways, and apprehensions. Turn backs are defined as subjects who, after making an illegal entry into the United States, return to the country from which they entered, not resulting in an apprehension or got away. Got aways are defined as subjects who, after making an illegal entry, are not turned back or apprehended, and are no longer being actively pursued by USBP agents. Apprehensions are defined as removable aliens arrested by USBP.

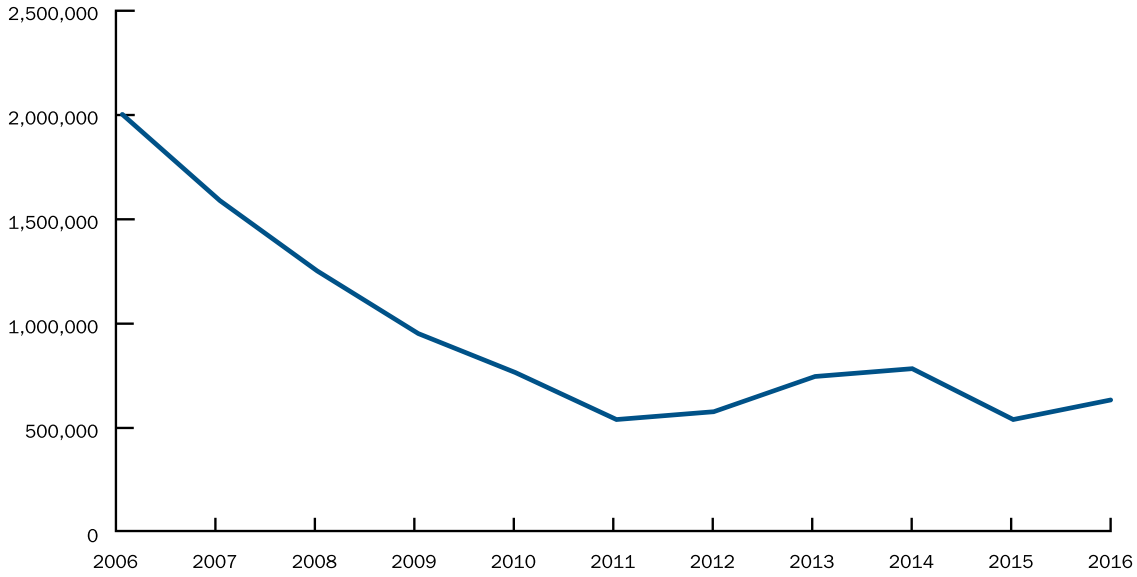
Turn backs and got aways are observational estimates; USBP records total and by-sector estimates of turn backs and got aways based on direct and indirect observations as described above. Apprehensions are calculated based on nationwide DHS administrative data and are not limited to the southwest border; USBP apprehension data are considered a reliable count of apprehensions.

The primary limitation to detected unlawful entries is that this metric incorporates turn back and got away estimates that aggregate potentially subjective observations from thousands of individual agents. USBP has taken a number of steps to address this problem by establishing consistent and reliable turn back and got away methodologies, as discussed above.

Available Data and Discussion

Figure 1 depicts available data on estimated detected unlawful entries for FY 2006 – FY 2016, the years for which data are available. As the figure indicates, estimated detected unlawful entries (the sum of apprehensions, turn backs, and got aways) fell from 2.0 million to 624 thousand during this period, a 69 percent decrease.

Figure 1.
Estimated Detected Unlawful Entries Nationwide Between POEs, FY 2006 – FY 2016



§ 1092(b)(1)(A)(iii) Estimated undetected unlawful entries

Definition

Undetected unlawful entries – An estimate of the number of attempted unlawful border crossers between land POEs who are not directly or indirectly observed or detected by USBP. By assumption, undetected unlawful entries evade apprehension and enter the United States unlawfully.

Undetected unlawful entries is an outcome measure that describe the numbers of migrants who completely evade detection and successfully enter the United States unlawfully. Undetected unlawful entries is not a comprehensive outcome measure since it excludes detected unlawful entries, discussed above. The ratio of detected to total unlawful entries (i.e., the probability of detection) is an output measure that describes the Department's ability to detect unlawful entries, as discussed below. At present, this methodology only exists for the southwest land border between ports of entry. Research is underway on methods to produce this estimate for the northern border.

Methodology and Limitations

Currently, the Department's best available methodology for estimating undetected unlawful entries builds on the repeated trials model (RTM) methodology to produce a model-based estimate of total successful unlawful entries. The estimated number of undetected unlawful entries is calculated as the difference between the model-based estimate of total successful unlawful entries and the estimated number of got aways (i.e., *detected* successful unlawful entries):

$$\textit{Undetected unlawful entries} = \textit{Total successful unlawful entries} - \textit{Detected got aways}$$

As explained in detail in Appendix A, the RTM methodology yields an estimated partial apprehension rate (PAR) for southwest border crossers. Following the calculation of the PAR, the methodology for estimating total successful unlawful entries consists of three additional steps.

First, as in the calculation of the model-based apprehension rate discussed above, all attempted unlawful border crossers are divided into "impactable" and "non-impactable" groups. Second, the PAR is used to estimate the odds of successful entry for aliens within the impactable population group.[2] Third, the number of successful unlawful entries is estimated based on the odds of successful entry among this group times the apprehension count among impactable aliens. Because non-impactable aliens are assumed to be apprehended 100 percent of the time, only impactable aliens contribute to the estimated count of total successful unlawful entries:

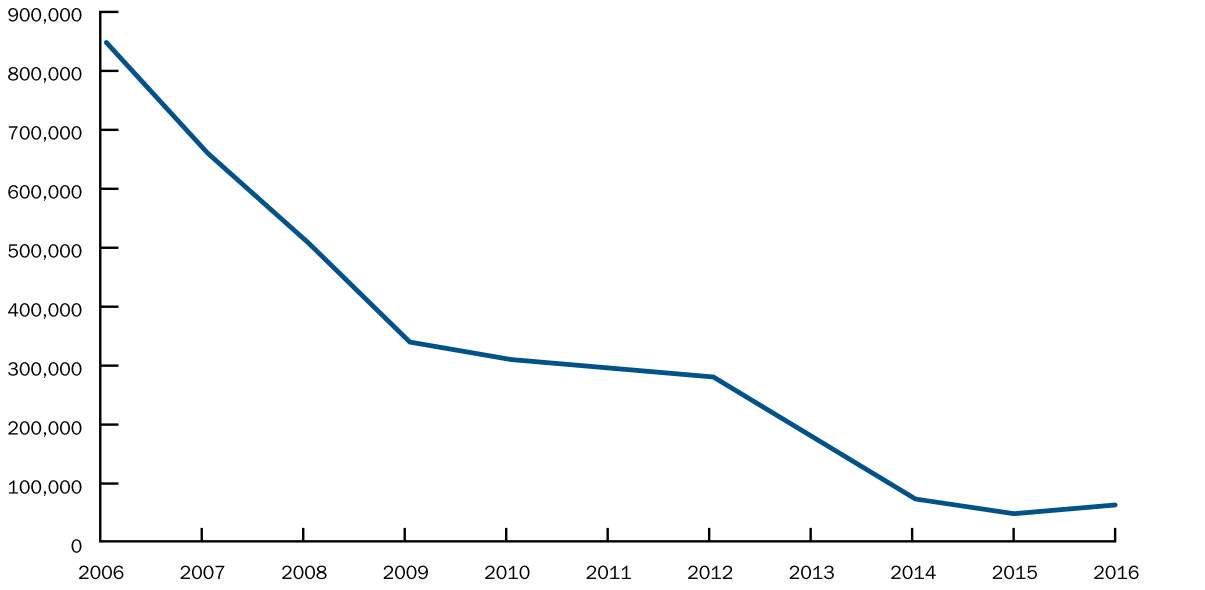
*Total successful unlawful entries = Odds of successful entry * Apprehensions of impactable aliens*

The estimated number of undetected unlawful entries is derived from the observational estimate of detected unlawful entries, with limitations discussed above, and the model-based estimate of total successful unlawful entries, which in turn is derived from the RTM methodology and the model-based apprehension rate, with additional limitations discussed above. DHS is working to refine both the observational and model-based methodologies and to more precisely describe the impact of these limitations on estimates of total and undetected unlawful entries.

Available Data and Discussion

Figure 2 depicts available data on estimated undetected unlawful entries for FY 2006 – FY 2016, the years for which data are available. As the figure indicates, estimated undetected unlawful entries fell from approximately 851,000 to nearly 62,000 during this period, a 93 percent decrease.

Figure 2.
Estimated Southwest Border Undetected Unlawful Entries, FY 2006 – FY 2016



§ 1092(b)(1)(A)(iv) Turn backs

Definition

Turn backs – An estimate of the number of subjects who, after making an illegal entry into the United States, return to the country from which they entered, not resulting in an apprehension or got away.

Turn backs are an *activity measure* that USBP uses for tactical decision-making.

Turn backs also contribute to several other border security metrics, including detected unlawful entries, discussed above, and the unlawful border crossing effectiveness rate, discussed below.

[2] Mathematically, *odds of successful entry* = (1 – *PAR* / *PAR*).

Methodology and Limitations

Turn backs are a nationwide observational estimate; USBP records total and by-sector estimates of turn backs based on direct and indirect observations as described above.

The primary limitation to detected turn backs is that the estimate aggregates potentially subjective observations from thousands of individual agents. USBP has taken a number of steps to address this problem by establishing consistent and reliable turn back and got away methodologies, as discussed above. In addition, some unlawful border crossers may enter the United States to drop off drug loads or to act as decoys to lure agents away from a certain area and then return to Mexico, and therefore may be misidentified as turn backs.[3]

Available Data and Discussion

Table 2.
Southwest Border Turn Backs between POEs, FY 2007 – FY 2016

FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
254,490	204,176	178,566	150,005	121,007	121,079	156,581	147,025	105,670	108,601

The number of turn backs has decreased by more than 57 percent since FY 2007. This decrease is consistent with numerous other between-POE metrics than suggest a decrease in flow over the past 10 years.

§ 1092(b)(1)(A)(v) Got aways

Definition

Got aways – An estimate of the number of subjects who, after making an illegal entry, are not turned back or apprehended, and are no longer being actively pursued by USBP agents.

Total successful unlawful entries – An estimate of the total number of subjects who cross the border unlawfully and who enter the United States without being apprehended.

Methodology and Limitations

Got Aways

Got aways are an observational estimate; USBP records total and by-sector estimates of got aways based on direct and indirect observations as described above. While got aways are recorded by USBP at all borders, got aways in this section refer to the southwest border between-ports of entry only.

The primary methodological limitation of got aways is that the estimate aggregates potentially subjective observations from thousands of individual agents. USBP has taken a number of steps to address this problem by establishing consistent and reliable turn back and got away methodologies, as discussed above.

Conceptually, the got aways metric is limited to *observed* (directly or indirectly) flows; it is not a comprehensive measure of successful unlawful entries. USBP's recent work to increase situational awareness, including through the use of Geospatial Intelligence, gives the Department growing confidence in its got away count. As situational awareness continues to improve, observed got aways will become an increasingly comprehensive measure of successful unlawful entries. USBP and DHS are working to refine USBP's observational methodology and to more precisely describe the gap between observed and unobserved got aways.

[3] U.S. Government Accountability Office, "Border Patrol: Goals and Measures Not Yet in Place to Inform Border Security Status and Resource Needs," GAO-13-330T, February 26, 2013, p. 15.

Total Successful Unlawful Entries

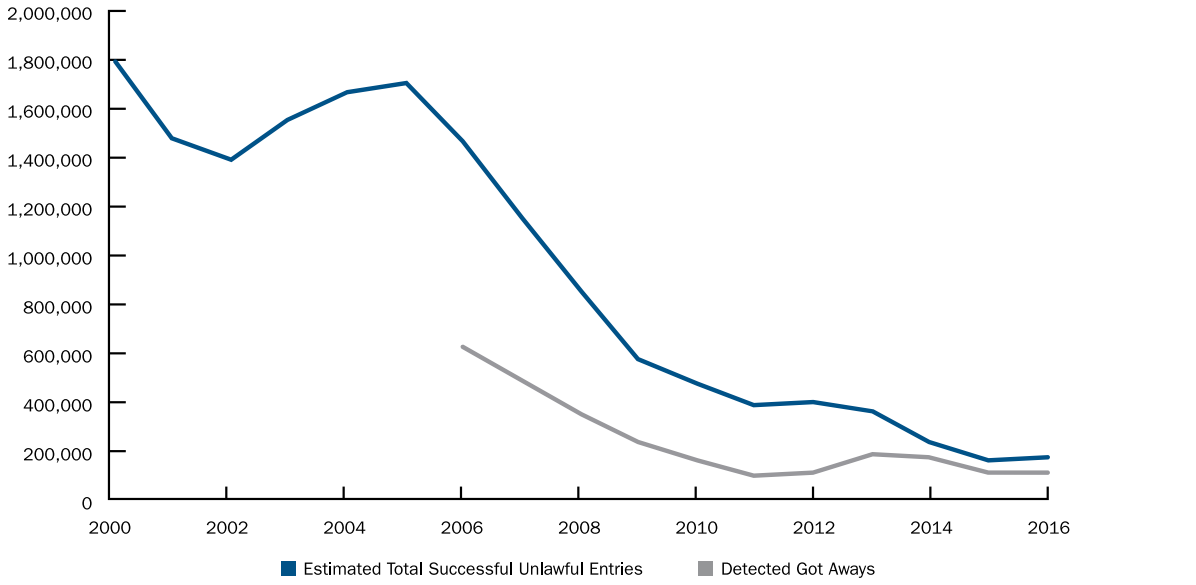
The current methodology for estimating total successful unlawful entries is based on the repeated trials model (RTM) methodology. As explained in detail in Appendix A, the RTM methodology yields an estimated partial apprehension rate (PAR) for southwest border crossings, which focuses on a relatively small share of attempted unlawful border crossers. Following the calculation of the PAR, the methodology for estimating total successful unlawful entries consists of three additional steps, as described above: attempted border crossers are divided into impactable and non-impactable groups; the PAR is used to estimate the odds of successful entry; and the number of successful unlawful entries is estimated based on the odds of successful entry among this group times the number of apprehensions of impactable aliens.

The RTM methodology to estimate the PAR confronts a number of methodological limitations, as discussed in Appendix A. Each of the additional assumptions involved in using the PAR to estimate total successful unlawful entries introduces additional methodological limitations and potential biases. DHS is working to refine the model-based methodology and to more precisely describe the impact of these limitations on estimates of total successful unlawful entries.

Available Data and Discussion

Figure 3 depicts southwest border between-ports of entry detected got aways for FY 2006 – FY 2016 and estimated total successful unlawful entries for FY 2000 – FY 2016, the years for which data are available. As the figure illustrates, estimated total successful unlawful entries declined from 1.8 million to 168,000 between FY 2000 and FY 2016, a 91 percent decrease. Estimated got aways declined from 615,000 to 106,000 between FY 2006 and FY 2016, an 83 percent decrease.

Figure 3.
Southwest Border Got Aways and Estimated Total Successful Unlawful Entries between POEs, FY 2000 – FY 2016



Notably, the model-based estimate of total successful unlawful entries declined at a faster rate than observed got aways, with the model based estimate falling 89 percent between FY 2006 and FY 2016 (the period for which both data series are available), versus an 83 percent decrease for detected got aways during this period. Relatedly, the two series have substantially converged over this time period, with observed got aways accounting for 42 percent of total estimated successful unlawful entries in FY 2006 versus 63 percent in FY 2016. These facts suggest that USBP detects an increasingly comprehensive share of all attempted unlawful border crossers.

§ 1092(b)(1)(B) A measurement of situational awareness achieved in each U.S. Border Patrol sector

Definition

Situational awareness – Knowledge and understanding of current unlawful cross-border activity.

Situational awareness is an output measure that describes the Department's awareness of unlawful cross-border activity.

Methodology and Limitations

DHS is in the process of developing a defensible, analytically sound measure for situational awareness for each USBP sector that meets the intent of the NDAA § 1092(b)(1)(B). DHS anticipates this measure will be reported in the annual report due to Congress in November 2020. In the interim, a number of the Department's existing metrics are informed by the Department's awareness of migrants and other threats in the near border regions (CBP has operational jurisdiction within 100 miles of U.S. borders) and in the approaches [*See* § 1092(b)(1)(A)(ii to v) and § 1092(b)(1)(D)].

§ 1092(b)(1)(C) Unlawful border crossing effectiveness rate

Definition

Unlawful border crossing effectiveness rate – The estimated percentage of all attempted unlawful border crossers that is interdicted by USBP, where interdictions include apprehensions and turn backs.

The unlawful border crossing effectiveness rate is an output measure that describes how difficult it is for unlawful border crossers to enter the United States without being interdicted.

Methodology and Limitations

The unlawful border crossing effectiveness rate is calculated by dividing the number of apprehensions and turn backs between land POEs by the sum of the number of apprehensions, turn backs, and total estimated successful unlawful entries:

$$\text{Effectiveness Rate} = \frac{\text{Apprehensions} + \text{Turn backs}}{\text{Apprehensions} + \text{Turn backs} + \text{Successful unlawful entries}}$$

The NDAA calls for an effectiveness rate that incorporates USBP's observational estimate of turn backs and DHS's current model-based estimate of total estimated successful unlawful entries. This measure would confront all of the methodological challenges associated with each of its component parts, as discussed above.

The unlawful border crossing effectiveness rate is conceptually similar to USBP's interdiction effectiveness rate (IER), which USBP reports in its annual performance report pursuant to the Government Performance and Results Modernization Act (GPRMA) of 2010. The unlawful border crossing effectiveness rate differs from the IER in that the former includes total estimated successful unlawful entries in its denominator and IER includes known got aways.

The unlawful border crossing effectiveness rate is also conceptually similar to the estimated apprehension rate, with the difference being that the effectiveness rate includes data on turn backs and apprehensions while the apprehension rate focuses exclusively on apprehensions. An advantage to examining the effectiveness rate, rather than the apprehension rate, is that effectiveness rate more completely captures USBP's actual enforcement practices, which include efforts to turn back border crossers, in addition to efforts to apprehend them. On the other hand, some analysts consider the effectiveness rate (along with IER) to be an ambiguous indicator of enforcement success since an unknown share of turn backs make additional entry attempts.

Despite its shortcomings as an analytic tool, to date, only the IER is available for analysis at the sector level. While a southwest border-wide estimate has been developed, sector-level estimates of unlawful entries and attempts have not yet been produced and validated by DHS. These estimates are projected to be available for the 2019 report.

Available Data and Discussion

Table 3.
Interdiction Effectiveness Rate by Southwest Border Sector, FY 2014 – FY 2016

	Big Bend, TX	Del Rio, TX	EL Centro, CA	EL Paso, TX	Laredo, TX	Rio Grande Valley, TX	San Diego, CA	Tucson, AZ	Yuma, AZ
FY 2014	72%	76%	85%	92%	74%	80%	89%	75%	91%
FY 2015	77%	73%	83%	90%	74%	82%	88%	80%	95%
FY 2016	70%	79%	81%	89%	78%	83%	89%	82%	96%

IER often vary from year to year and by sector. One point of note for FY 2016 is the 96 percent IER for Yuma, AZ, which often scores the highest rating. Del Rio reported the largest increase in all sectors, climbing six percentage points in FY 2016 to 79 percent. Big Bend reported the largest loss in FY 2016, decreasing by seven percentage points to 70 percent. Due to the small number of attempted and successful entries along the Northern Border, a Northern Border IER has not been developed.

§ 1092(b)(1)(D) Probability of detection rate

Definition

Estimated probability of detection – The estimated probability that DHS detects attempted unlawful border crossers between land POEs.

The estimated probability of detection is an *output measure* that describes the ability of attempted unlawful border crossers to enter without being detected. Because successful unlawful entry estimate is available only for the southwest border between-ports of entry, data in this section refer exclusively to this region.

Methodology and Limitations

The estimated probability of detection is defined as the ratio of detected unlawful entries to estimated total unlawful entries:

$$\text{Probability of detection} = \frac{\text{Detected unlawful entries}}{\text{Estimated total unlawful entries}}$$

As described above, the number of detected unlawful entries is calculated as the sum of turn backs, got aways, and apprehensions, a mix of observational estimates and administrative data. The primary limitation to detected unlawful entries is that this metric incorporates turn back and got away estimates that aggregate potentially subjective observations from thousands of individual agents. USBP has taken a number of steps to address this problem by establishing consistent and reliable turn back and got away methodologies, as discussed above.

Estimated total unlawful entries is calculated as the sum of turn backs, apprehensions, and the model-based estimate of total successful unlawful entries. As described above, the methodology for estimating total successful unlawful entries begins with the RTM methodology's partial apprehension rate, discussed in detail in Appendix A. Following the calculation of the PAR, the methodology for estimating total successful unlawful entries consists of three additional steps: attempted border crossers are divided into impactable and non-impactable groups; the PAR is used to estimate the odds of successful entry; and the number of successful unlawful entries is estimated based on the odds of successful entry among this group times the apprehension count among impactable aliens.

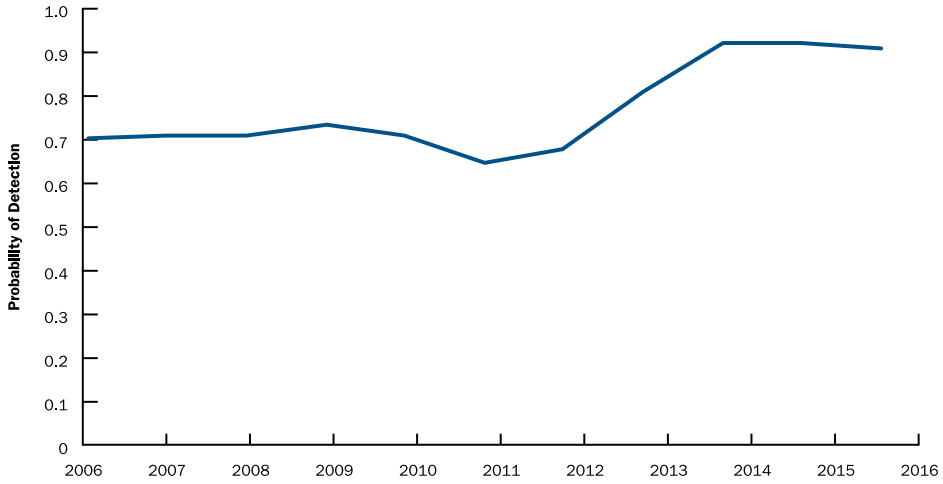
The RTM methodology to estimate the PAR confronts a number of methodological limitations, as discussed in Appendix A. Each of the additional assumptions involved in using the PAR to estimate total successful unlawful entries introduces additional methodological limitations and potential biases. DHS is working to refine the model-based methodology and to more precisely describe the impact of these limitations on estimates of total successful unlawful entries in future State of the Border reports.

Available Data and Discussion

Figure 4 depicts the estimated probability of detection for FY 2006 – FY 2016, the years for which data are available. As the figure indicates, the estimated probability increased from 70 percent in FY 2006 (when an estimated 2.0 million unlawful border crossers were detected out of an estimated 2.9 million total unlawful border crossers) to 91 percent in FY 2016 (611,000 detected out of 673,000 total estimated unlawful border crossers).

Figure 4.

Southwest Border Between-Ports of Entry Estimated Probability of Detection, FY 2006 – FY 2016



§ 1092(b)(1)(E) Apprehensions in each U.S Border Patrol sector

Definition

Apprehension – The arrest of a removable alien by DHS USBP.

Apprehensions are *activity measures* that provide information used for program planning and operational purposes, among other uses. Historically, the Department has also used apprehensions as a proxy indicator of illegal entries, an outcome measure.

For many years, DHS and the legacy Immigration and Naturalization Service also used apprehensions as a proxy indicator of successful unlawful border crossings, i.e., an *outcome measure*. Over the long-term and across multiple locations, apprehensions are a problematic indicator of enforcement outcomes since the relationship between apprehensions and successful unlawful entries depends on the apprehension rate, which changes over time and may also differ by location. But in the short-term and in a fixed geographic area, DHS continues to view changes in apprehensions as a useful outcome indicator because short term changes in apprehensions are more likely to be driven by changes in the number of unlawful border crossing attempts than by changes in the apprehension rate.

Methodology and Limitations

Apprehensions are recorded in administrative record systems with a unique identifier created for each apprehension. USBP's count of apprehensions is considered reliable.

Apprehensions displayed below are event counts, meaning each apprehension of the same alien in a fiscal year is counted separately. These data do not represent a count of unique aliens apprehended.

Available Data and Discussion

Table 4.
Southwest Border Apprehension by USBP Sector, FY 2007 – FY 2016

Sector	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Big Bend, TX	5,536	5,391	6,360	5,288	4,036	3,964	3,684	4,096	5,031	6,366
Del Rio, TX	22,920	20,761	17,082	14,694	16,144	21,720	23,510	24,255	19,013	23,078
EL Centro, CA	55,883	40,961	33,521	32,562	30,191	23,916	16,306	14,511	12,820	19,448
EL Paso, TX	75,464	30,312	14,999	12,251	10,345	9,678	11,154	12,339	14,495	25,634
Laredo, TX	56,714	43,668	40,569	35,287	36,053	44,872	50,749	44,049	35,888	36,562
Rio Grande Valley, TX	73,430	75,473	60,989	59,766	59,243	97,762	154,453	256,393	147,257	186,830
San Diego, CA	152,460	162,390	118,721	68,565	42,447	28,461	27,496	29,911	26,290	31,891
Tucson, AZ	378,239	317,696	241,673	212,202	123,285	120,000	120,939	87,915	63,397	64,891
Yuma, AZ	37,992	8,363	6,951	7,116	5,833	6,500	6,106	5,902	7,142	14,170
Total	**858,638**	**705,015**	**540,865**	**447,731**	**327,577**	**356,873**	**414,397**	**479,371**	**331,333**	**408,870**

Apprehension numbers often vary considerably from year to year and by sector. Since FY 2013, the Rio Grande Valley (RGV) sector has displaced the Tucson sector as the leader in apprehensions, with over 120,000 more apprehensions than the next leading sector in FY 2016. Apprehensions were up across the board in FY 2016, with each sector reporting increases. The largest numeric increase was seen in RGV with almost 40,000 more apprehensions in FY 2016 than in FY 2015; however, the largest percent increase was seen in Yuma, where the apprehension count roughly doubled. Tucson and San Diego, historically major sectors for apprehensions, continue to report considerably lower numbers than earlier years shown in the chart, with Tucson reporting 64,891 apprehensions in FY 2016, as compared to 378,239 in FY 2007.

§ 1092(b)(1)(F) Apprehensions of unaccompanied alien children

Definition

Unaccompanied alien child (UAC) – one who has no lawful immigration status in the United States; has not attained 18 years of age, and with respect to whom; 1) there is no parent or legal guardian in the United States; or 2) no parent or legal guardian in the United States is available to provide care and physical custody [6 U.S.C. § 279(g)(2)].

UAC apprehensions are an *activity measure* that provide information used for program planning and operational purposes, among other uses. Historically, the Department has also used apprehensions as a proxy indicator of illegal entries, an outcome measure.

Methodology and Limitations

Apprehensions are recorded in administrative record systems with a unique identifier created for each apprehension. Since 2008, USBP systems have included a flag for children who are found to meet the legal definition of a UAC. USBP's count of apprehensions is considered reliable, but some outside analysts have raised questions about agents' ability to reliably distinguish among older children and young adults (e.g., to distinguish between 17 and 18 year-olds) and to confirm whether children are traveling alone or in family groups.[4]

USBP began collecting data on UACs in FY 2008; data are unavailable for earlier years.

[4] OIG-10-12 Department of Homeland Security Office of Inspector General. Age Determination Practices for Unaccompanied Alien Children in ICE Custody. November 2009.

Available Data and Discussion

Tables 5a – 5d provide counts of UAC apprehensions by citizenship and by USBP sector for FY 2008 through FY 2016, the years for which data are available.

Table 5a.
Total Southwest Border Apprehensions of UACs, FY 2008 – FY 2016

Sector	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Big Bend, TX	84	147	197	189	168	125	256	839	951
Del Rio, TX	834	1,085	1,014	1,113	1,618	2,135	3,268	2,285	2,689
EL Centro, CA	337	673	448	457	498	434	662	668	1,379
EL Paso, TX	1,139	889	1,011	697	659	744	1,029	1,662	3,885
Laredo, TX	799	1,901	1,570	1,608	2,658	3,795	3,800	2,459	2,953
Rio Grande Valley, TX	2,523	3,835	4,977	5,236	10,759	21,553	49,959	23,864	36,714
San Diego, CA	888	3,028	980	549	524	656	954	1,084	1,553
Tucson, AZ	1,271	7,606	7,998	5,878	7,239	9,070	8,262	6,019	6,302
Yuma, AZ	47	276	216	222	280	247	351	1,090	3,266
Total	**7,922**	**19,440**	**18,411**	**15,949**	**24,403**	**38,759**	**68,541**	**39,970**	**59,692**

Table 5b.
Southwest Border Apprehensions of UACs from Mexico, FY 2008 – FY 2016

Sector	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Big Bend, TX	59	127	180	183	137	104	102	73	118
Del Rio, TX	396	851	772	801	911	1,082	821	798	867
EL Centro, CA	306	631	404	427	418	328	278	397	610
EL Paso, TX	1,067	841	947	663	616	654	698	823	1,149
Laredo, TX	118	1,308	886	1,022	1,369	1,652	1,354	1,299	1,515
Rio Grande Valley, TX	365	2,401	2,787	3,009	4,361	6,366	7,081	3,243	3,389
San Diego, CA	879	2,990	950	523	480	598	740	823	851
Tucson, AZ	79	6,582	6,485	4,893	5,405	6,241	4,394	3,412	3,293
Yuma, AZ	33	258	204	192	246	194	166	144	134
Total	**3,302**	**15,989**	**13,615**	**11,713**	**13,943**	**17,219**	**15,634**	**11,012**	**11,926**

Table 5c.
Southwest Border Apprehensions of UACs from Northern Triangle Countries, FY 2008 – FY 2016

Sector	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Big Bend, TX	23	19	16	6	29	18	151	760	824
Del Rio, TX	423	229	238	307	701	1,044	2,422	1,479	1,806
EL Centro, CA	28	42	42	29	70	104	379	269	641
EL Paso, TX	65	46	58	32	40	80	290	824	2,685
Laredo, TX	627	523	598	528	1,228	2,028	2,329	1,113	1,382
Rio Grande Valley, TX	2,051	1,389	2,057	2,030	6,229	14,696	42,020	20,260	32,935
San Diego, CA	9	37	28	25	44	48	209	255	625
Tucson, AZ	1,091	938	1,326	927	1,753	2,731	3,727	2,497	2,904
Yuma, AZ	14	15	8	28	34	36	178	930	3,091
Total	**4,331**	**3,238**	**4,371**	**3,912**	**10,128**	**20,785**	**51,705**	**28,387**	**46,893**

Note: Northern Triangle Countries refers to El Salvador, Guatemala, and Honduras.

Table 5d.

Southwest Border Apprehensions of UACs from All Other Countries, FY 2008 – FY 2016

Sector	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Big Bend, TX	2	1	1	0	2	3	3	6	9
Del Rio, TX	15	5	4	5	6	9	25	8	16
EL Centro, CA	3	0	2	1	10	2	5	2	128
EL Paso, TX	7	2	6	2	5	10	41	15	51
Laredo, TX	54	70	86	58	61	115	117	47	56
Rio Grande Valley, TX	107	45	133	199	169	491	858	361	390
San Diego, CA	0	1	2	1	0	10	5	6	77
Tucson, AZ	101	86	187	58	82	98	141	110	105
Yuma, AZ	0	3	4	2	0	17	7	16	41
Total	**289**	**213**	**425**	**326**	**335**	**755**	**1,202**	**571**	**873**

After averaging 15,000 per year from FY 2008 – FY 2011, UAC apprehensions increased an average of more than 60 percent per year in FY 2012 – FY 2014, peaking at 68,541 in FY 2014. UAC numbers returned to their FY 2013 level in FY 2015, but then climbed to 59,692 in FY 2016. More than half of all UACs were reported in RGV (36,714), most of whom were from the Northern Triangle countries of Honduras, Guatemala, and El Salvador (32,935).

§ 1092(b)(1)(G) Apprehensions of family units

Definition

Family unit – the number of individuals apprehended with a family member by the USBP. For example, a mother and child apprehended together are counted as two family units.

Family unit apprehensions (FMUA) are *activity measures* that provide information used for program planning and operational purposes, among other uses. Historically, the Department has also used apprehensions as a proxy indicator of illegal entries, an outcome measure.

Methodology and Limitations

Apprehensions are recorded in administrative record systems with a unique identifier created for each apprehension. USBP's count of apprehensions is considered reliable, but agents may not always be able to reliably identify family units.

USBP began collecting data on family units in FY 2012; data on family unit apprehensions are unavailable for earlier years.

Available Data and Discussion

Table 6a.

Total Southwest Border Apprehensions of FMUAs, FY 2012 – FY 2016

	Big Bend, TX	Del Rio, TX	EL Centro, CA	EL Paso, TX	Laredo, TX	Rio Grande Valley, TX	San Diego, CA	Tucson, AZ	Yuma, AZ	Total
FY 2012	76	349	1,127	265	1,825	2,625	1,373	3,254	222	**11,116**
FY 2013	102	711	365	298	1,688	7,265	1,576	2,630	220	**14,855**
FY 2014	176	4,950	630	562	3,591	52,326	1,723	3,812	675	**68,445**
FY 2015	807	2,141	675	1,220	1,372	27,409	1,550	2,930	1,734	**39,838**
FY 2016	1,051	3,549	1,593	5,664	1,640	52,006	2,863	3,139	6,169	**77,674**

Table 6b.

Southwest Border Apprehensions of FMUAs from Mexico, FY 2012 – FY 2016

	Big Bend, TX	Del Rio, TX	EL Centro, CA	EL Paso, TX	Laredo, TX	Rio Grande Valley, TX	San Diego, CA	Tucson, AZ	Yuma, AZ	Total
FY 2012	56	218	699	241	1,623	1,555	1,325	2,940	194	**8,851**
FY 2013	90	177	294	267	1,116	1,690	1,343	2,216	163	**7,356**
FY 2014	61	141	260	213	779	1,832	1,213	1,057	83	**5,639**
FY 2015	40	174	196	188	713	1,326	854	696	89	**4,276**
FY 2016	38	229	163	224	518	1,392	346	487	84	**3,481**

Table 6c.

Southwest Border Apprehensions of FMUAs from Northern Triangle Countries, FY 2012 – FY 2016

	Big Bend, TX	Del Rio, TX	EL Centro, CA	EL Paso, TX	Laredo, TX	Rio Grande Valley, TX	San Diego, CA	Tucson, AZ	Yuma, AZ	Total
FY 2012	10	120	12	19	175	989	31	130	3	**1,489**
FY 2013	8	522	40	23	522	5,354	39	254	19	**6,781**
FY 2014	100	4,753	337	291	2,767	49,790	351	2,553	392	**61,334**
FY 2015	764	1929	470	1,002	602	25,296	617	2,127	1,556	**34,363**
FY 2016	1,005	3,233	1,380	4,634	827	49,919	1,615	2,496	5,298	**70,407**

Note: Northern Triangle Countries refers to El Salvador, Guatemala, and Honduras.

Table 6d.

Southwest Border Apprehensions of FMUAs from All Other Countries, FY 2012 – FY 2016

	Big Bend, TX	Del Rio, TX	EL Centro, CA	EL Paso, TX	Laredo, TX	Rio Grande Valley, TX	San Diego, CA	Tucson, AZ	Yuma, AZ	Total
FY 2012	10	11	416	5	27	81	17	184	25	**776**
FY 2013	4	12	31	8	50	221	194	160	38	**718**
FY 2014	15	56	33	58	45	704	159	202	200	**1,472**
FY 2015	3	38	9	30	57	787	79	107	89	**1,199**
FY 2016	8	87	50	806	295	695	902	156	787	**3,786**

From 2015 to 2016, FMUA numbers increased considerably across all sectors. Similar to the UAC trend observed in these two years, total FMUAs nearly doubled in 2016, and more than doubled in some sectors. Yuma reported only 1,734 FMUAs in 2015 but 6,169 in 2016; El Paso saw a similar trend. Like the UACs, most FMUAs (70,407 of 77,674) were from Northern Triangle countries. In fact, despite the overall increase in FMUAs, the total count of FMUAs from Mexico decreased by 19 percent in 2016.

§ 1092(b)(1)(H) Between the ports illicit drugs seizure rate

Definition

Between the ports illicit drug seizure rate – For each type of illicit drug seized by USBP between POEs, the ratio of the amount of illicit drugs seized in any fiscal year relative to the average amount seized in the immediately preceding five FYs.

The illicit drug seizure rate is an *activity measure*, which compares trends in activity data over time.

Methodology and Limitations

Between-the-ports drug seizure data are obtained from USBP administrative records. These data are considered reliable.

Pursuant to the definition of the illicit drug seizure rate directed by NDAA § 1092 (b)(1)(H), the drug seizure rate describes the ratio of each year's seizures relative to illicit drugs seizures in the preceding five years; the measure does not describe the rate at which illicit drugs are seized.

Available Data and Discussion

Table 7.
Illicit Drugs Seized Relative to Preceding Five Years ("Illicit Drug Seizure Rate") between POEs, FY 2012 – FY 2016

Drug Type		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Marijuana	Rate	101%	100%	83%	81%	72%
	Lbs seized	2,299,864	2,430,123	1,922,545	1,538,307	1,294,052
Cocaine	Rate	117%	53%	57%	206%	71%
	Lbs seized	12,161	4,596	4,554	11,220	5,473
Heroin	Rate	151%	142%	142%	141%	129%
	Oz seized	6,873	9,212	9,691	8,282	9,062
Methamphetamines	Rate	228%	160%	149%	215%	168%
	Lbs seized	3,715	3,580	3,930	6,443	8,224

Drug seizure trends varied in FY 2016 by type of illicit drug. Marijuana and cocaine both saw declines in FY 2016 as compared to the previous five years (72 percent and 71 percent of the previous five year average, respectively). This is a continuous trend for marijuana seizures, which have been on the decline since FY 2014. Cocaine seizures had been declining until FY 2015, in which year a resurgence in seizures was observed. Heroin and methamphetamines seizures continue to increase, as they have in each year at least since FY 2012.

§ 1092(b)(1)(I) Estimates of the impact of the Consequence Delivery System on recidivism

Definition

Consequence Delivery System (CDS) – a process implemented by USBP to uniquely evaluate each apprehended subject and to identify the most effective and efficient consequences to deliver to impede and deter further illegal activity.

Recidivist rate – The share of subjects apprehended by USBP who are apprehended more than once in the same fiscal year.

The annual recidivist rate is an *output measure* that offers insight into what share of deportees are deterred from making additional unlawful entry attempts, though not accounting for unknown attempts/entries. USBP use the annual recidivist rate as one of its 15 metrics of the effectiveness of enforcement consequences under the CDS.

Methodology and Limitations

Since 2007, USBP has collected biometric data (including fingerprints and digital photographs) from most unlawful border crossers it apprehends. These data are used to identify subjects apprehended more than once in a given fiscal year. USBP data on re-apprehensions in the same fiscal year is considered reliable. The annual recidivist rate is defined as the number of unique subjects apprehended multiple times in a fiscal year divided by the total number of unique subjects in the fiscal year:

$$\textit{Annual recidivist rate} = \frac{\textit{Number of unique subjects apprehended multiple times}}{\textit{Total number of unique subjects}}$$

The annual recidivism rate is a valid indicator of the probability that deportees make subsequent attempts at re-apprehensions in that a drop in the annual recidivism rate very likely reflects a drop in unlawful re-entry attempts. The measure has the further advantages that USBP can calculate annual recidivism based strictly on its own apprehension data and that it can reliably be calculated at the end of each fiscal year. These features make the annual recidivism rate a useful measure for USBP performance management.

Nonetheless, as the U.S. Government Accountability Office (GAO) has argued, if the goal is to accurately describe the share of deportees who make additional unlawful entry attempts, the current measure of recidivism could be strengthened in at least two ways: 1) count re-apprehensions based on the date on which a subject is removed or returned, rather than that the date of apprehension; 2) count re-apprehensions that occur within a fixed period of time defined by the subject's repatriation date, rather than by the fiscal year.[5] When based on a one year window, these refinements yield a more expansive definition of the recidivism rate that DHS refers to as the "Total One-Year Recidivism Rate"; future versions of this report will include estimates of the impact of CDS on both the annual recidivism rate and a longer-term recidivism rate.

Available Data and Discussion

Table 8.
CDS Recidivism Rate Change by Sector

Southwest Border Sector	Year CDS Implemented	Average Annual Recidivism Rate in 3 Prior Years[1]	Average Annual Recidivism Rate in 3 Subsequent Years[2]
San Diego	FY 2012	38%	31%
El Centro	FY 2012	42%	36%
Yuma	FY 2012	18%	16%
Tucson	FY 2012	26%	20%
El Paso	FY 2012	10%	10%
Big Bend	FY 2012	11%	7%
Del Rio	FY 2012	8%	6%
Laredo	FY 2012	14%	12%
Rio Grande Valley	FY 2012	15%	12%

[1] Refers to the 3 years prior to CDS being implemented in that sector.
[2] Refers to the 3 years after CDS was implemented in that sector.

[5] U.S. Government Accountability Office, "Border Patrol: Actions Needed to Improve Oversight of Post-Apprehension Consequences," GAO-17-66, January 2017, pp. 13-17.

With the exception of the El Paso sector, where rates remained unchanged, the annual recidivism rates dropped across the board following the implementation of CDS. While changes in recidivism should not be interpreted solely as a function of CDS given that border enforcement is a complex, dynamic system, some sectors showed noticeable improvements in recidivism rates, such as the Tucson and El Centro sectors which saw six percent drops after CDS, and San Diego which saw a seven percent drop. Other sectors, which already had the lowest recidivism rates, saw smaller improvements. Recidivism data are not available to calculate the impact of CDS at the Northern Border due to the small number of attempted illegal entries along the Northern Border.

§ 1092(b)(1)(J) Examination of each consequence under the CDS

Definition

Consequence – An administrative, programmatic, or criminal justice process imposed on a subject following the subject's apprehension. CDS is designed to identify, for any given subject, the ideal consequences to deliver to impede and deter further illegal activity.

Methodology and Limitations

USBP's current methodology for assessing the CDS involves analyzing the effectiveness and efficiency of each enforcement consequence. One of the key effectiveness metrics is the annual recidivism rate, which is calculated separately for each enforcement consequence.

Under the CDS, USBP specifically targets aliens with more extensive records of unlawful border crossing behavior for consequences that are designed to have a greater deterrent impact. For example, the Target Enforcement Initiative utilizes partnerships with the U.S. Department of Justice to prioritize and prosecute individuals with six or more apprehensions. As a result, differences in recidivism rates by enforcement consequence may reflect differences in the propensity of the targeted population to make further re-entry attempts, in addition to the possible impact of each consequence on recidivism.

An additional limitation of currently-available data is that they are based on apprehension data for a given fiscal year, not repatriation data. Depending on the consequence and the timing of the apprehension, some individuals may not be repatriated to their country of origin during the fiscal year of their apprehension, and therefore may not have an opportunity to attempt re-entry. DHS and CBP are working to refine their analysis of CDS and will seek to address these limitations in the FY 2018 version of this report.

Available Data and Discussion

Table 9.
Illicit Drugs Seized Relative to Preceding Five Years ("Illicit Drug Seizure Rate") between POEs, FY 2012 – FY 2016

Consequence	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Voluntary Return	27.06%	28.61%	30.50%	27.03%	24.55%
Warrant of Arrest/ Notice to Appear	3.83%	1.44%	0.60%	0.89%	0.41%
Expedited Removal	16.44%	16.66%	17.54%	18.08%	15.46%
Reinstatement of Removal	15.88%	16.42%	15.80%	15.41%	16.62%
Alien Transfer Exit Program	23.82%	25.48%	28.63%	27.17%	28.80%
Criminal Consequence Program	10.30%	9.26%	8.24%	6.67%	8.36%
Standard Prosecution	9.09%	10.17%	9.18%	8.79%	8.16%
Operation Against Smugglers Initiative on Safety and Security	10.24%	18.04%	18.25%	22.97%	30.93%

While these data should be interpreted with caution for the reasons identified above, some trends are noteworthy. For example, the more punitive consequence programs such as CCP and standard prosecution generally showed lower recidivism rates (8.36 percent, 8.16 percent) than less punitive programs like voluntary return (24.55 percent) or expedited removal (15.46 percent). At the same time, recidivism rates are notably high among individuals in the Operation Against Smugglers Initiative on Safety and Security (OASISS) consequence group; this finding likely reflects the fact that the population selected for OASISS—suspected smugglers—routinely make multiple crossing attempts.

§ 1092(c) METRICS FOR SECURING THE BORDER AT PORTS OF ENTRY

§ 1092(c)(1)(A)(i) Total inadmissible travelers at ports of entry

Definition

Inadmissible alien – An alien seeking admission at a POE who does not meet the criteria in the INA for admission.

Known inadmissible aliens – Aliens seeking admission at a POE who are found by OFO to be inadmissible.

Total attempted inadmissible aliens – The estimated number of inadmissible aliens who attempt to enter the United States. Total attempted inadmissible aliens include known inadmissible aliens and successful unlawful entries at POEs.

Inadmissible aliens and known inadmissible aliens are *activity measures* that describes OFO officer workload. Known inadmissible aliens may also be used as a proxy indicator of total attempted inadmissible aliens, which is an *outcome measure*.

Methodology and Limitations

Known inadmissible aliens are recorded in OFO administrative records with a unique identifier created for each inadmissibility determination. OFO's count of known inadmissible aliens is considered reliable.

The Department does not currently have a methodology in place to estimate the number of attempted inadmissible aliens. DHS and CBP are working to establish a methodology to produce such an estimate in time to be included in the 2018 State of the Border Report.

Available Data and Discussion

Table 10.
Known Inadmissible Aliens at Ports of Entry, FY 2007 – FY 2016

FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
203,310	224,770	225,149	231,306	216,355	197,362	205,920	224,927	254,637	292,614

From the recent low in FY 2012, the number of aliens identified as inadmissible at POEs has continue to climb. In FY 2016, 292,614 aliens were deemed inadmissible at POEs, the highest number this decade. The FY 2016 count represents an increase of 48 percent over the 197,362 inadmissible aliens in FY 2012.

§ 1092(c)(1)(A)(ii) Refusal and interdiction rates at ports of entry

Definition

Refusal rate – The share of all passengers seeking admission at a port of entry that is found inadmissible. Refusal rate is an *activity measure* that describes OFO officer workload.

Port of entry interdiction rate – The share of attempted inadmissible aliens that is found inadmissible. POE interdiction rate is an *output measure* that describes the difficulty of entering the United States unlawfully through a port of entry.

Methodology and Limitations

The refusal rate is calculated by dividing known inadmissible aliens (i.e., aliens found inadmissible by OFO officers at POEs) by the total number of passengers seeking admission at ports of entry:

$$\text{Refusal rate} = \frac{\text{Inadmissibility determinations}}{\text{Arivals at POEs}}$$

Data on inadmissibility determinations and total passengers is obtained from OFO administrative records; these data are considered reliable.

The Department does not have a methodology in place to calculate total attempted inadmissible aliens, and therefore currently cannot calculate a POE interdiction rate.

Available Data and Discussion

Table 11.
Inadmissible Aliens and Refusal Rate at Ports of Entry, FY 2007 – FY 2016

	Passengers	Inadmissible	Refusal Rate
FY 2007	407,677,568	203,310	0.05%
FY 2008	401,481,071	224,770	0.06%
FY 2009	361,191,781	225,149	0.06%
FY 2010	352,980,607	231,306	0.07%
FY 2011	340,364,884	216,355	0.06%
FY 2012	351,551,007	197,362	0.06%
FY 2013	362,333,988	205,920	0.06%
FY 2014	374,974,750	224,927	0.06%
FY 2015	383,200,225	254,637	0.07%
FY 2016	390,592,745	292,614	0.07%

Since 2012, the number of passengers at POEs has increased 11 percent (from 352 to 391 million), while the number of known inadmissible passengers has increased 48 percent (from 197,000 to 293,000), resulting in a 33 percent increase in the refusal rate (from under 0.06 percent to over 0.07 percent). This increase may indicate that inadmissible aliens represent an increasingly large share of passengers, that OFO is better able to detect inadmissible aliens, or both. With an FY 2016 refusal rate of .0749 percent, however, the number of known inadmissible aliens is still a very small share of passengers coming through POEs.

§ 1092(c)(1)(A)(iii) Unlawful entries at ports of entry

Definition

Successful unlawful entries – The estimated number of inadmissible aliens who unlawfully enter the United States through POEs.

Successful unlawful entries is an *outcome measure*.

Methodology and Limitations

The Department does not currently have a methodology to reliably estimate the number of successful unlawful entries through POEs. DHS and CBP are working to establish a methodology to produce such an estimate in time to be included in the 2018 State of the Border Report.

§ 1092(c)(1)(B) Illicit drugs seized at ports of entry

Definition

Drug seizures – Seizures of illicit drugs by CBP officers at POEs.

Drug seizures are an *activity measure*. Drug seizures may also be interpreted as a proxy indicator of illicit drug inflows through POEs, an *outcome measure*.

Methodology and Limitations

Drugs seizure data are obtained from OFO administrative records, measured in kilograms. These data areconsidered reliable.

Available Data and Discussion

Drug seizures at POEs is contained in Appendix B. A total of 367,612.58 kilos of illicit drugs were seized at POEs in FY 2016, which represents a nine percent decline from a total of 400,719.44 kilos in FY 2015, but is still higher than the previous five-year average of 352,399.84 kilos.

§ 1092(c)(1)(C) Port of entry illicit drug seizure rate

Definition

Port of entry illicit drug seizure rate – For each type of illicit drug seized by OFO at POEs, the ratio of the amount of illicit drugs seized in any fiscal year to the average of the amount seized in the immediately preceding five fiscal years.

Methodology and Limitations

At-ports-of-entry drug seizure data are obtained from OFO administrative records. These data are considered reliable.

Pursuant to the definition of the illicit drug seizure rate directed by NDAA § 1092(c)(1)(C), the drug seizure rate describes recent seizure trends (i.e., current year compared to five previous years); the measure does not describe the rate at which illicit drugs are seized.

The drug seizure rate is an *activity measure*, which compares trends in activity data over time. Drug seizures may also be interpreted as a proxy indicator of illicit drug inflows through POEs, an *outcome measure*.

Available Data and Discussion

Table 12.
Port of Entry Illicit Drug Seizure Rate, FY 2012 – FY 2016

Drug Type		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Marijuana	Rate	88%	81%	77%	118%	102%
	Kg seized	219,344	195,270	180,686	250,637	219,960
Cocaine	Rate	73%	82%	71%	87%	103%
	Kg seized	7,294	7,413	6,234	7,190	8,209
Heroin	Rate	209%	208%	168%	174%	106%
	Kg seized	1,125	1,475	1,556	1,984	1,483
Methamphetamines	Rate	233%	263%	200%	200%	203%
	Kg seized	4,888	7,503	8,285	10,861	14,279

Unlike recent trends in drug seizures between POEs, marijuana and cocaine seizures at POEs held fairly constant in FY 2016 as compared to the previous five-year average (two percent and three percent increase respectively). Notably, however, seizures of marijuana and cocaine have fallen in recent years, and the volume of seizures in FY 2016 were still relatively low by recent historical standards. Heroin and methamphetamines, however, continued their increases into FY 2016, with heroin increasing six percent over a constantly growing five year average and methamphetamines more than doubling its previous five year average each of the past five years.

§ 1092(c)(1)(D) Major infractions at ports of entry

Definition

Major infractions – OFO considers major infractions to include all arrests, including arrests related to terrorism, drugs, criminal alien [including zero tolerance (ZT) arrests], currency, merchandise, agriculture products, National Crime Information Center (NCIC) hits, and Terrorist Screening Database (TSDB) hits, among others.

Known major infractions – The number of major infractions interdicted by OFO.

Undetected major infractions – The estimated number of major infractions not interdicted by OFO.

Known major infractions are an *activity measure*. Undetected major infractions are an *outcome measure*.

Methodology and Limitations

These data are recorded in OFO administrative records and are considered reliable.

The Department does not currently have a methodology to estimate the number of undetected major infractions.

Available Data and Discussion

Table 13.
Known Major Infractions at Ports of Entry, FY 2007 – FY 2016

	Passengers	Major Infractions	Infraction Rate
FY 2007	407,677,568	90,718	0.02%
FY 2008	401,481,071	96,330	0.02%
FY 2009	361,191,781	108,941	0.03%
FY 2010	352,980,607	112,446	0.03%
FY 2011	340,364,884	120,491	0.04%
FY 2012	351,551,007	111,185	0.03%
FY 2013	362,333,988	112,471	0.03%
FY 2014	374,974,750	106,354	0.03%
FY 2015	383,200,225	112,562	0.03%
FY 2016	390,592,745	113,665	0.03%

OFO officers interdicted 113,665 passengers based on major infractions at ports of entry in FY 2016. The number of major infractions was almost unchanged from FY 2015, and similar to the number each year since FY 2010. With the number of passengers increasing slightly over this period, the infraction rate fell slightly from 0.04 percent in FY 2011 to 0.03 percent in FY 2016. Over the last 10 years (i.e., since FY 2007), both the number of total seizures and the infraction rate both showed modest increases.

§ 1092(c)(1)(E) Cocaine seizure effectiveness rate

Definition

Cocaine seizure effectiveness rate – In consultation with the Office of National Drug Control Policy (ONDCP), the amount of cocaine seized by OFO at land POEs compared to the total estimated flow of cocaine through land POEs.

Cocaine seizures is an *activity measure*. Seizures may also be used as a proxy indicator of total attempts to import cocaine, an *outcome measure*. Seizure effectiveness rate (i.e., cocaine seized as compared to the total estimate cocaine flow) is an *output measure*.

Methodology and Limitations

Seizure data is obtained from OFO administrative records and is considered reliable. Estimates of the total cocaine flow are provided by ONDCP. The U.S. Government does not have an estimate of the share of the total cocaine flow that passes through land POEs, but the U.S. Drug Enforcement Agency's National Drug Threat Assessment states that the southwest border remains the key entry point for the majority of the cocaine entering the Unites States.

Available Data and Discussion

Table 14.
Estimates of Cocaine Seizure at Land Ports of Entry, FY 2012 – FY 2016

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Estimated Flow	479	475	479	684	1,142
Seizures	45,260.18	39,074.63	41,311.88	38,145.00	52,900.67
Seizure Effectiveness Rate	4.2%	3.7%	3.9%	2.5%	2.1%

Notes: Estimated flow is measure in metric tons. Cocaine seizure estimates reported in pounds. Estimated cocaine flows are based on the IACM mid-point estimate for 2012-2014 and based on confirmed and substantiated CCDB estimate for 2015-2016.

§ 1092(c)(1)(F)(i) Average wait times and traffic volume

Definition

Average wait time – Average minute wait time for vehicles to pass through a land POE.

Private vehicle volume – The number of private vehicles passing through a land POE per year.

Commercial vehicle volume – The number of commercial vehicles passing through a land POE per year.

Average wait time is an *output measure* describing the ease of crossing the border. Vehicle volume is an *activity measure*.

Methodology and Limitations

OFO calculates average wait times for each POE by a variety of methods, some automated using Radio Frequency Identification and others manually using either surveying or line of sight determinations. For manual wait time determinations, OFO officers record average minute wait times in the Border Wait Time tool, for automated wait times the time is recorded automatically every 30 minutes. Wait time data is not available for all POEs, particularly small northern border POEs with negligible wait times. OFO leadership directed POEs to provide wait times in March 2014. The policy is currently under review and new guidance will be issued in the near future to account for the improvements in automation and recording.

OFO records counts of personally owned vehicles (POV) as administrative data in its Operations Management Report (OMR); these data are considered reliable.

Available Data and Discussion

Data on average wait times, and counts of private and commercial vehicles for each land POE for which data are available are contained in Appendix C. Appendix C contains law enforcement sensitive information and has been redacted from this public report.

§ 1092(c)(1)(F)(ii) Infrastructure Capacity Utilization Rate

Definition

Infrastructure capacity utilization rate – Average number of vehicles processed per booth, per hour at each land POE.

The infrastructure capacity utilization rate is an *output measure* that describes OFO's ability to process traffic relative to the physical and staffing capacity.

Methodology and Limitations

Data are obtained from OFO administrative records. The data comes from CBP systems with booth hours and throughput as calculated fields. The hours serve as a proxy measure for the number of CBP officer hours spent processing and are measured on a one-for-one basis. Throughput is then calculated by summing all vehicles that passed through a site in a year and then dividing it by total booth hours.

Available Data and Discussion

Infrastructure capacity utilization rate data is contained in Appendix D. Appendix D contains law enforcement sensitive information and has been redacted from this public report.

Each OFO land POE is unique in terms of staffing authorizations and physical layouts. Land POEs may be physically constrained by the available space around them and so unable to expand to yield greater capacity. Land POEs in the United States are also impacted by the adjoining Canadian and Mexican land POE management decisions on staffing and physical layouts. Both the OFO Mission Support Facilities Division and the CBP Office of Facilities and Asset Management are working on establishing methods to determine resourcing decisions for land POEs.

Table 15.
Average Infrastructure Capacity Utilization Rate, FY 2012 – FY 2016

Border	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Northern Border	36.2	38.2	39	35.7	34.6
Southern Border	47.7	46.8	49.1	53	54.4
Total	**43.1**	**43.5**	**45.3**	**46.6**	**47.4**

Infrastructure capacity utilization rate varies by location and year. In general, the southern border reports higher utilization rates because of higher flows through the POEs. The overall utilization rate increased in FY 2016 over the previous year, due to a combination of increased efficiency and increased traffic demand for a fixed number of processing lanes. CBP processed an average of 47.4 vehicles per lane, per hour in FY 2016 (34.6 on the northern border; 54.4 on the southern border).

§ 1092(c)(1)(F)(iii) Secondary Examination Rate

Definition

Secondary examination rate – Percentage of passengers subject to secondary inspection at each land POE.

Secondary examination rate is an *activity measure* that describes OFO workload and practices.

Methodology and Limitations

Data are obtained from OFO administrative records. Secondary examination rate is determined by the recorded number of passengers sent for secondary inspection versus the total number of recorded passengers.

Available Data and Discussion

Frequency of secondary inspections data is contained in Appendix E. Appendix E contains law enforcement sensitive information and has been redacted from this public report.

Secondary inspection rates vary considerably among the various POEs. Among the northern border POEs, the rate of secondary inspection declined from 8.52 percent in FY 2012 to 7.30 percent in FY 2016. The southern border secondary inspection rate remained stable over the past four years, with 11.88 percent of passengers receiving secondary inspection in FY 2016. This number is down from the prior three year average from FY 2010 to FY 2012, when closer to 15 percent of passengers received secondary inspection. The highest secondary inspection rates were northern border POEs such as St. John (32.30 percent) and Vanceboro (29.83 percent). Certain smaller land POEs have high secondary examination rates due to low volume of traffic that allow officers increased time to thoroughly examine a larger share of passengers.

§ 1092(c)(1)(F)(iv) Secondary examinations effectiveness rate

This measure is under review. OFO does not presently measure the effectiveness of secondary examinations at the enterprise level.

§ 1092(c)(1)(G)(i) Number of potentially "high-risk" cargo containers

Definition

Potentially high-risk cargo containers – Shipping containers carrying cargo shipments identified as potentially high-risk using National Targeting Center (NTC) security criteria.

Potentially high-risk cargo containers is an *activity measure* that describes OFO workload.

Methodology and Limitations

All international cargo shipments coming to the United States via the sea, land, and air modes of transportation are screened by the NTC using the Automated Targeting System (ATS) to identify those shipments that may be considered potentially high-risk according to NTC security criteria. Any cargo container carrying a shipment identified as potentially high-risk is identified for immediate review and assessed or scanned prior to lading at a Container Security Initiative (CSI) member foreign port of origin or at arrival at a U.S. POE. Assessing, resolving, and when required, scanning and physically inspecting cargo found to be potentially high-risk ensures the safety of the public and minimizes the impact to the trade through the effective use of risk-focused targeting.

The NTC periodically refines, improves, and revises the security criteria applied by the Automated Targeting System, which in turn improves the focus of the risk assessment applied and somewhat reduces the overall number of cargo shipments identified as potentially high-risk. This process of continual review and refinement in the security criteria applied and ATS methodology has led to significant reductions in the total number of cargo containers identified as potentially high-risk year-to-year, even though the total amount of cargo arriving at U.S. POEs has increased over the same time period.

Available Data and Discussion

Table 16.
Potentially High-Risk Cargo Containers at Seaports, FY 2013 – FY 2016

FY 2013	FY 2014	FY 2015	FY 2016
89,598	74,509	72,974	71,815

The number of potentially high-risk cargo containers declined in 2016 for the third year in a row. Overall, the number of potentially high-risk containers fell from 89,598 in FY 2013 to 71,815 in FY 2016, a 20 percent decrease.

§ 1092(c)(1)(G)(ii) Ratio of potentially high-risk cargo containers scanned relative to high-risk containers entering in previous fiscal year

Definition

Ratio of potentially high-risk containers scanned – The ratio of potentially high-risk containers scanned relative to the number of potentially high-risk containers entering in the previous fiscal year.

Percentage of potentially high-risk containers scanned – The percentage of potentially high-risk containers scanned relative to the total number of potentially high-risk containers entering in the same fiscal year.

The ratio of potentially high-risk containers scanned is an *activity measure*, which compares trends in activity data over time. Ratio of high risk containers may also be interpreted as a proxy indicator of high risk containers successfully be scanned and entering through ports of entry, an *outcome measure*.

The percentage of potentially high-risk containers scanned is an *output measure*, which describes CBP's ability to scan containers identified as being potentially high-risk.

Methodology and Limitations

Inspection data are obtained from OFO administrative records. These data include potentially high-risk cargo containers reviewed, assessed, or scanned. These three methods of inspection are not currently distinguishable with available data sources.

The ratio compares potentially high-risk containers in one year to the number entering in the previous year and should not be confused with the percentage of potentially high-risk containers scanned relative to the number entering in the current year.

A container is considered "high-risk" if even one shipment within it is designated high-risk. One container may have multiple high-risk shipments within it which could cause the same container to be reviewed or scanned multiple times.

Available Data and Discussion

The ratio of potentially high-risk containers reviewed, assessed, or scanned relative to previous years' entries along with the percentage scanned in the current year are contained in Appendix F. Appendix F contains law enforcement sensitive information and has been redacted from this public report.

With respect to the percentage scanned, nearly all sea POEs reported 100 percent scanning of high-risk cargo containers in FY 2016 or indicated that no high-risk containers passed through the POE. The few POEs that reported lower than a 100 percent scanning rate reported at least a 99 percent rate.

§ 1092(c)(1)(G)(iii) Potentially high-risk cargo containers scanned upon arrival at a U.S. POE

This measure is under review and will be provided in the FY 2018 report.

§ 1092(c)(1)(G)(iv) Potentially high-risk cargo containers scanned before arrival at a U.S. POE

This measure is under review and will be provided in the FY 2018 report.

§ 1092(d) METRICS FOR SECURING THE MARITIME BORDER

§ 1092(d)(1)(A) Situational awareness in the maritime environment

Definition

The NDAA calls for DHS to develop a measure for situational awareness based on "knowledge and understanding of current unlawful cross-border activity, including the following: (A) Threats and trends concerning illicit trafficking and unlawful crossings; (B) The ability to forecast future shifts in such threats and trends; (C) The ability to evaluate such threats and trends at a level sufficient to create actionable plans; and (D) The operational capability to conduct persistent and integrated surveillance of the international borders of the United States."

Situational awareness is an *output measure*.

Methodology and Limitations

DHS is in the multi-year process of developing a defensible, analytically sound measure for situational awareness in the maritime domain that meets the intent of the NDAA.

In the interim, the Department reports on the following operational activities contributing to maritime domain situational awareness:

- CBP Aircraft Hours Flown for Situational Awareness or Interdiction Support
- USCG Aircraft Hours Flown for Situational Awareness or Interdiction Support
- USCG Cutter Hours Contributing to Situational Awareness or Interdiction
- CBP Boat Hours Contributing to Situational Awareness or Interdiction
- USCG Boat Hours Contributing to Situational Awareness or Interdiction
- CBP Tethered Aerostat Radar System (TARS) Radar Operating Hours
- Number of Vessel Manifests Screened by Coastwatch

Available Data and Discussion

Table 17a.
CBP Aircraft Flight Hours Within/Outside Transit Zone, FY 2016

	FY 2016
Inside Transit Zone - CBP	6,420
Outside Transit Zone – CBP	13,188

Table 17b.
USCG Aircraft Flight Hours Within/Outside Transit Zone, FY 2012 – FY 2016

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Inside Transit Zone – USCG	5,082	4,599	4,567	5,426	4,110
Outside Transit Zone – USCG	14,721	14,258	13,896	14,003	13,736

USCG reported a decrease in the number of flight hours both inside and outside the transit zone in FY 2016. Between FY 2012 and FY 2015, an average of 4,919 hours were flown inside the transit zone, while only 4,110 were flown in FY 2016 – the lowest recorded flight hours in the last five years. Similarly, 13,736 hours were flown outside the transit zone in FY 2016, as compared to the FY 2012-2015 average of 14,220. This FY 2016 total was also the lowest number of hours flown outside the transit zone in the last five years.

Table 18.
USCG Cutter Underway Hours Within/Outside Transit Zone, FY 2012 – FY 2016

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Inside Transit Zone	37,866	25,388	14,456	16,964	28,205
Outside Transit Zone	127,671	117,114	117,093	112,773	78,462

Table 19a.
USCG Boat Underway Hours Within/Outside Transit Zone, FY 2012 – FY 2016

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Inside Transit Zone	0	2,031	0	0	0
Outside Transit Zone	46,326	37,640	30,726	32,701	28,525

Table 19b.
CBP Boat Underway Hours Within/Outside Transit Zone, FY 2016

	FY 2016
Inside Transit Zone	0
Outside Transit Zone	40,241
Note: CBP maritime hours include Air and Marine Operations vessel underway hours.	

Table 20.
Total Operational Hours For TARS Radars, FY 2012 – FY 2016

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Cudjoe Key, FL	5,752	6,289	6,165	6,306	4,886
Lajas, PR	0[1]	0[1]	1,230[1]	5,049	4,559
[1] TARS site at Lajas, Puerto Rico crashed in 2011; CBP re-established operations in May 2014. **Source:** CBP administrative records.					

CBP's Air and Marine Operations (AMO) uses TARS to provide long-range detection of low-altitude aircraft at the radar's maximum range. The elevated sensor mitigates curvature of the earth and terrain masking limitations. The number of TARS operational hours declined for both locations in FY 2016. Cudjoe Key saw a 1,420 hour decrease in hours (23 percent decrease from FY 2015). Lajas reported a 490 hour decrease (10 percent decrease from FY 2015). FY 2016 saw an increase in severe tropical weather throughout the storm season because of a La Niña effect, which impacted operations. In addition to the weather, AMO switched out the aerostat envelope of the TARS in Cudjoe Key over March and April 2017.

Table 21.
Vessel Manifests Screened by Coastwatch for National Security Concerns Prior to Arrival at U.S. POE, FY 2012 – FY 2016

FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
118,098	126,112	124,661	122,133	117,736

§ 1092(d)(1)(B) Known maritime migrant flow rate

Definition

Known maritime flow – Total maritime migrant flow interdicted, identified directly or indirectly but not interdicted, or otherwise believed to have unlawfully entered the United States

Known maritime flow is an *outcome measure*.

Methodology and Limitations

Migrant flow data are obtained from USCG and CBP administrative records. The USCG maintains a robust accounting of USCG, international partner, and domestic partner interdictions and sightings of undocumented maritime migrants. The USCG relies upon its partners to report their interdictions to the USCG for compilation in the database. At times, undocumented maritime migrants are counted by both USCG and CBP (or other partners) when interdicted as agencies often cooperate during these operations. In certain limited cases undocumented maritime migrant interdictions by partners are not reported to the USCG, and these cases are not accounted for in the figures below. Additionally, while partners report cases to the USCG when undocumented maritime migrants are apprehended on shore or evidence is found of their arrival on shore, some migrants arrive without being apprehended and leave no evidence. These cases are never reported and are also excluded from the known maritime migrant flow figures below.

Table 22.
Migrants Interdicted In The Maritime Domain By DHS Component, FY 2007 – FY 2016

	USCG	CBP	DHS and Partners
FY 2007	5,981	NA	NA
FY 2008	4,565	NA	NA
FY 2009	3,682	NA	NA
FY 2010	2,121	NA	NA
FY 2011	2,458	NA	NA
FY 2012	2,732	NA	NA
FY 2013	2,093	NA	NA
FY 2014	3,587	NA	7,752
FY 2015	3,825	NA	6,028
FY 2016	6,326	2,683	8,167

Note: Some interdictions may be counted by both USCG and CBP as some migrant interdictions involve assets from both agencies. Interdictions by DHS and partners may include international partners.

Table 23
Known Maritime Migrant Flow, FY 2007 – FY 2016

FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
14,682	10,879	9,850	4,443	4,566	5,298	7,631	10,631	8,057	10,319

§ 1092(d)(1)(C) Illicit drug removal rate

Terms

Illicit drugs removal rate – The ratio of illicit drugs removed by DHS maritime security in any fiscal year, including drugs abandoned at sea, relative to the average amount removed or abandoned in the immediately preceding five fiscal years.

The illicit drug removal rate is an *activity measure*, which compares trends in activity data over time.

Methodology and Limitations

Drug removals are obtained from USCG and CBP administrative records; these data are considered reliable.

Pursuant to the definition of the Illicit Drug Removal Rate directed by NDAA § 1092 (d)(1)(C), the drug removal rate describes recent trends in drugs removed or abandoned at sea (i.e., current year compared to five previous years); the measure does not describe the rate at which illicit drugs are removed.

Non-commercial maritime drug removals includes those seized by the USCG, CBP, other law enforcement agencies, and international partners, as well as those disrupted or abandoned by drug trafficking organizations.

Available Data and Discussion

Table 24.
Ratio of Drugs Removed or Abandoned at Sea Relative to Previous Five Fiscal Years ("Illicit Drug Removal Rate"), FY 2012 – FY 2016

Drug Type		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Marijuana	Rate	337%	137%	154%	100%	61%
	Kg seized	124,585	81,008	108,535	78,262	52,613
Methamphetamines	Rate	0%	150%	265%	36%	4332%
	Kg seized	0	17.4	32.1	4.8	599.5
Heroin	Rate	762%	0%	0%	676%	327%
	Kg seized	24	0	0	52.4	44

Note: Marijuana measured in pounds, amphetamines and heroin measured in kilograms. Data only includes removals by USCG.

§ 1092(d)(1)(D) Cocaine removal effectiveness rate

Definition

Cocaine removal effectiveness rate – In consultation with ONDCP, the amount of cocaine removed by DHS inside and outside the maritime transit zone compared to total estimated flow of cocaine through the maritime domain.

Cocaine removals is an *activity measure*. Removals may also be used as a proxy indicator of total attempts to import cocaine, an *outcome measure*. Cocaine removal effectiveness rate (i.e., cocaine seized as compared to the total estimate cocaine flow) is an *output measure*.

Methodology and Limitations

Drug removal data are obtained from ONDCP, JIATF-S, CBP, and USCG administrative records through the Consolidated Counter Drug Database (CCDB), and are considered reliable. Flow quantities are the best estimates available based on intelligence reporting and case data. Additionally, while other government estimates for production in major cocaine producing countries in South America and consumption of cocaine within America do not align with the estimated non-commercial maritime flow figures inside the transit zone derived from the CCDB, this metric was derived based upon the non-commercial maritime flow estimates.

For the purposes of this metric, based upon where the data was gathered, the transit zone is defined by the Joint Interagency Task Force South area of responsibility. Non-commercial maritime drug removals include those seized by USCG, CBP, other law enforcement agencies, and international partners, as well as those disrupted by anti-drug trafficking operations. The cocaine removal rate is based on estimates of noncommercial maritime cocaine flow from the CCDB. Outside the transit zone data is not considered as robust with regard to intelligence on flow. As a result, the interdiction rate for cocaine outside the transit zone is not considered reliable.

Available Data and Discussion

Table 25.

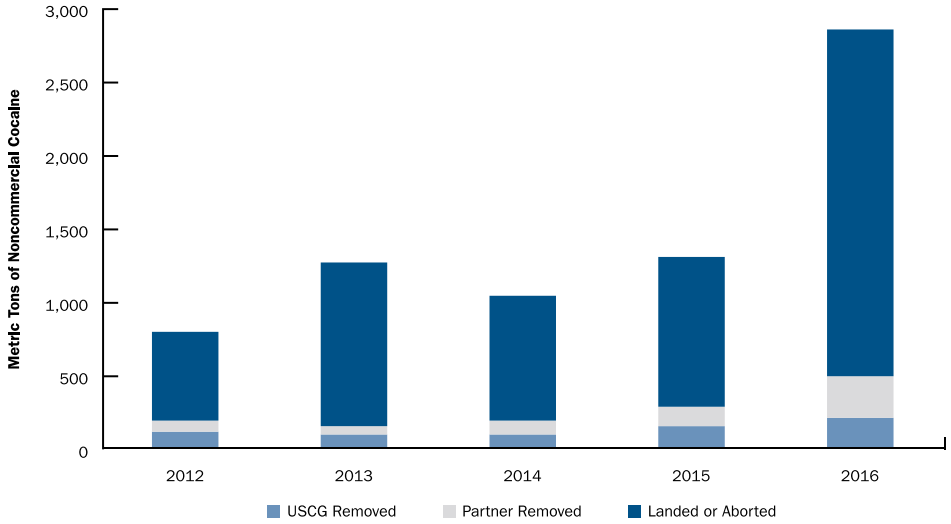
Cocaine Removed by DHS Relative to the Total Estimated Flow in the Maritime Transit Zone, FY 2012 – FY 2016

Drug Type		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Inside Transit Zone	Rate	23%	12%	17%	21%	17%
	Quantity Removed	186.4	155.4	178.8	277.2	482.7
	Estimated Flow	799.5	1260.4	1042.2	1308.8	2852.6
Outside Transit Zone	Rate	49%	19%	50%	73%	28%
	Quantity Removed	21.3	15.1	13.2	39	17.7
	Estimated Flow	43.8	81.5	26.2	53.2	62.3

Note: Removal and estimated flow quantities measured in metric tons.

Figure 5.

Flow and Removal of Cocaine in the Maritime Transit Zone, FY 2012 – FY 2016



The flow of cocaine is estimated to have risen in 2016 to over 2,800 metric tons, based on the decrease in aerial eradication of cocaine crops in Colombia and improved intelligence reporting throughout the Transit Zone.

§ 1092(d)(1)(E) DHS maritime threat response rate

Definition

DHS maritime threat response rate – The ability of DHS maritime security components to respond to and resolve known maritime threats, whether inside or outside a transit zone, by placing assets on-scene, relative to the total number of known threats.

Methodology and Limitations

Currently, this data only exists associated with cocaine response activity. Further, DHS data is part of a larger set of interagency data and may not be able to be separated from the larger interagency data set, which is currently assessed and reconciled on a cycle and process outside of DHS that does not support submission at this time. DHS, in cooperation with interagency partners, intends to explore options to collect response data for non-cocaine response events, as well as options to provide the response rate measures data to meet the intent of the Act and hopes to provide an update in the November 2018 report.

§ 1092(d)(1)(F) Intergovernmental maritime threat response rate

Definition

Intergovernmental maritime threat response rate – The ability of DHS maritime security components or other U.S. Government entities to respond to and resolve known maritime threats, whether inside or outside a transit zone, by placing assets on-scene, relative to the total number of known threats.

Methodology and Limitations

Currently, this data only exists associated with cocaine response activity. Further, DHS data is part of a larger set of interagency data and may not be able to be separated from the larger interagency data set, which is currently assessed and reconciled on a cycle and process outside of DHS that doesn't support submission at this time. DHS, in cooperation with interagency partners, intends to explore options to collect response data for non-cocaine response events, as well as options to provide the response rate measures data to meet the intent of the Act and hopes to provide an update in the November 2018 report.

§ 1092(e) AIR AND MARINE SECURITY METRICS IN THE LAND DOMAIN

§ 1092(e)(1)(A) Flight hour effectiveness rate

Definition

Flight hour effectiveness rate in the land domain – Number of flight hours flown by DHS Air and Marine Operations in the Land Domain as a percentage of AMO's unconstrained and unfunded flight hour requirements.

Flight hour effectiveness rate is an *output measure*.

Methodology and Limitations

This flight hour effectiveness rate is determined by dividing the total hours flown by the number of flight hours determined during the annual collection process. The flight hour requirements for the subsequent fiscal year are collected by AMO operating locations based on unconstrained requirements collected from USBP, ICE and other partner agencies as well as internal AMO requirements. In FY 2016, AMO collected the following unconstrained flight hour requirements from these partner agencies in the Land Domain: USBP – 209,448 hours; ICE – 54,580 hours; OFO - 6,820 hours; and 24,377 hours for all other enforcement and non-enforcement Land Domain missions (U.S. Secret Service event security, local Law Enforcement coordination, training, maintenance, etc.). In 2016, AMO's unconstrained flight hour requirement in the Land Domain totaled 295,225 hours. However, after incorporating the approved funding for FY 2016, the total funded flight hours in the Land Domain was reduced to 79,774 programmed hours.

Available Data and Discussion

AMO completed 27 percent of the unconstrained flight hour requirement during FY 2016, with 79,872 hours flown against the unconstrained 295,225 hours. Data from previous years are not available for analysis.

§ 1092(e)(1)(B) Funded flight hour effectiveness rate

Definition

Funded flight hour effectiveness rate – Number of flight hours flown by Air and Marine Operations as a percentage of the number of flight hours funded by Congress.

Funded flight hour effectiveness rate is an *output measure*.

Methodology and Limitations

Flight hour data are obtained from AMO administrative records. This rate is determined by dividing the total hours flown by the number of flight hours funded by Congress.

Available Data and Discussion

AMO's flight hour effectiveness rate was 100 percent in FY 2016, with 79,872 hours flown against 79,774 funded hours. Data from previous years are not available for analysis.

§ 1092(e)(1)(C) AMO readiness rate

Definition

AMO readiness rate – The percentage of mission requests that AMO was able to fulfill, excluding those requests that could not be fulfilled due to reasons beyond AMO's control.

AMO readiness rate is an *activity measure*.

Methodology and Limitations

Missions data are obtained from AMO administrative records. The rate is determined by dividing the missions flown by the total number of mission requests (number of missions flown plus the number of missions cancelled due to causes within AMO control, such as maintenance, personnel, and asset availability).

Available Data and Discussion

Table 26.
AMO Missions Cancelled and Readiness Rate, FY 2016

	FY 2016
Total Non-Cancelled Missions	31,635
Missions cancelled - asset availability	4,978
Missions cancelled - crew availability	1,738
Total cancelled missions within AMO control	6,716
Readiness rate due to causes within AMO control	82%

AMO's readiness rate was 82 percent in FY 2016, with 6,716 out of 38,351 planned missions cancelled due to causes within AMO control. Data from previous years are not available for analysis.

§ 1092(e)(1)(D) AMO weather-related cancelation rate

Definition

AMO weather-related cancelation rate – The number of missions cancelled by AMO due to weather as a percentage of total planned AMO missions.

AMO weather-related cancelation rate is an *activity measure*.

Methodology and Limitations

Mission data are obtained from AMO administrative records. The weather-related cancelation rate is calculated by dividing the number of missions cancelled due to weather by the total number of missions requested by AMO's partner agencies.

Table 27.
AMO Weather-Related Cancelation Rate, FY 2016

	FY 2016
Total Missions Requested by Partner Agencies	42,761
Missions Cancelled – Weather	3,083
Cancellation Rate due to Weather	7%

Available Data and Discussion

§ 1092(e)(1)(E) AMO individuals detected

Definition

AMO individuals detected – Number of individuals detected by CBP AMO through the use of unmanned aerial systems and manned aircraft.

AMO individuals detected is an *activity measure*.

Methodology and Limitations

Data are obtained from AMO administrative records. The Department's currently available data on detections by unmanned aircraft are limited to the number of VADER detections, and current data on detections from manned aircraft are limited to detections leading to apprehensions and arrests.

These data exclude certain detections because AMO does not presently track data from all sensors on unmanned and manned aircraft. For this reason, the Department considers the current AMO Individuals Detected measure to be a work in progress, and expects to provide more comprehensive data on AMO detections as part of the FY 2019 State of the Border Report.

Available Data and Discussion

Table 28.
Individuals Detected by AMO by Aircraft Type, FY 2016

Aircraft Type	FY 2016
Manned	54,879
Unmanned	7,908

Data from previous years are not available for analysis.

§ 1092(e)(1)(F) AMO apprehensions assisted

Definition

AMO apprehensions assisted – USBP apprehensions assisted by AMO through the use of unmanned aerial systems and manned aircraft.

AMO apprehensions assisted is an *activity measure*.

Methodology and Limitations

Data are obtained from AMO administrative records. The metric consists of apprehensions and arrests that are attributed to manned and unmanned aircraft operations. These data are based on aircraft enforcement hours (non-maritime), therefore excluding DHC-8, P-3, and MEA aircraft operations occurring in the maritime domain.

Available Data and Discussion

Table 29.
Apprehensions Assisted by AMO by Aircraft Type and Flight Hours, FY 2016

	FY 2016	
Aircraft Type	Enforcement Flight Hours	Apprehensions
Manned	64,639	50,646
Unmanned	4,857	1,729

Data from previous years are not available for analysis.

§ 1092(e)(1)(G) Illicit drug seizures assisted by AMO

Definition

Illicit drug seizures assisted by AMO – The number and quantity of illicit drug seizures assisted by AMO through the use of unmanned aerial systems and manned aircraft.

Illegal drug seizures assisted is an *activity measure*.

Methodology and Limitations

Drug seizure data are obtained from AMO administrative records. The metric consists of the total number of events and quantity in pounds of drug seizures using manned and unmanned systems. A "drug event" is defined as a single law enforcement action resulting in a drug seizure(s). This is based on aircraft enforcement hours (non-maritime), therefore excluding DHC-8, P-3, and MEA aircraft operations occurring in the maritime domain.

Available Data and Discussion

Table 30.
Illicit Drug Seizures and Drug Events by AMO by Aircraft Type and Flight Hours, FY 2016

	FY 2016		
Aircraft Type	**Enforcement Flight Hours**	**Drug Events**	**Drug Seizures (lbs)**
Manned	64,639	3,834	651,759
Unmanned	4,857	78	30,033

Data from previous years are not available for analysis.

§ 1092(e)(1)(H) AMO actionable intelligence

Definition

AMO actionable intelligence – The number of times that actionable intelligence related to border security was obtained through the use of unmanned aerial systems and manned aircraft.

This measure is under review and will be provided in the FY 2019 State of the Border report.

§ 1092(g)(3)(D) OTHER APPROPRIATE INFORMATION

Pursuant to NDAA § 1092(g)(3)(D), this section provides three additional metrics of border security between ports of entry: 1) selected characteristics of USBP apprehensions; 2) the estimated at-the-border deterrence rate; and 3) estimated border crossing costs.

Selected characteristics of recent USBP apprehensions

Definition

Historically, the overwhelming majority of individuals apprehended between POEs along the southwest border have been Mexican adults, and very few of them have sought asylum or other forms of humanitarian relief from removal. The profile of USBP apprehensions has changed in important ways in recent years, as growing shares of individuals apprehended are: a) from countries other than Mexico (primarily the Northern Triangle of Central America countries of El Salvador, Guatemala, and Honduras), b) UACs or children and adults traveling together as FMUAs, and/or c) seeking asylum by claiming credible or reasonable fear of being returned to their countries of citizenship when potentially subject to expedited removal.

These shifting characteristics have an important impact on border security and USBP border enforcement because existing enforcement policies were largely designed with the more traditional alien profile in mind. For example, many consequences under CBP's Consequence Delivery Program such as the Alien Transfer Exit Program and the Mexican Interior Repatriation Program are only applicable to Mexican nationals. And UACs, FMUAs, and aliens making successful credible/reasonable fear claims are generally not subject to expedited removal and have been considered "not impactable" by traditional USBP enforcement efforts because upon apprehension they have typically been released into the United States with a Notice to Appear in immigration court on a future date. More generally, the drivers of migration from countries other than Mexico and for aliens who may seek humanitarian relief from removal may be different from those that motivated earlier generations of unlawful border crossers, potentially causing U.S. policymakers to rethink their policy response.

To monitor these changing dynamics, the Department tracks two main sets of characteristics:

Apprehensions by citizenship – The share of aliens apprehended by USBP from Mexico, El Salvador, Guatemala, Honduras, and all other countries.

Apprehensions by potential humanitarian equities – The share of aliens apprehended by USBP who are unaccompanied children, are apprehended as part of a family unit, and/or who make successful credible or reasonable fear claims.

Apprehensions is an *activity measure*.

Methodology and Limitations

Apprehensions are recorded in administrative record systems with a unique identifier created for each apprehension. Apprehensions by citizenship, by UAC status, and by family unit status are generally considered reliable, though agents may not always be able to identify UACs or family units.

Available Data and Discussion

Table 31.

USBP Southwest Border Apprehensions by Citizenship, FY 2008 – FY 2016

Country	2008	2009	2010	2011	2012	2013	2014	2015	2016
Mexico	653,035	495,582	396,819	280,580	262,341	265,409	226,771	186,017	190,760
El Salvador	12,133	11,181	13,123	10,368	21,903	36,957	66,419	43,392	71,848
Guatemala	15,143	14,125	16,831	17,582	34,453	54,143	80,473	56,691	74,601
Honduras	18,110	13,344	12,231	11,270	30,349	46,448	90,968	33,445	52,952
All Other	6,584	6,633	8,727	7,777	7,827	11,440	14,740	11,788	18,709
Total	**705,005**	**540,865**	**447,731**	**327,577**	**356,873**	**414,397**	**479,371**	**331,333**	**408,870**

In recent years, apprehensions have started to shift from consisting overwhelmingly of Mexican nationals to an equal share of Mexican nationals and border crossers from other areas, mostly Northern Triangle countries. In 2014 and 2016, southwest border apprehensions peaked, most noticeably for Northern Triangle countries. In 2016, only 46 percent of southwest border apprehensions were Mexican nationals while 48 percent were from Northern Triangle countries. Apprehensions of border crossers from all other countries also rose considerably in 2016, increasing by more than 50 percent.

Table 32.

USBP Southwest Border Apprehensions by Potential Humanitarian Claim, FY 2008 – FY 2016

	2008	2009	2010	2011	2012	2013	2014	2015	2016
FMUA	NA	NA	NA	NA	11,116	14,855	68,445	39,838	77,674
UAC	7,922	19,440	18,411	15,949	24,403	38,759	68,541	39,970	59,692
Credible/Reasonable Fear Claim	7,454	8,627	12,499	13,994	22,087	44,380	57,936	47,117	87,585
Total Apprehensions	**705,005**	**540,865**	**447,731**	**327,577**	**356,873**	**414,397**	**479,371**	**331,333**	**408,870**

Note: Table rows are not mutually exclusive categories; some individuals are counted as FMUA and credible/reasonable fear.

Consistent with the surge of apprehensions seen in 2016, the number of family unit apprehensions and UAC apprehensions rose in 2016, with family unit numbers roughly doubling from 2015 and UAC apprehensions increasing 49 percent. Credible fear claims also rose substantially in 2016, with an 86 percent increase over the previous year. All three of these "non-impactable" flows have increased dramatically over the past decade. As compared to 2008, credible fear/reasonable fear claims have increased eleven-fold, while UAC numbers have increased seven-fold; and FMUA apprehensions have increased seven-fold since 2012 (the first year for which data are available).

At-the-border deterrence

Definition

Deterrence – the estimated share of migrants who, following a failed unlawful entry attempt, are deterred from making a subsequent reentry and decide instead to return home or otherwise remain in Mexico.

The deterrence rate is an *output measure* associated with the difficulty of crossing the border unlawfully because it reflects decisions by people who have already decided to migrate illegally to abandon their effort.

Methodology and Limitations

As with the apprehension or interdiction rate, deterrence cannot be observed directly.

DHS currently estimates deterrence based on migrant surveys; the Department believes surveys or interviews are one of the only ways to directly measure deportees' intentions to make a further illegal entry attempt. The most important survey data on deterrence comes from the Colegio de la Frontera Norte International Border Survey (EMIF), which

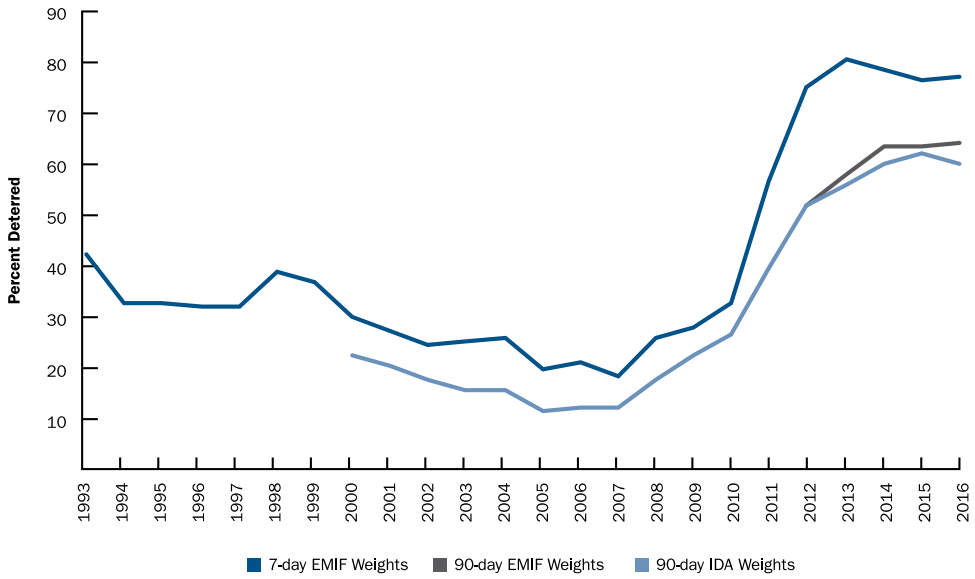
interviews deportees immediately at repatriation facilities upon their return to Mexico and asks them about their intentions to return to the United States within the next 7-90 days. In work for DHS, the Institute for Defense Analyses (IDA) Corporation used a combination of EMIF and CBP data to build an econometric model of 90-day deterrence for all USBP apprehensions since 2000.[6]

In addition to the standard concerns about the validity of survey samples and survey instruments, questions about deterrence are especially hard to measure accurately given the ever-evolving enforcement environment. A further limitation is that the EMIF data is restricted to Mexican northern border deportees, and cannot be assumed to apply to migrants from other regions/countries because they face different trade-offs and geographic barriers when considering a re-entry attempt.

Available Data and Discussion

Figure 6.

At the Border Deterrence for Mexican Border Deportees, FY 1993 – FY 2016



The data describe relatively limited deterrence levels prior to 2007 (20-40 percent in the seven-day survey and 10-30 percent in the 90-day model), and substantial growth in the deterrence rate since that time. Estimated seven-day deterrence rates have exceeded 75 percent every year since 2012, and estimated 90-day deterrence rates hovered around 60 percent in 2014 through 2016.

Border crossing costs

Definition

Percent hiring smuggler – the share of migrants who hire a smuggler.

Border crossing costs – the average fees that smugglers charge.

Smuggling usage and average smuggling fees are *output measures* associated with the difficulty of crossing the border unlawfully. Migrants will only tolerate higher fees to the extent that smugglers provide an essential and successful service. Smugglers also compete to attract customers by offering their services at the lowest profitable rate, so higher fees indicate rising costs to smugglers. Rising smuggling fees also reflect an increased risk to smugglers of a criminal conviction; smugglers pass this risk along to customers in the form of higher fees.

[6] John W. Bailey et al., "Assessing Southern Border Security," Institute for Defense Analyses, IDA Paper NS P-5304, May 2016.

Methodology and Limitations

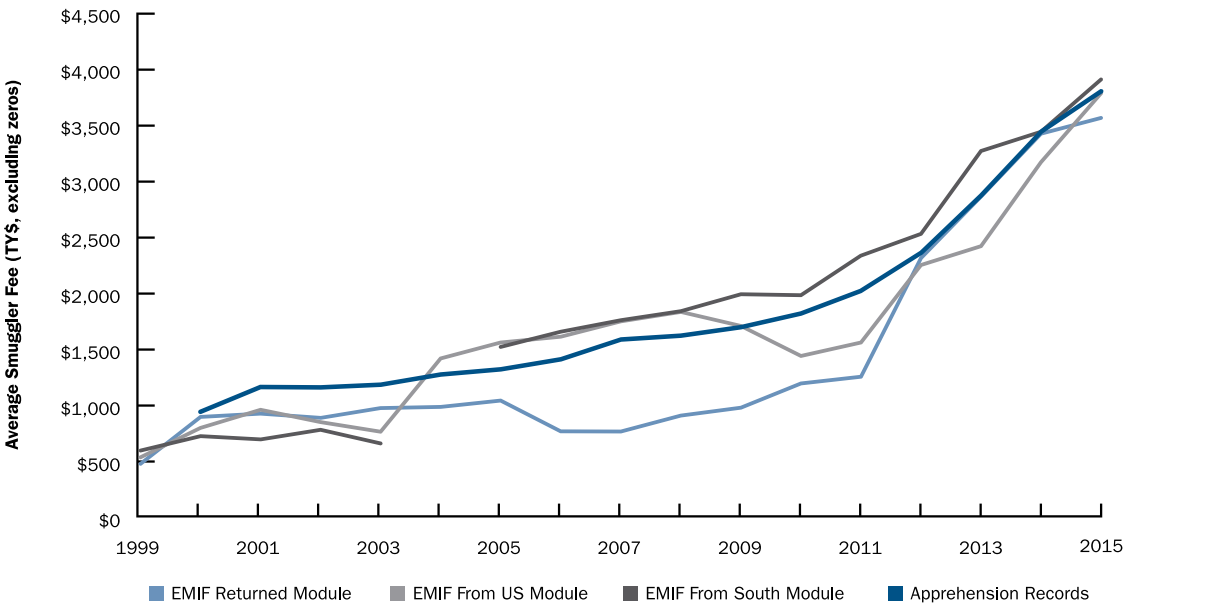
The only available data on smuggling fees come from migrant surveys and USBP custodial interviews. These data may be subject to response bias if migrants are reluctant to admit to hiring a smuggler, but such bias should be broadly consistent over time, so changes in survey/interview data should reflect changes in the difficulty of crossing the border.

Available Data and Discussion

One finding across multiple surveys is that smuggler usage rates have increased steadily over the last five decades. Previous research by the Office of Immigration Statistics found that smuggler usage rates climbed from 40-50 percent during the 1970s, to 59 percent in the late 1970s and early 1980s, 70-80 percent in the 1980s to 1990s, 80 to 93 percent in the 1990s to 2000s, and 95 percent for first-time crossers surveyed in 2006. Similarly, according to USBP interviews, relatively few illegal border crossers hired a smuggler prior to 2001, but usage rates climbed to 80-95 percent among apprehended border crossers in 2015.

Figure 7.

Border Crossing Cost Estimates, FY 1999 – FY 2015



Source: U.S. Border Patrol apprehension records, El Colegio de la Frontera Norte Encuestas sobre Migracion en las Fronteras Norte y Sur de Mexico (EMIF).

Survey results also indicate steady increases in fees paid to migrant smugglers. Averaging across the available sources depicted in Figure X, smuggling fees increased by five percent per year during the 1980s, 12 percent per year during the 1990s, and nine percent per year during the decade ending in 2015.

Custodial interviews conducted by USBP have found that smuggling fees are often paid in stages. Initial fees required to approach staging locations along the border were often lower than $100 prior to the late 2000s, and an additional $1,000-$3,000 in fees were charged upon delivery to the final destination. More recently, smuggling fees for Mexicans and Central Americans reportedly have been as high as $1,200 for the initial staging payment and up to $8,000 at the final destination. Custodial interviews also find evidence of an increase in alternative forms of payment in exchange for passage, including migrants being required to participate in smuggling controlled substances or other illicit items across the border or to work off debts upon arrival in the United States, as well as reports of harsh negotiations concerning payment plans with family members.

IV. CONCLUSION

DHS recognizes that its ability to accurately measure its border security outcomes, outputs, activities, and inputs is essential to the effective and efficient management of the Department. The metrics contained in this report will be the baseline that DHS uses to measure its progress towards meeting the goals contained in the Executive Order on *Border Security and Immigration Enforcement Improvement*. As such, the Department will continue to refine these metrics through internal and external engagement and collaboration, including with Congress. DHS looks forward to updating Congress on this progress through periodic briefings and formally with the submission of future State of the Border Reports.

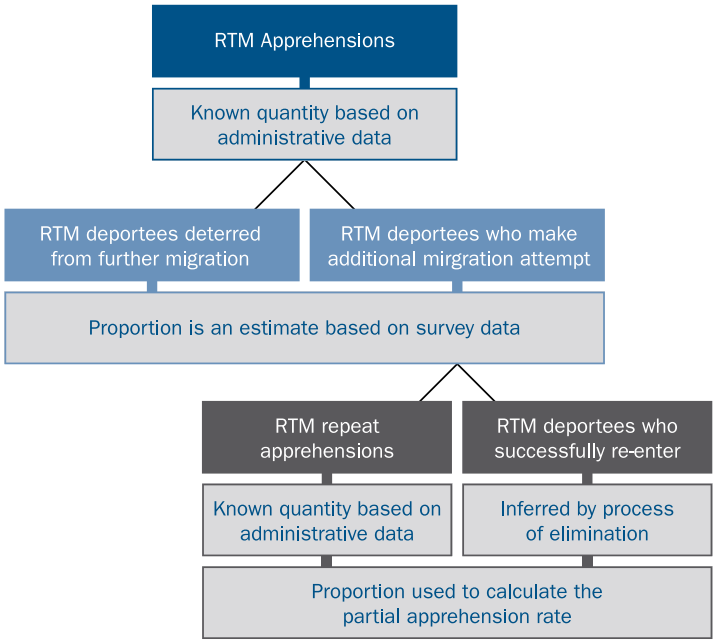
Appendix A – Repeated Trials Model Methodology

The Department's current model-based estimates of the Apprehension Rate, of the total number of successful unlawful entries, and of related measures such as undetected unlawful entries build on research conducted for DHS by the Institute for Defense Analyses (IDA) based on long-standing social science research on the Repeated Trials Methodology (RTM).[7] The Department views some of IDA's assumptions as problematic and is still working to validate and refine the modeling methodology. For this reason, while this report includes metrics based on IDA's model-based approach, DHS views the model itself as a work in progress, and future reports will update resulting metrics as the Department continues to improve its own modeling ability.

The primary building block for the model-based Apprehension Rate and total estimated successful unlawful entries is an estimated apprehension rate for a particular subset of border crossers that DHS refers to as a partial apprehension rate (PAR). The approach focuses on illegal border crossers who are apprehended and deported to the Mexican border and who make a subsequent re-entry attempt. The logic of the PAR is to use USBP biometric data to assess what share of migrants who make repeated entry attempts is subsequently re-apprehended.

The PAR methodology consists of three main steps (see Figure 2). First, the model identifies a subset of illegal border crossers who are candidates to attempt re-entry, the so-called RTM population. Under IDA's methodology, this group excludes all non-Mexicans, those deported to the Mexican interior or remotely through the Alien Transfer and Exit Program, aliens who have ever requested asylum, those facing criminal charges, and children under 18 years old.

Figure 1.
Partial Apprehension Rate Methodology



Source: DHS Office of Immigration Statistics adaptation of Bailey et al. 2016.

[7] For a full discussion of IDA's model-based estimate, see John W. Bailey et al., "Assessing Southern Border Security," Institute for Defense Analyses, IDA Paper NS P-5304, May 2016. Also see Thomas J. Espenshade, "Using INS Border Apprehension Data to Measure the Flow of Undocumented Migrants Crossing the U.S.-Mexico Frontier," International Migration Review (1995): 545-565; Joseph Chang, "CBP Apprehensions at the Border," Homeland Security Studies and Analysis Institute, 2006.

The second step in calculating the PAR is to distinguish between deportees who give up and return home or otherwise remain in Mexico versus those who attempt to re-enter the United States. IDA estimates this share based on an analysis of a survey of recent deportees conducted by the College of the Northern Border, the so-called EMIF survey.

Third, by definition, RTM assumes deportees who are not deterred following an apprehension always make a subsequent reentry attempt. Thus, by observing in DHS administrative records how many migrants from the RTM population are re-apprehended, the model infers the number that successfully re-enters. The ratio of re-apprehensions to successful re-entries is used to estimate the partial apprehension rate.

The PAR model confronts important limitations at each point in the modeling process. The most notable and challenging to overcome is the assumption of the RTM that subjects who are not deterred will always attempt re-entry until successful. One problem with this assumption is the lack of reliable data on who is deterred. IDA relies primarily on the EMIF survey to estimate the deterrence rate. And while the EMIF is widely recognized as one of the best migrant surveys available, its results are still dependent on the characteristics of the sample, the quality of the survey instrument, and the honesty of the respondents. More fundamentally, the EMIF survey asks recent deportees about their *intentions* to re-enter the United States, and it therefore does not take account of shifting border enforcement efforts, potential changes in behavior by individuals who have been exposed to consequence programs, or other deterrent factors along the border. The structure of the RTM model means that any resulting undercount in the estimate of the deterred population results in a downward bias in the PAR.

Second, the RTM population represents a shrinking share of southwest border apprehensions. Mexican adults quickly deported to the nearest border accounted for about 95 percent of apprehensions when the RTM methodology was developed in the 1990s. But changes in the composition of border flows (i.e., rising numbers of Central Americans and asylum seekers); changes in CBPs enforcement strategy to emphasize criminal charges, lateral repatriation, and other enforcement consequences; and IDA's restrictive modeling choices mean that as few as 20 percent of U.S. Border Patrol (USBP) apprehensions in recent years are used to estimate the PAR. In addition, because the RTM sample excludes aliens who are more likely to surrender to USBP (i.e., aliens with a higher apprehension rate), the PAR is biased downwards as an indicator of the overall apprehension rate; this bias may be substantial given the number of aliens excluded from the RTM sample.

Third, IDA makes somewhat restrictive assumptions about which re-apprehensions to include in the final stage of the PAR calculation. In particular, IDA excludes apprehensions occurring at check points and other remote locations and those occurring more than four days after an illegal entry. Given USBP's defense-in-depth strategy, which places resources at and behind the border, these assumptions result in a slight further downward bias in the PAR.

Despite these limitations, the Department views the RTM methodology as a promising approach to estimating an apprehension rate that takes great advantage of USBP's collection of biometric data since 2000. DHS is currently working to relax certain aspects of IDA's modeling assumptions and to more fully describe the impact of each assumption on the PAR and on related model-based metrics reported above.

Appendix B – Drugs Seizures – All Ports of Entry

OFO Drug Seizures (in Kilograms) at Ports of Entry, FY 2007 – FY 2016

DRUG	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Grand Total	372,493.60	433,037.02	680,417.93	395,390.47	371,813.83
Coca Products, Tea Bags Or Liquor	NA	NA	NA	NA	953.62
Cocaine	35,635.13	18,246.01	27,946.47	28,063.88	23,517.88
Crystal Methamphetamines	235.15	186.25	360.6	544.2	875.61
Dihydrocodeinone (Hydrocodone)	NA	NA	70.92	26.37	8.46
Ecstasy	771.36	700.28	500.83	527.71	264.92
Ephedrine	888.58	7,901.41	8,762.73	7,738.18	4,475.71
Fenethylline-(Captagon-Amphetamine)	NA	NA	NA	NA	NA
Gamma Hydroxy Butyrate	39.28	48.34	26.16	79.86	24.28
Hash,Liquid (Hash Oil)	0.06	0.1	0.08	0.26	0.04
Hashish	128.94	105.3	276.83	143.11	104.83
Heroin	932.08	845.46	827.61	1,316.57	1,594.24
Ketamine	11.86	100.77	40.85	66.84	112.47
Khat (Catha Edulis)	41,216.88	54,815.24	116,691.90	95,988.98	70,061.23
Lsd	0.16	0.85	4.58	0.78	10.09
Marijuana	280,387.77	261,611.58	312,264.86	246,546.43	253,771.78
Marijuana Plants	NA	NA	NA	NA	13.15
Mdpv-(Methylenedioxypyrovalerone)	NA	NA	NA	NA	NA
Mephedrone	NA	NA	NA	0.5	NA
Methamphetamine	1,164.53	1,155.95	1,970.25	2,900.33	3,824.11
Methylone	NA	NA	NA	NA	1.3
Methylphenidate (Ritalin)	39.95	46.74	38.95	23.79	28.11
Morphine	7.4	8.15	1.08	22.86	6.2
N-Benzylpiperazine (Bzp Tablets)	0.02	9.36	182.79	15.24	12.9
Nexus/2 Cb	0	NA	0.16	0	0.11
Opium	529.5	318.74	662.55	825.52	667.96
Other Drugs, Prescriptions, Chemicals	2,257.77	5,814.91	5,878.10	7,125.77	5,452.89
Oxycodone (Oxycontin)	1.59	2.8	4.86	5.21	6.07
Paramethoxyamphetamine	0.03	NA	NA	0.01	0
Precursor Chemicals Except Ephedrine	7,521.86	80,705.40	203,508.22	230.2	4,760.66
Psilocyn Or Psilocybin Mushrooms	24.58	25.81	4.81	4.71	3.74
Rohypnol	0.24	0.18	0.05	0.53	0.21
Steroids	698.88	386.16	389.02	3,117.40	331.81
Synthetic Cannabinoids - All Types	NA	NA	NA	72.1	929.35
Yaba	NA	1.25	2.67	3.14	0.08

DRUG	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Grand Total	344,129.80	336,121.66	309,214.45	400,719.44	367,612.58
Coca Products, Tea Bags Or Liquor	270.63	112.31	335.66	370.24	210.93
Cocaine	20,529.67	17,723.96	18,738.75	17,302.28	23,949.98
Crystal Methamphetamines	1,377.53	1,522.53	1,742.36	1,625.40	2,084.99
Dihydrocodeinone (Hydrocodone)	1.79	4.29	11.24	2.98	14.45
Ecstasy	49.56	104.26	111.04	103.97	704.61
Ephedrine	2,350.28	5.1	28.57	42.1	13.5
Fenethylline-(Captagon-Amphetamine)	NA	NA	NA	NA	1.22
Fentanyl	NA	NA	NA	NA	208.25
Gamma Hydroxy Butyrate	218.16	33.09	73.31	48.68	483.76
Hash,Liquid (Hash Oil)	0.18	0.13	13.98	0.77	0.45
Hashish	60.96	58.1	117.11	82.43	75.24
Heroin	1,714.41	1,809.90	1,957.01	2,508.16	1,915.58
Ketamine	81.31	88.58	77.78	43.69	150.59
Khat (Catha Edulis)	47,972.07	84,023.03	67,478.21	66,953.87	70,087.11
Lsd	17.82	3	7.02	3.57	2.41
Marijuana	237,053.80	213,186.12	198,650.99	273,423.14	233,774.29
Marijuana Plants	0.03	7.97	0.66	0.25	1.64
Mdpv-(Methylenedioxypyrovalerone)	29.22	335.14	225.68	234.05	41.75
Mephedrone	12.4	11.82	9.11	5.72	2.66
Methamphetamine	5,032.37	7,884.50	8,796.53	11,529.10	15,018.32
Methylone	74.63	322.27	829.42	315.68	41.98
Methylphenidate (Ritalin)	36.63	20.03	15.14	13.69	12.3
Morphine	13.1	31.36	213.71	19.29	520.21
N-Benzylpiperazine (Bzp Tablets)	73.71	87.78	1.61	1.16	0.1
Nexus/2 Cb	0.06	0.09	0.11	1.26	0.06
Opium	1,150.49	1,289.80	1,637.34	652.98	905.89
Other Drugs, Prescriptions, Chemicals	5,719.66	4,135.02	5,117.21	22,330.66	12,987.55
Oxycodone (Oxycontin)	13.72	13.17	11.14	6.46	20.65
Paramethoxyamphetamine	0.15	NA	NA	NA	NA
Precursor Chemicals Except Ephedrine	18,778.76	739.27	748.2	1,293.69	3,377.95
Psilocyn Or Psilocybin Mushrooms	17.98	23.38	24.11	16.18	45.78
Rohypnol	0.23	0.74	0.04	0	0.08
Steroids	476.53	470.05	554.53	581.16	613.24
Synthetic Cannabinoids - All Types	1,001.97	2,074.37	1,686.67	1,206.82	550.79
Yaba	NA	0.47	0.18	NA	2.53

Note: Tea bags included in this table are those used to carry coca products.

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