# FROM THE BORDER TO DISASTERS AND BEYOND: CRITICAL CANINE CONTRIBUTIONS TO THE DHS MISSION

## HEARING

BEFORE THE

## SUBCOMMITTEE ON OVERSIGHT AND MANAGEMENT EFFICIENCY

OF THE

## COMMITTEE ON HOMELAND SECURITY HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

MAY 18, 2017

**Serial No. 115–16**

Printed for the use of the Committee on Homeland Security

Available via the World Wide Web: http://www.gpo.gov/fdsys/

U.S. GOVERNMENT PUBLISHING OFFICE
27–490 PDF WASHINGTON : 2017

For sale by the Superintendent of Documents, U.S. Government Publishing Office
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# FROM THE BORDER TO DISASTERS AND BEYOND: CRITICAL CANINE CONTRIBUTIONS TO THE DHS MISSION

**Thursday, May 18, 2017**

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON OVERSIGHT AND
MANAGEMENT EFFICIENCY,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 2:02 p.m., in room HVC–210, Capitol Visitor Center, Hon. Scott Perry (Chairman of the subcommittee) presiding.

Present: Representatives Perry, Duncan, Higgins, Correa, Rice, and Barragán.

Also present: Representative Palmer.

Mr. PERRY. The Committee on Homeland Security, Subcommittee on Oversight and Management Efficiency will come to order.

Hello, everybody. The purpose of this hearing is to examine canine programs across DHS and how canines contribute to the critical Homeland Security mission. I am gonna deviate from the normal discourse here just so we can expedite, thinking about votes being early here.

So we are pleased to have a distinguished panel of witnesses before us today. The witnesses' entire written statements will appear in the record. The Chair will introduce the witnesses first and then recognize each of you for your testimony.

The Ranking Member, welcome.

Mr. CORREA. Yes, sir.

Mr. PERRY. All right. Mr. Damian Montes, is that correct as I have it?

Mr. MONTES. Yes, sir.

Mr. PERRY. Pronunciation correct?

Mr. MONTES. Yes, sir.

Mr. PERRY. Thank you.

Is the director of Customs and Border Protection's Canine Training program. Mr. Montes began his career in the U.S. Marine Corps. Subsequently he graduated from the Department of Defense's Military Working Dog Handler Course and is a former handler.

Mr. Montes joined CBP in 2002. We thank you for your service, sir.

Mr. Peter Jaquez, is that correct? I think?

Mr. JAQUEZ. Sir, it is Jaquez.

Mr. PERRY. Jaquez, thank you. Is the acting deputy chief of law enforcement operations in the Specialty Programs Division at the U.S. Border Patrol. In his capacity, Mr. Jaquez oversees the Border Patrol Canine Program, All Terrain Vehicle Program, Horse Patrol, and other programs.

He has attended the Border Patrol Handler Course and is a former handler. Prior to joining the Border Patrol, Mr. Jaquez served in the U.S. Navy.

Thank you for your service, sir.

It is Melanie Harvey.

Ms. HARVEY. Yes, sir.

Mr. PERRY. Yes, ma'am.

Ms. Melanie Harvey is director of TSA's Threat Assessment Division for the Office of Security Operations. The Threat Assessment Division provides oversight and support to over 4,500 specialized screening assets across the Nation and territories including explosives, ordinance, and disposal experts, and explosive detection canine teams.

She has held her current position since 2013, and joined TSA in 2004. Welcome.

Dr. Patrick Carrick, correct, is the acting chief scientist and director of the Homeland Security Advanced Research Projects Agency within the Science and Technology Directorate at DHS.

In this position he oversees the management of the National Technology Research and Development for DHS.

Prior to joining DHS, Dr. Carrick held positions in the U.S. Air Force.

We thank you, sir. All of us wish we could put scientist behind our name.

Dr. Jennifer Brown serves as a canine—correction, serves as a canine search specialist and team veterinarian for Florida Taskforce Two Urban Search and Rescue.

She has served on multiple urban search and rescue teams and was deployed to Mississippi and Louisiana following Hurricanes Katrina and Rita.

Thank you, ma'am.

Thank you all for being here today. Are we going to do the statements? We are going to go through them? OK.

The Chair recognizes Mr. Montes for an opening statement.

## STATEMENT OF DAMIAN MONTES, DIRECTOR, CANINE TRAINING PROGRAM, U.S. CUSTOMS AND BORDER PROTECTION, U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. MONTES. Good afternoon, Chairman Perry, Ranking Member Correa, and distinguished Members of the subcommittee. Thank you for the opportunity to testify today about the Canine Training Program at U.S. Customs and Border Protection.

I am the director of the CBP Canine Training Program. I am responsible for the administrative and operational training oversight of CBP's two canine training centers located in Front Royal, Virginia and El Paso, Texas.

The CBP Canine Training Program is the fusion of two legacy training facilities, the legacy U.S. Customs Service Canine Enforce-

ment Training Center and the U.S. Border Patrol National Canine Facility.

The merger of these two entities allowed the CBP Canine Training Program to build on decades of established expertise in law enforcement canine training and to capitalize on best practices.

The primary mission of the CBP Canine Training Program is to provide the initial basic training and certification to CBP officer agent canine handler teams and instructors. We provide training in concealed human and narcotic detection, currency and firearms detection, human remains cadaver detection, tracking and trailing, search and rescue, patrol, pedestrian processing, and a recertification instructor course.

Under the direction of the Office of Training and Development the CBP Canine Training Program also offers formal training to various Federal, State, local, and Tribal law enforcement agencies.

Additionally, the CBP Canine Training Program supports canine training initiatives under the direction of the Office of International Affairs. In coordination with the Department of Defense, State, and USAID, we help provide capacity building and technical assistance to our partners abroad.

For example, in 2015 at the request of the Government of Tanzania, CBP leadership and the U.S. Ambassador to Tanzania, and the CBP Canine Training Program conducted an initial assessment of the Government of Tanzania's capabilities with detection canines and canine training.

Following the assessment, the CBP Canine Training Program developed a customized curriculum with ivory as a newly-trained odor. We were able to train four Tanzanian police officers who are posted at the Dar es Salaam seaport and airport.

The teams have already had success with both ivory and narcotic seizures.

While OTD develops and establishes initial training requirements of CBP canines, the utilization, maintenance, and deployment of canine teams is managed by CBP's operational components, the Office of Field Operations, and the United States Border Patrol.

OFO and USBP teams are trained for specific missions as it relates to the laws in which they are governed. Our training cadre is comprised of expertise, CBP law enforcement officers, and agents from OFO and USBP, also known as Course Developer Instructors, who serve a 3- to 5-year instructional assignment.

The canine training process is very much a team effort. In addition to our dedicated team of instructors and colleagues across our agency, CBP's Laboratories and Scientific Services Directorate deserves special recognition.

Utilizing traditional scientific support LSSD conducts special research meant to optimize the detection and identification of signature odor profiles for certain narcotics.

With respect to detecting Fentanyl, CBP scientists have been conducting special research to determine the detection and identification of signature odor profiles for Fentanyl compounds.

The relevant components within CBP are all working together to assess the feasibility of safely and effectively adding Fentanyl as a trained odor to OFOs deployed in narcotic detection teams.

The pilot project will continue through the remainder of 2017 with evaluations conducted as scheduled benchmarks.

In conclusion, I am honored to be part of the CBP Canine Training Program and appreciate the opportunity to share our efforts with you today. I am happy to answer any questions that you may have.

Now, I believe we have two CBP Canine Handlers here today to demonstrate the capabilities of the OFO canine program. Our first demonstration will be led by CBP Agriculture Specialist Canine Handler Christy Currier and her canine, Callen.

Agriculture Inspector Currier joined CBP in the mid-2000's and since 2008 has been working as an Agriculture Canine Handler. Agriculture Canine Inspector Currier's canine, Callen, joined her at Dulles International Airport in 2012.

Callen's perky disposition is perfect for working around thousands of people daily.

[Demonstration No. 1, off mike.]

Mr. MONTES. So, if I can draw your attention to the second demonstration? OK. The second demonstration will be led by CBP Officer Robert Stone with his canine, Pharoah.

CBPO Stone retired from the Air Force after 20 years of service and joined Legacy Customs in 1998. In 2008, CBPO Stone became a canine handler at Dulles International Airport. He and his canine partner, Pharoah, have been working together since 2014 with numerous accomplishments under their belt.

[Demonstration No. 2, off mike.]

Mr. PERRY. Committee can stand fast. We just want to recognize Ms. Harvey for her remarks because she didn't give them yet.

So Ms. Harvey, please.

Ms. HARVEY. Thank you. I understand we are going to do the demo first. So it is my honor to introduce you to Doug Timberlake and his canine partner Reverso who work as a passenger screening canine team at Ronald Reagan Washington National Airport.

[Demonstration No. 3, off mike.]

[The joint prepared statement of Mr. Montes, Mr. Jaquez, Ms. Harvey, and Dr. Carrick follows:]

JOINT PREPARED STATEMENT OF DAMIAN E. MONTES, PETER JAQUEZ, MELANIE HARVEY, AND PATRICK CARRICK

MAY 18, 2017

INTRODUCTION

Chairman Perry, Ranking Member Correa, and Members of the subcommittee, thank you for the opportunity to testify regarding the canine programs at the Transportation Security Administration (TSA), U.S. Customs and Border Protection (CBP) and the Science and Technology Directorate (S&T). Canine teams at TSA, CBP, and S&T provide the U.S. Department of Homeland Security (DHS) with reliable and mobile detection capabilities and a visible deterrent against criminal and terrorist threats. Detection canines are the best and most versatile mobile detection tool that we have protecting the homeland today. Canines have been used by law enforcement and first responder agencies for decades to protect the homeland.

At our Nation's air, land, and sea ports of entry (POEs) and at preclearance locations abroad, CBP officers utilize specially-trained canines for the interdiction of narcotics, firearms, and undeclared currency, as well as in support of specialized programs aimed at combating terrorism and countering human trafficking. In between the POEs, the U.S. Border Patrol (USBP) uses canines to detect illegal aliens, intercept narcotics, and stop smugglers at checkpoints and along our borders. The

CBP Canine Training Program maintains the largest and most diverse law enforcement canine training program in the country. It is primarily responsible for the initial training of 1,342 of the over 1,448 deployed CBP canine teams throughout the United States.[1]

TSA procures, trains, and deploys explosives detection canine teams to secure our Nation's transportation systems through visible deterrence and timely, mobile operations that support airports, mass transit, and other transportation facilities across the country.

The mission of the Detection Canine Program within the Explosives Division of S&T's Homeland Security Advance Research Projects Agency is to provide the Homeland Security Enterprise with the tools, techniques, and knowledge to better understand, train, and utilize the domestic detection canine. S&T works with DHS partners, including the TSA, CBP, Federal Emergency Management Agency (FEMA), other Federal agencies, State and local law enforcement and international partners, to provide a focal point for the Homeland Security Enterprise on canine research, development, testing, and evaluation. S&T's primary objectives are to promote intra-Department and interagency coordination, to drive the development of broadly applicable technologies, and to increase the operational proficiency of domestic detection canine teams. The events of the Boston Marathon bombing and recent attacks in Brussels, Paris, and Russia have spurred a specific focus within S&T's program on Person-Borne Improvised Explosive Device (PBIED) detection canines.

### CBP CANINE TRAINING PROGRAM HISTORY

During the latter part of 1969, the former U.S. Customs Service carried out a study to determine the feasibility of using detection canines in the fight against drug smuggling. As a result of that study, canine trainers from various branches of the U.S. military were recruited, and on April 1, 1970, the U.S. Customs narcotic detector dog training program was established in San Antonio, Texas. Initially, efforts were concentrated on training dogs to detect the odors of marijuana and hashish, but the ever-increasing smuggling of narcotics would make the detection of heroin and cocaine equally critical to stop the threat these drugs pose to our citizens.

In July 1974, the U.S. Customs Service detector dog training operation was relocated from San Antonio to its current location 70 miles west of Washington, DC, in the town of Front Royal, Virginia. In 1991, Congress approved additional funding for the facility in Front Royal, which led to the construction of a new 100-run kennel, academic building, small arms firing range, and vehicle training areas. These new additions brought the detection training program facility up to date as it continued to produce canines trained in disciplines such as searching pedestrians and detecting the odors of narcotics, currency, and firearms.

In 1986, in response to an alarming increase in illegal alien apprehensions and narcotics seizures, the USBP created a pilot training program of canine teams trained to detect concealed humans, and the odors of heroin, cocaine, methamphetamine, and marijuana along our Nation's border. During the first 5 months of service, those initial canine teams accounted for numerous apprehensions of concealed people and over $150,000,000 in seized narcotics. The operational impact of a trained detection canine team was clear.

In order to establish consistency in training and certification standards, in 1993, the USBP established its own canine training facility in El Paso, Texas. The USBP National Canine Facility adopted ideologies and disciplines from European working dog standards and received numerous accolades and recognition from local, State, Federal, and various international law enforcement agencies.

In the aftermath of the terrorist acts of September 11, 2001, as a component of the newly-formed CBP, USBP and Office of Field Operations' (OFO) canine training programs were consolidated under CBP's Office of Training and Development (OTD) and renamed Canine Center El Paso (CCEP) and Canine Center Front Royal (CCFR). On October 1, 2009, the CCEP and CCFR were merged to create the CBP Canine Training Program. An integrated core curriculum was adopted combining the best practices of the legacy OFO and USBP training programs, each rich with history, tradition, and success. Training has been customized to ensure that the unique requirements of OFO and USBP are met.

The primary mission of the CBP Canine Training Program is to provide the initial basic training and certification to CBP officer/agent canine handler teams and in-

[1] Of the current 1,448 canines deployed today in CBP, the CBP Canine Training Program trained 1,342; the remaining 106 are agriculture canines trained by the U.S. Department of Agriculture in Newnan, Georgia.

structors in the detection and apprehension of illegal aliens, and the detection and seizure of controlled substances and other contraband utilized to finance terrorism or transnational criminal organizations. Under the direction of OTD, the CBP Canine Training Program also offers formal training to various Federal, State, and local, and Tribal law enforcement agencies.

Additionally, the CBP Canine Training Program supports canine training initiatives under the direction of the Office of International Affairs, in coordination with the Departments of Defense and State and the United States Agency for International Development (USAID), by providing foreign partners capacity building and technical assistance. As a resource center, the CBP Canine Training Program provides guidance on canine training issues, legal requirements, and certification standards to the operational components—OFO and USBP. While OTD develops and establishes the initial training requirements of CBP's canines, based on the components' needs and input, the utilization, maintenance, and deployment of canine teams is managed by CBP's operational components.

CBP CANINE TRAINING DISCIPLINES

CBP's training cadre is comprised of experienced law enforcement officers and agents, also known as Course Developer Instructors, who come from existing field canine units and serve a 3- to 5-year instructor assignment. The CBP Canine Training Program possesses a unified training cadre consisting of OFO and USBP personnel who deliver training to integrated classes made up of CBP officers and USBP agents. This commonality brings with it the opportunity to seamlessly interchange staff to further integrate the CBP Canine Training Program. New canine teams and instructors continue to be trained in disciplines such as concealed human detection, pedestrian processing, detecting the odors of narcotics, currency and firearms, tracking and trailing, patrol, search and rescue, and human remains detection.

*Concealed Human and Narcotic Detection*

The Concealed Human Narcotic Detection Handler course includes in-depth training and certification in all aspects of canine behavior, along with handling, training and employing a passive indication detection canine, as well as canine policy, case law, and canine first-aid. Both the officer/agent and the canine are taught proper search sequences when searching private and commercial conveyances, freight, luggage, mail, open areas of land and structures. Concealed Human and Narcotic Detection Canines are taught to detect concealed humans and the odors of marijuana, cocaine, heroin, methamphetamine, hashish, and ecstasy. This discipline makes up the largest portion of canines deployed within CBP totaling approximately 1,227 teams.

OFO deploys specialized detection canine teams throughout the Nation, trained to detect drugs and concealed humans. The majority of the canine teams are concentrated in four field offices along the Southwest Border. In addition to the canine teams OFO deploys to the POEs, the USBP Canine Program deploys over 800 specialized detection canine teams—trained to detect concealed humans and narcotics—throughout the Nation. The majority of the canine teams are concentrated in the nine Sectors along the Southwest Border. During fiscal year 2016, USBP canine teams were responsible for 41,807 human apprehensions and the seizure of 419,175 pounds of narcotics and $5,918,862 in currency.

The use of canines in the detection of narcotics is a team effort. CBP's Laboratories and Scientific Services Directorate (LSSD) produces canine training aids and provides analytical support to the CBP Canine Training Program, including controlled substance purity determinations, pseudo training aid quality analyses, and research on delivery mechanisms that maximize safe vapor delivery during training exercises. From fiscal year 2016 to mid-year fiscal year 2017, LSSD produced and delivered over 3,200 training aids to the Canine Program for training and certifications, representing a 72 percent production increase.

In addition to traditional scientific support, LSSD has been conducting special research aimed to determine the detection and identification of signature odor profiles for fentanyl compounds. OTD, OFO, USBP, CBP's LSSD, Office of Chief Counsel, and Labor Employee Relations are working together to conduct a pilot course to assess the feasibility of safely and effectively adding fentanyl as a trained odor to OFO's deployed narcotic detection canine teams. The project will continue through the remainder of fiscal year 2017, with evaluations conducted at scheduled benchmarks.

*Search and Rescue*

The Search and Rescue Handler course includes in-depth training and certification in all aspects of canine behavior, along with handling, training, and employ-

ing a dual-trained search and rescue trailing canine, as well as canine policy, case law and canine first-aid. Both the agent and canine are taught obedience, tracking/trailing, and large area search. The canine teams receive training in rappelling for helicopter operations, backtracking, and deployments in various environments (snow, desert, forest, and mountains). During fiscal year 2016, USBP search and rescue canines rescued 15 individuals.

During one notable rescue, occurring on May 14, 2016, El Centro Sector received a request from the Imperial County (California) Sheriff's Office to respond to a 9–1–1 call. An El Centro Sector canine handler responded, and deployed his canine in an attempt to locate these subjects in the El Centro Station area of operations. While hiking into the area, the canine alerted to and located the four subjects in distress. All four subjects were provided medical treatment by the El Centro Sector Operators, and then turned over to agents of the ELS Station for further processing.

A regimen added to the search and rescue capability, some canine teams are also trained in human remains and cadaver detection. This ability enables the team to assist in a myriad of situations ranging from locating the remains of persons who have expired in remote areas to assisting local law enforcement with suspicious death investigations and responding in recovery operations during natural disasters and terrorist attacks.

In fiscal year 2016, USBP human remains detection (HRD) canines assisted with a total of 11 human remains recoveries. On January 13, 2017, San Diego Sector USBP received a request from the Chula Vista Police department for HRD canine assistance near Otay River National Park. The search request was in regards to a Chula Vista Police Department missing person/homicide investigation that has been on-going for approximately 12 years. USBP HRD canine handlers responded, and successfully recovered human remains.

*Tracking/Trailing*

The Tracking/Trailing Handler course is an added capability to teams previously trained in detection or patrol. This course includes in-depth training involving conditioning a canine to follow the route of a person or persons traversing various types of terrain. Groups of aliens and smuggling organizations routinely travel cross-country. In areas where the ground surface is rough, such as mountainous environments, canine teams are able to track and trail where tracking is otherwise difficult or impossible.

Track/trail canine teams are also used in the search for specific individuals. For example, USBP track/trail canine teams assisted in the manhunt for suspected cop killer Matthew Eric Frein in September 2014 in Pennsylvania, in what became a 7-week deployment cycle. The USBP Special Operations Group (SOG) and Special Operations Detachments responded to the support request from the Pennsylvania State Police. Over the course of 7 weeks, over 100 Border Patrol Tactical Unit, Border Patrol Search, Trauma and Rescue and SOG–Intelligence Unit (SOG–IU) personnel, mission-essential gear, and equipment were deployed to Pennsylvania in search of the fugitive who ambushed two troopers, killing one. Frein was successfully apprehended on October 30, 2014.

*Patrol*

The Patrol Canine Handler course includes in-depth training and certification in all aspects of canine behavior, along with handling, training and employing a patrol canine to search, detain and when necessary physically subdue violent combative subjects. This course also includes training in canine policy, case law, and canine first-aid.

In fiscal year 2016, USBP Patrol canines assisted in a total of 167 apprehensions, including in the execution of 14 arrest warrants and 18 physical apprehensions. A notable canine deployment occurred on February 2 and 3, 2015 in the USBP Buffalo Sector in Erie, Pennsylvania. Named Operation Northern Stop, this operation involved the Drug Enforcement Administration; Homeland Security Investigations; Bureau of Alcohol, Tobacco, Firearms, and Explosives; Internal Revenue Service Criminal Investigation; United States Attorney's Office; United States Postal Inspection Service; United States Marshal's Service; Pennsylvania State Police; and Pennsylvania Office of the Attorney General. The target of this operation was a large drug-trafficking organization linked to the Knights Templar Cartel, based in Mexico. This organization was active coast-to-coast in multiple States, and was responsible for the importation and distribution of large quantities of marijuana, cocaine, heroin, and methamphetamine into and throughout the United States. Lauded a major success, and a significant blow to drug trafficking and distribution throughout the area, the operation resulted the arrest and prosecution of 30 subjects; the searching of 17 locations in northwestern Pennsylvania; the seizure of

$1,285,006 in United States currency; the seizure of $432,252 in jewelry; and the seizure of 23 vehicles.

*Canine Currency/Firearms Detection*

The Currency/Firearms Detection Handler course includes in-depth training and certification in all aspects of canine behavior, along with handling, training, and employing a passive indication detection canine, as well as canine policy, case law, and canine first-aid. Both the officer and the canine are taught proper search sequences when searching pedestrians, private and commercial conveyances, freight, luggage, mail, open areas of land and structures. Only a few days ago, on May 2, 2017, a canine team in the El Centro Sector aided in the detection and seizure of $18,000 in currency, as well as narcotics valued at more than $1.3 million, including 20.6 pounds of heroin, and 20.1 lbs. of methamphetamine in a single event.[2]

*Canine Instructor*

The CBP Canine Training Program trains experienced agents/officers to function as canine instructors in each of the varied disciplines for their respective components. This consists of extensive academic and practical training on canine methodology and the theory of problem solving. The instructor develops the canines and handlers to function as a team from the initial point of training through to certification and graduation. Upon completion of training, instructors return to their respective stations/ports to provide policy mandated maintenance training, as well as exercises designed to enhance skill and performance levels for all certified teams. In addition, the instructor cadre provides insight and guidance to administrative staff and serves as subject-matter experts on canine training, canine handling, canine deployment, and canine program-related courtroom testimony.

Operational canine instructors are tasked with the team's development throughout their tour within the canine unit. USBP currently has 304 canine instructors who train, enhance, and certify its 856 operational canine teams, providing a 1:3 ratio of instructors to handlers. USBP has determined that this instructor/handler ratio helps canine instructors better address complex subjects such as the operant[3] conditioning principles and various problem solving issues that the most advanced level canine training entails.

CBP AGRICULTURE CANINES

In 2003, when USDA transferred Plant Protection and Quarantine Officers to CBP, approximately 74 canine teams were included. Today, about 106 CBP agriculture canine teams provide screening at the border crossings, preclearance locations, air passenger terminals, cruise terminals, cargo warehouses, and mail facilities that process international passengers and commodities. All CBP agriculture specialist canine handlers and their canine partners complete the initial 10–13 week CBP Agriculture Specialist Canine Training at the USDA National Detector Dog Training Center (NDDTC). All the detector dogs at the NDDTC are adopted from rescue shelters in the United States or come to the program from private donations.

During a single week this month Murray, an agricultural canine and new addition to CBP, alerted to and helped intercepted more than 46 pounds of exotic fruit, peppers, and beef found in checked bags at the Hartsfield-Jackson Atlanta International Airport. The seized food products—including potatoes, chili peppers, tomatoes, banana passion fruits, yellow Dragon fruits, and beef—were destroyed and the travelers were not penalized as they declared the agriculture products to CBP. Prohibited food items, invasive weed seeds and insects, and plant and animal diseases pose a significant threat to U.S. agricultural industries and our Nation's economy. On a typical day in fiscal year 2016, CBP agriculture specialists discovered 404 pests at U.S. POEs and 4,638 materials for quarantine, helping keep our Nation and our economy safe.

CBP CANINE PROGRAM PARTNERSHIPS

CBP's Office of International Affairs (INA) Technical Assistance Division (INA/ITAD) conducts International Border Interdiction training, funded by Department of State, for various countries world-wide. These courses provide instruction on multiple aspects of border security, including targeting and risk management, interdiction, smuggling, search methodologies, analysis, canine enforcement, and narcotics detection identification. INA/ITAD has conducted anti-smuggling training in heroin

[2] Cash—$18,000; Heroin (20.6 lbs)—$659,200; Meth (20.1 lbs)—$643,200; Total Narcotics value $1,320,400.

[3] Operant conditioning is a type of learning where behavior is controlled by consequences, such as rewarding good behavior (positive reinforcement).

and opiate source countries such as Panama, Guatemala, Colombia, Ecuador, Peru, Mexico, Indonesia, India, Thailand, Afghanistan, Kenya, Cambodia, and the Philippines.

In 2015, at the request of the Government of Tanzania, the previous CBP Commissioner, and U.S. Ambassador to Tanzania, the CBP Canine Training Program conducted an initial assessment of the Government of Tanzania's capabilities with detection canines and canine training. The need and suitability of a start-up ivory and narcotic canine detection program to counter illegal wildlife and narcotics trafficking was identified. Immediately following the assessment, the CBP Canine Training Program developed a customized curriculum, with ivory as a newly-trained odor, and were able to train four Tanzanian police officers who are posted at the Dar es Salaam Seaport and Airport. This entire effort was accomplished in approximately 5 months and led to one ivory trafficking arrest and narcotics seizure.

OTD is also active in sharing expertise in the United States. In 2016, the CBP Canine Training Program provided canine handler and instructor training for the Warren County Sheriff's Department; El Paso County Sheriff's Office; the National Park Service; Shelby County Sheriff's Office; Ysleta Del Sur Pueblo Tribal Police Department; Washington State Police; New Mexico State Police; and the Pennsylvania Department of Corrections.

### TSA'S NATIONAL EXPLOSIVES DETECTION CANINE TEAM PROGRAM

TSA procures, trains, and deploys explosives detection canine teams to secure our Nation's transportation systems through visible deterrence and timely, mobile operations that support airports, mass transit, and other transportation facilities across the country. TSA's National Explosives Detection Canine Team Program (NEDCTP) began as the Federal Aviation Administration's Explosives Detection Canine Program in 1972 and transferred to TSA in 2002. Congress has recognized the value of TSA's NEDCTP through its continued support and funding, including through increased funding in fiscal year 2017 appropriations. TSA's NEDCTP is currently the largest explosives detection canine program in DHS, and the second-largest in the Federal Government, with 1,047 funded National Explosives Detection Canine teams currently stationed at more than 100 of the Nation's transportation venues. The success of TSA's NEDCTP is a prime example of Federal, State, and local governmental entities working together with a common goal—to protect the American people and secure transportation.

Given the security effectiveness of high-quality explosive detection canines, TSA partners with the Department of Defense (DOD) as well as private industry to ensure a reliable and adequate supply of canines. TSA partners with DOD's Military Working Dog Program to procure up to 280 canines per year. In addition to our work with DOD, TSA has contracts with several domestic vendors for suitable trained and untrained passenger screening canines. To support on-going expansion of TSA's canine program, TSA has made significant investments in infrastructure at the Canine Training Center (CTC). These investments have enabled TSA to increase throughput by 20 percent from fiscal year 2016 to fiscal year 2017, including new teams for growth and attrition replacement.

Once TSA procures a canine, TSA pairs it with a Federal, State, or local handler to be trained to operate in the aviation, maritime, mass transit, or cargo environments. The majority of canine teams working in the aviation environment today are comprised of a canine and a State or local law enforcement officer. For these teams, TSA provides and trains the dog, trains the handler, provides training aids and explosive storage magazines, and conducts on-site canine team training and re-certifications. TSA partially reimburses each participating agency for operational costs associated with maintaining the teams, including veterinarians' fees, handlers' salaries, dog food, and equipment. In return, the law enforcement agencies agree to use the canines in their assigned transportation environment for at least 80 percent of the handler's duty time. State and local law enforcement participation in the program is voluntary, and these organizations play a critical role in TSA's mission to ensure the safe movement of commerce and people throughout the Nation's transportation security environment.

In addition to State and local law enforcement-led teams, TSA handlers lead 372 funded canine teams, including Passenger Screening Canine (PSC) teams, which are specifically trained to detect explosives' odor on passengers and property as they traverse the terminal, in addition to their conventional explosives detection role. This number includes fifty new teams that were funded by Congress in fiscal year 2017 appropriations.

TSA and State and local law enforcement handlers travel from across the country to TSA's CTC, located at Joint Base San Antonio-Lackland, to be paired with a ca-

nine and complete a 10–12 week training course. The canine teams learn explosives detection in an intense training environment, using 17 venues located on the CTC premises that mimic a variety of transportationsites such as a cargo facility, airport gate, passenger screening checkpoint, baggage claim area, aircraft interior, vehicle parking lot, light rail station, light rail car, and air cargo facility, among others. Teams are trained to detect a variety of explosives based on intelligence data and emerging threats.

Once a team graduates from the training program, they return to their duty station to acclimate and familiarize the canine to their assigned operational environment. Approximately 30 days after graduation, an Operational Transition Assessment (OTA) is conducted to ensure each team demonstrates operational proficiency in their environment. OTAs include four key elements: The canine's ability to recognize explosives' odors, the handler's ability to interpret the canine's change of behavior, the handler's ability to conduct logical and systematic searches, and the team's ability to locate the explosives' odor source. Upon successful completion of the OTA, NEDCTP canine teams are then evaluated on an annual basis under the most stringent of applicable certification standards.

TSA allocates canine teams to specific cities and airports utilizing risk-based criteria that take into account multiple factors, including threat, passenger volume and throughput, and number of insiders with access to secure areas of the airport. PSC teams are critical to TSA's risk-based security efforts and are deployed to operate during peak travel times at 42 of the Nation's largest airports, where they have the opportunity to screen tens of thousands of passengers every day. PSC teams are trained to conduct traditional screening of objects such as luggage, cargo, and vehicles, and are an especially flexible security option. The additional teams, recently funded by Congress, will expand our ability to respond to transportation plots whether they target public areas, passenger screening checkpoints, or leverage an insider with access to the secure area.

In addition to deployments at passenger screening checkpoints, TSA and law enforcement-led teams conduct a variety of search and high-visibility activities that address potential threats throughout the transportation domain. For example, canine teams provide visible deterrence and conduct explosives detection operations in transportation system public areas, and also conduct operations that mitigate insider threats in secured areas.

Canine teams have been proven to be one of the most effective means of detecting explosive substances. They are critical to TSA's focus on security.

### S&T'S DETECTION CANINE PROGRAM

S&T's Detection Canine Program has historically focused on specific explosives threats facing the homeland and how we can better understand the strengths and limitations of the specially-trained explosive detection canine. As a result, we can then inform our partners on how to best utilize this extremely capable detector in a comprehensive concept of operations. S&T maintains open lines of interaction with CBP and FEMA to address challenges with narcotics detection, human tracking, and urban search and rescue. In 2017, the scope of the detection canine program at S&T officially expanded to an all-threats focus.

The S&T canine program has three specific focus areas:

- *Development and testing of canine training aids*.—Primary focus has been on (1) low-cost, non-hazardous training aids that can be used to improve and test canine ability to detect new threats and (2) a laboratory instrumentation method to measure the training aid at or below the level of the detection of the canine.
- *Canine operational testing and evaluation*.—Provide an expert independent operational test and evaluation capability for detection canines, discover canine strengths and weaknesses by performing in-field assessments, and use a scientifically rigorous approach with statistically significant results to enhance and validate testing methods.
- *Canine research and development structure and function*.—Focus on more basic understanding of canine behavior, genetics, olfaction, and cognition of this detector to improve operational efficiencies and training methods.

S&T's PBIED canine initiative was started in 2012 to understand the strengths and limits of canines specially trained to detect PBIEDs being carried by people, either on their person or in bags, in mass transit and large crowd event operational environments. S&T is the first to conduct this type of parametric study and testing, which is critical to scientifically determine the limits of performance.

In 2017, the Detection Canine Program transitioned a patented non-hazardous peroxide-based training aid for operational use by the TSA canine program. This training aid addresses the threat used in Brussels and Paris and allows for use in

operational scenarios including vehicle, baggage, and person-based threats. This aid is in use by all TSA canine teams at over 100 airports Nation-wide. The aid is also licensed for commercial production and sale to over 4,000 domestic explosive detection canine teams in the law enforcement community.

S&T has established critical enduring capabilities to facilitate rapid response to emerging threats. Coupling partnerships with National Capital Region detection canine teams and world-renowned laboratory analysis capabilities has allowed an integrated approach to our test and evaluation focus. S&T's contributions to the Homeland Security Enterprise include understanding of both the inherent capacity for the canine to detect a new threat and how to establish proficiency where needed. S&T, supporting DHS and interagency partners, has contributed rapid determinations of the canine detection capability on many threats.

S&T has established strong international partnerships for explosives detection canine use that have significantly impacted our international air cargo policy. In 2015, at the request of TSA, S&T conducted extensive assessments of the use of Remote Explosive Scent Tracing (REST) methodologies—which involves detection canines inspecting vapor samples on special filters—in the United Kingdom (U.K.), France and the Netherlands to determine if the screening method met or exceeded TSA standards for explosives screening. Following S&T's work, the TSA administrator authorized in-coming air cargo from Dutch and French airports that use REST. Additionally, S&T identified improvements that could be made to the United Kingdom's methodology. This input informed the United Kingdom to re-evaluate their certification methods and improve their screening methodology for detection of explosive materials in air cargo.

This year, S&T's detection canine program launched the Regional Explosives Detection Dog Initiative (REDDI) in support of the State and local law enforcement canine community. This extends outreach for our program to the State and local community to create better partnerships and validate capability gaps. REDDI events aim at advancing the knowledge and capability of our Nation's explosive detection canine teams. S&T will provide a series of regionally-based events for detection canine teams in the law enforcement community, including odor recognition trials, reality-based operational search scenarios, odor exercises and demonstrations, shared knowledge on IEDs emphasizing homemade explosives, and an overview on explosive odor chemistry. The first REDDI event was held in southwest Florida in March 2017, with a second event in Connecticut in April 2017. Several events are planned throughout the country in the coming months. Alongside canine teams gaining valuable experience and an independent evaluation of their operational readiness, S&T gathers valuable data to validate current program priorities, guide future investments, and increase the knowledge base to share with the whole detection canine community.

S&T has already begun to expand into other mission areas with potential to benefit from canine detection:

- S&T has a Memorandum of Agreement with FEMA to address some of the challenges of urban search and rescue teams. S&T is in the second phase of development of a canine-wearable vest that will provide fully stabilized video, high-fidelity location in GPS-denied situations, and communications from canine to handler to command center. This effort is executing through S&T's Small Business Innovative Research Program.
- The canine program is also one of the first participants in S&T's Silicon Valley Initiative Program, through which the Department reaches out to non-traditional performers and those who have not previously contracted with the Government to address DHS research and development needs.
- S&T has an active effort with CBP to identify canine-wearable technologies that monitor health of the canine while being ruggedized to survive the environments where they train and deploy.

The Detection Canine Program is a prime example of how S&T helps operators and end-users in the Homeland Security Enterprise harness science and technology to more effectively and efficiently achieve their missions. The program has been enormously successful building a detection canine community and using that community to develop and transition powerful new capabilities to operators.

## CONCLUSION

DHS's canine teams offer unique capabilities across various disciplines and can be deployed throughout diverse operating environments, and will continue to consistently adapt to meet the DHS mission while providing a more mobile and rapid response in order to lead the way into the future. Thank you for the opportunity to discuss this important program with you today.

Mr. PERRY. We will move on here. Due to votes on the House floor, the subcommittee will stand in recess subject to the call of the Chair. The subcommittee will reconvene following the vote series.

[Recess.]

Mr. PERRY. The subcommittee will come to order. We will get back on script here. All right. The Chair recognizes himself for an opening statement.

As we welcome law enforcement officers from across our Nation to Washington, DC, to commemorate National Police Week we would be remiss not to thank the unsung hero partners of many of our forces, canines.

Earlier this month near an immigration checkpoint in Tucson, Arizona a U.S. citizen was arrested for narcotics smuggling after a Border Patrol canine unit detected an odor emitting from a hearse which produced over $33,000 worth of marijuana concealed within a casket.

After the Twin Towers fell on 9/11 hundreds of talented canine teams were integral to search and rescue attempts, searching through 16 acres of rubble where the World Trade Center once stood to find tragic remains or those lucky enough still to be alive.

TSA's canine teams screen approximately 26 million passengers in fiscal year 2016 and responded to 35,000 unattended items within the transportation system in 2016 to ensure no explosives were present and mitigate the impact of shutdowns and evacuations.

Finally, in October 2016 Customs and Border Protection employees at JFK Airport said a happy farewell to retiring Jasper, a CBP Agriculture Canine credited with over 17,000 seizures and over 23,000 interceptions.

Jasper thwarted smugglers' attempts to sneak everything and anything past customs from illegal whale meat to live turtles.

These are just a few examples of many ways canines contribute to the safety and security of our homeland. DHS maintains robust canine programs with teams ranging from patrol units with the U.S. Secret Service, explosive detection units with the Coast Guard and TSA, and urban search and rescue units within FEMA.

CBP alone has approximately 1,500 canine teams, the largest overall canine program at DHS with distinct mission sets including but not limited to, tactical operations along the border, detection of narcotics, firearms, undeclared currency and concealed persons attempting illegal entry into the United States, and detection of undeclared agricultural products with the potential to wreak havoc on U.S. agricultural resources.

In total, six operational components use canines, CBP and Border Patrol, the TSA, the Coast Guard, the Secret Service, the Federal Protective Service of the National Protection and Programs Directorate, and FEMA.

Additionally, the Science and Technology or S&T Directorate provides on-going research and support to canine explosive detection skills training.

For example, just recently S&T announced a grant of $198,000 for a wearable device on CBP canines that provide real-time monitoring of the dog's vital signs while operating in the field.

With the highest threat environment since 9/11, our law enforcement personnel must have the tools they need to keep Americans safe. A dog's sense of smell is vastly more sensitive and acute than a human's and their detection abilities are unrivaled.

As terrorists seek to exploit any vulnerability in our security the Department's use of canines is that much more important.

For example, as we have seen in recent attacks at the Brussels Zaventem Airport and Istanbul Ataturk Airport aviation systems remain a large target. As terrorists' capabilities become more sophisticated with abilities to circumvent our technological systems a canine's nose may be our last line of defense.

Canine contributions to the security of our Nation are vast along our borders, at our ports of entry, in our airports and beyond. I look forward to hearing from our witnesses today on the important contributions of the Department's impressive, broad use of canines.

I want to just thank you, too, as individuals that sacrifice a portion of your life to deal with the dogs. The dogs don't come alone, right? So we appreciate that as well. Look, we are really, really thrilled to have you hear.

[The statement of Chairman Perry follows:]

STATEMENT OF CHAIRMAN SCOTT PERRY

MAY 18, 2017

As we welcome law enforcement officers from across our Nation to Washington, DC to commemorate National Police Week, we'd be remiss not to thank the unsung hero partners of many of our forces: Canines.

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And finally, in October 2016, Customs and Border Protection (CBP) employees at JFK Airport said a happy farewell to retiring Jasper, a CBP agriculture canine credited with over 17,000 seizures and over 23,000 interceptions. Jasper thwarted smuggler's attempts to sneak everything and anything past customs—from illegal whale meat to live turtles.

These are just a few examples of the many ways canines contribute to the safety and security of our homeland.

DHS maintains robust canine programs with teams ranging from patrol units with the U.S. Secret Service, explosive detection units with the Coast Guard and TSA, and Urban Search and Rescue units with FEMA. CBP alone has approximately 1,500 canine teams—the largest overall canine program at DHS, with distinct mission sets including, but not limited to: Tactical operations along the border, detection of narcotics, firearms, undeclared currency, and concealed persons attempting illegal entry into the United States, and detection of undeclared agricultural products with the potential to wreak havoc on U.S. agricultural resources.

In total, six operational components use canines—CBP and Border Patrol, the TSA, the Coast Guard, the Secret Service, the Federal Protective Service of the National Protection and Programs Directorate, and FEMA. Additionally, the Science and Technology (S&T) Directorate provides on-going research and support to canine explosives detection skills training. For example, just recently, S&T announced a grant of $198,000 for a wearable device on CBP canines that provide real-time monitoring of the dogs' vital signs while operating in the field.

With the highest threat environment since 9/11, our law enforcement personnel must have the tools they need to keep Americans safe. A dog's sense of smell is vastly more sensitive and acute than a human's, and their detection abilities are unrivaled. As terrorists seek to exploit any vulnerability in our security, the Department's use of canines is that much more important. For example, as we've seen in recent attacks at the Brussels Zaventem Airport and Istanbul Ataturk Airport, aviation systems remain a large target. And as terrorists' capabilities become more sophisticated with abilities to circumvent our technology systems, a canine's nose may be our last line of defense.

Canine contributions to the security of our Nation are vast—along our borders, at our ports of entry, in our airports, and beyond. I look forward to hearing from our witnesses today on the important contributions of the Department's impressive and broad use of canines.

Mr. PERRY. With that, the Chair now recognizes the Ranking Minority Member of the subcommittee, the gentleman from California, Mr. Correa for his statement.

Mr. CORREA. Chairman Perry, thank you very much for holding today's hearing.

I want to thank all of our guests today, witnesses, and of course those wonderful canines for being here today. I look forward to discussing with each and every one of you the Department of Homeland Security's canine programs, a tool used every day to assist DHS in keeping our Nation safe.

While most of us, of course, as citizens love those little four-legged animals, I think most of us in our society are not aware, totally aware, of their specialized skills. Several DHS components including FEMA, TSA, and CBP acquire and train canines to assist us in various DHS missions.

From helping secure our borders, to offering aid during natural disasters by locating victims, the importance of the work of the various DHS canine programs cannot be overstated. All of us know a dog can smell 10 times better—10,000 better than a human being and they can also detect over 19,000 odors associated with explosives. Tremendous, tremendous potential, tremendous skills.

I look forward to hearing today about the research and development conducted by the Science and Technology Directorate to assist DHS, its components, in explosive detection. I also look forward to hearing about the use of new low-cost non-hazardous canine training aids which are of particular interest to me.

I understand that we will be seeing, and we did see, some demonstrations earlier today.

I also welcome testimony from CBP which possesses the largest and most diverse law enforcement law enforcement canine program in the country. I understand that just a few months ago CBP canines in Arizona were credited with the recovery of $400,000 worth of cocaine and heroin, meth along the border during three separate vehicle inspections in a 24-hour time period.

Despite the tremendous work of these canines I understand there is a shortage at ports of entry. I look forward to discussing what, if any, additional resources you all need to assure that those canine teams that we need are actually there to secure our country.

I also look forward to hearing about the important work of the TSA National Explosive Detection Canine Program which is currently the largest explosive detection canine program at DHS.

TSA has received continuous support from Congress. Because of its importance for securing our Nation, mass transit, cargo, and other areas.

With that being said, I am concerned that the administration for its fiscal year 2018 is proposing a cut to the TSA Visible Intermodal Prevention and Response or VIPR, viper, Operation, that specializes in detecting suspicious activities at airports using canines.

I am hoping that your testimony today will further address the issues of the importance of fully funding your program as opposed to funding a border wall.

A few weeks ago I was at San Ysidro, San Ysidro Crossing. I took a tour. The agents were telling me that most of the contraband coming into this country is actually—comes across in automobiles.

Most of the smuggling happens in cars and other vehicles and that it is actually stated that a lot of the dogs that were being used as the canines were important, very key to detecting a lot of this contraband.

So I am hoping again that your testimony can focus on these issues. How can you do your job better? What resources we as policy makers can present to you that you can continue to keep our country safe?

I, again, thank all the witnesses for being here today. Thank you for your testimony. With that, Mr. Chairman, I yield my time, the balance of my time back to you, sir.

[The statement of Ranking Member Correa follows:]

STATEMENT OF RANKING MEMBER J. LUIS CORREA

MAY 18, 2017

I look forward to discussing with each of you the Department of Homeland Security's canine programs—a tool used every day to assist DHS in its mission to secure the Nation.

While most of us are very familiar with the benefits of having a "four-legged friend" as a pet, many people are simply unaware of the incredibly specialized skill set the canines of DHS possess.

Several DHS components, including FEMA, TSA, and CBP, acquire and train canines to assist in various DHS missions—from helping secure our borders by detecting concealed humans and controlled substances to offering aid during a natural disaster by locating victims.

The importance of the work of the various DHS canine programs cannot be overstated.

For example, a dog can smell about 10,000 times better than a human, making canines an invaluable asset in detecting the over 19,000 odors associated with explosives.

Consequently, it is easy to understand why canines are considered the most mobile and effective explosives detection tool available.

I look forward to hearing today about research and development conducted by the Science & Technology Directorate to assist DHS components in explosive detection.

The use of a new low-cost, non-hazardous canine training aid is of particular interest, and I understand we will be seeing a demonstration of that training aid this afternoon.

I also welcome testimony from CBP, which possesses the largest and most diverse law enforcement canine program in the country.

Just a few months ago, CBP canines in Arizona were credited with the recovery of $400,000 worth of heroin and methamphetamine along the border during three separate vehicle inspections in a 24-hour time period.

Despite this incredible work, it is my understanding that there is a shortage of canine teams at the ports of entry.

I look forward to discussing what, if any, additional resources are needed to ensure CBP canine teams are fully staffed with both handlers and dogs.

I also look forward to hearing about the important work of the TSA National Explosives Detection Canine Team Program, which is currently the largest explosives detection canine program at DHS and the second-largest in the Federal Government.

The TSA program has received continuous support from Congress because of the importance of securing the Nation's airport, mass transit, and cargo environments.

I am troubled that despite support from Congress each year, including the addition of 50 TSA canine teams in fiscal year 2017, President Trump's fiscal year 2018 budget proposes cuts to the TSA Visible Intermodal Prevention and Response, or VIPR operation that specializes in detecting suspicious activity at airports using canines.

I hope our TSA witness will be able explain how these cuts would impact TSA canine operations across the country.

Proposing to cut proven programs at TSA, along with FEMA, to help pay for a multi-billion-dollar boondoggle of a border wall is not sound homeland security policy.

It is imperative that DHS considers the important work of its canine programs and how future homeland security priorities and missions may be affected if they fail to receive the resources they need.

Mr. PERRY. The Chair thanks the gentleman.

Other Members of the subcommittee are reminded that opening statements may be submitted for the record. The Chair asks unanimous consent for the gentleman from Alabama, Mr. Rogers, when and if he arrives, and Mr. Palmer to be permitted to sit on the dais to participate in today's hearing.

Without objection, so ordered.

We were privileged to hear from Mr. Montes. We thank him for his statement. We are now going to move to Mr. Jaquez. The Chair now recognizes you for your statement.

**STATEMENT OF PETER JAQUEZ, ACTING DEPUTY CHIEF, LAW ENFORCEMENT OPERATIONS—SPECIALTY PROGRAMS, U.S. BORDER PATROL, U.S. DEPARTMENT OF HOMELAND SECURITY**

Mr. JAQUEZ. Good afternoon, Chairman Perry, Ranking Member Correa, and distinguished Members of the subcommittee. Thank you for the opportunity to testify today about the United States Border Patrol Canine Program.

The USBP Canine Program has been a cornerstone in Border Patrol operations since our first four canine handlers graduated in 1987, 30 years ago, last month.

Today, our canine teams are central to our operational strategy, providing a specialized capability to conduct targeted enforcement operations to disrupt the flow, smuggle humans and narcotics, and deny profits to transnational criminal organizations.

At the end of fiscal year 2016 the USBP Canine Program had a total of 832 active canine teams which are trained, maintained, and enhanced by 295 USBP canine instructors. We assign canine teams to USBP sectors based upon their individual operational requirements.

The operational needs of various checkpoints, line watches, transportation checks, and parcel facilities are some of the factors considered when identifying the number of canines needed for any particular sector.

One of the significant operational contributions of our canine teams lies in their capability to detect concealed humans. This capability is valued for several reasons. Detecting a concealed human

may result in the apprehension and arrest of a person illegally present in the United States, a wanted criminal, a terrorist, or the detection of concealed humans who may be in danger because they are concealed within a conveyance in unsafe conditions.

During fiscal year 2016 USBP canine teams were responsible for over 41,000 human apprehensions. Not all of these apprehensions occurred at our checkpoints. Canines are also a valuable tool in the field deployment.

Another mission of the USBP canine team is the detection of narcotics. During fiscal year 2016 our canine team seized over 419,000 pounds of narcotics and more than $5.9 million in currency.

Only a couple weeks ago on May 2, a canine team in El Centro Sector aided the detection and seizure of narcotics valued at more than $1.3 million, included 20.6 pounds of heroin, 20.1 pounds of methamphetamine, and $18,000 in currency all in one single event.

No monetary value can be placed on saving human lives, another task USBP canine teams have to do. During fiscal year 2016 USBP search and rescue canines rescued 15 individuals. During one notable rescue El Centro Sector received a request from Imperial County Sherriff's Office to respond to a 9–1–1 call.

An El Centro Sector canine team responded and while walking into the area the canine located four subjects in distress. All four subjects were provided medical treatment and turned over to agents for disposition and processing.

USBP canine teams are also used in the search for specific individuals. For example, USBP tracking/trailing canine teams assisted in the manhunt for murder suspect Matthew Eric Frein in September 2014 at the request of the Pennsylvania State Police.

Over the course of 7 weeks over 100 BORTAC and BORSTAR intel personnel were deployed to Pennsylvania including mission-essential gear and equipment in search of the fugitive. Frein was successfully apprehended on October 30, 2014 without further incident.

In conclusion, I am honored to be a part of the U.S. Border Patrol Canine Program and appreciate the opportunity to share our efforts with you today. I am happy to answer any questions you may have.

Mr. PERRY. Thank you, Mr. Jaquez.

The Chair recognizes Ms. Harvey for her opening statement.

**STATEMENT OF MELANIE HARVEY, DIRECTOR, THREAT ASSESSMENT DIVISION, TRANSPORTATION SECURITY ADMINISTRATION, U.S. DEPARTMENT OF HOMELAND SECURITY**

Ms. HARVEY. Thank you. Good afternoon, Chairman Perry, Ranking Member Correa, and Members of the subcommittee. Thank you for the opportunity to testify today.

TSA's National Explosive Detection Canine Team Program is funded to train and deploy 1,047 canine teams. Our teams operate in nearly every State in the country and are allocated to 82 airports and 33 mass transit and surface systems.

TSA's Canine Program began under the Federal Aviation Administration in 1972 after a TWA flight from JFK to LAX received an anonymous bomb threat. The aircraft returned to JFK where passengers were evacuated and a bomb-sniffing dog named Brandy

from the New York City Police Department identified the explosive device minutes before it was set to detonate.

This success led to the creation of the FAA's initial canine program of 40 canine teams at 20 airports. The program transferred to TSA in 2002 and has expanded over time to include more teams and broader capabilities, such as passenger screening.

Many of the teams working in the aviation environment are comprised of a TSA canine and a law enforcement handler from a State or local agency. For these teams, TSA provides and trains the dog, trains the handler, provides training aids and storage, and conducts annual team certifications.

TSA provides each participating agency a small stipend to reimburse some operational costs. In return, the agencies agree to deploy the teams in their assigned transportation environment at least 80 percent of the time and to respond to threats in 45 minutes, 24 hours a day, 7 days a week.

Participation in the program is voluntary and these agreements are a great example of Federal, State, and local partners working together to protect people and secure transportation. In addition to the law enforcement teams, 372 of TSA's Federal employees are also canine handlers.

Nearly 50 percent are veterans, such as Mr. Timberlake, who you met earlier, who is a veteran of the United States Army.

In addition to traditional explosive detection work, TSA-led teams are trained to search people and their accessible property as they move through terminals and checkpoints. The passenger screening canine, or PSC, methodology is complex and operationally demanding.

The handlers must observe the canine and passengers while recognizing subtle changes in behavior of their canine. TSA teams work primarily during peak travel times in airport screening checkpoints where they have the opportunity to screen the highest volume of people and property.

All handlers in TSA's program are trained at TSA's Canine Training Center co-located with DoD's Military Working Dog Program at Joint Base San Antonio—Lackland.

Teams are trained in explosive and search methods across 17 transportation venues including a passenger screening checkpoint, a baggage claim area, wide- and narrow-body aircraft, and light rail cars and stations.

This year, TSA will train approximately 300 canines and teams and conduct nearly 900 annual re-certifications of deployed canine teams. TSA also provides explosive detection canines and training support to our DHS partners in the United States Coast Guard and Federal Protective Service.

DHS Science and Technology is another critical partner of TSA's canine program, enabling us to bridge the gap between science and the real world. Within the past year DHS S&T's Detection Canine Program developed and delivered safe training aids that enhance our team's ability to find homemade explosives.

They routinely conduct operational testing and recommend actionable improvements that strengthen the team's overall effectiveness. This week at an airport in North Carolina S&T chemists and

canine experts are working alongside our handlers to understand the canine's ability to detect a particular threat.

On any given day, TSA's canine program has 800 canine teams on duty and 115 airports and surface transportation systems. They respond to 109 calls for unattended items or vehicles, avoiding evacuation in most cases, and our teams screen 120 to 130,000 passengers at airport checkpoints.

The canine teams are a critical layer of TSA's security system.

Thank you for the opportunity to talk to you about TSA's canine program. I look forward to any questions.

Mr. PERRY. Thank you, Ms. Harvey.

The Chair now recognizes Dr. Carrick for his opening statement.

**STATEMENT OF PATRICK CARRICK, DIRECTOR, HOMELAND SECURITY ADVANCED RESEARCH PROJECTS AGENCY SCIENCE AND TECHNOLOGY DIRECTORATE, U.S. DEPARTMENT OF HOMELAND SECURITY**

Mr. CARRICK. Good afternoon, Chairman Perry, Ranking Member Correa, and Members of the subcommittee.

It is an honor to come before the subcommittee today to offer my testimony on critical canine contributions that the Science and Technology Directorate has made in support of the Homeland Security mission.

Detection canines are the best and most versatile mobile detection tool that we have today to protect the homeland. Our mission is to provide the homeland security enterprise with the tools, techniques, and knowledge to better understand, train, and utilize these canines to detect hazards.

We work with the DHS partners represented here as well as FEMA, other Federal agencies, State, and State and local law enforcement to provide central focal point for DHS canine research and development.

Our detection canine efforts have historically addressed the challenges of facing explosives threat to the homeland, focusing on how we can better understand and utilize the strengths and limitations of these specially-trained canines.

This year the Canine Detection Program successfully transitioned a patented non-hazardous peroxide-based training aid for operational use by the TSA Canine Program. Unlike narcotics where the actual materials can be used for training, peroxide-based explosives can be somewhat unstable, making the need for a safe training aid crucial.

This training aid addresses the threat used in Brussels and Paris and allows for safe use and operational scenarios such as on vehicles, baggage, and on person. This training aid has been distributed to all TSA canine teams at over 100 airports Nation-wide and has been licensed for commercial production and sale to over 4,000 domestic explosive detection canine teams in the law enforcement community.

We have identified a National challenge. Many of our Nation's explosive detection canine teams have limited access to the latest knowledge on explosive threat odors. As a result this year our detection canine program has launched the Regional Explosives De-

tection Dog Initiative or REDI for short, to provide a series of regionally-based events for law enforcement detection canine teams.

While the canine teams get valuable experience and an independent look at how they are doing, the S&T Team gleans important perspective on the need for future R&D investments and insight into canine detection operational readiness.

The first REDI event was held in Southwest Florida in March with a second event in Connecticut in April. Several more events are being planned throughout the country in the coming months, including an event in Miami next week.

We have also an initiative with several partner law enforcement agencies in the National capital region to understand the possibilities and the limitations of using detection dogs to find person-borne improvised explosive devices in mass transit rail and large crowd event venues.

This year the scope of the detection canine program was officially expanded to focus on all threats including challenges with narcotics detection, human tracking, and urban search and rescue.

We established an agreement with FEMA to begin addressing some of the challenges of the urban search and rescue teams. We are in the second phase also of a development of a low-profile canine wearable vest to provide canine teams with a fully stabilized video, high-fidelity, location GPS denied situations, and communications from canine to the handler to the commander.

This effort is being executed through S&T's Small Business Innovative Research Program. We also have an active effort working with CBP to identify canine wearable and ruggedized technologies that can monitor canine health signs while the canine is working in harsh environments.

This concludes my testimony and I look forward to the opportunity to address any of your concerns and questions.

Mr. PERRY. Thank you, Dr. Carrick.

The Chair now recognizes Dr. Brown for an opening statement.

**STATEMENT OF JENNIFER BROWN, CANINE SEARCH SPECIALIST AND TEAM VETERINARIAN, URBAN SEARCH AND RESCUE—FLORIDA TASK FORCE**

Ms. BROWN. Thank you, Chairman Perry, Ranking Member Correa, and the Members of the subcommittee. Thank you tremendously for allowing me to testify today on behalf of our Urban Search and Rescue Canines.

I am here representing Florida Task Force Two based out of Miami and sponsored by the city of Miami. I am here to testify on the important role of the urban search and rescue canine in both local, State, and National, as well as international disaster response.

Canines have been an integral role of the Urban Search and Rescue Team since their inception in the early 1980's. Their role is to locate survivors and victims of both man-made and natural disasters from Oklahoma City to the 9/11 attacks, to things like Hurricane Katrina, Hurricane Sandy, and most recently Hurricane Matthew.

I currently serve Florida Taskforce Two as our taskforce veterinarian as well as the canine search specialist. You have met one

of my live find search and rescue dogs who is less than impressed that I am here providing testimony for you today.

In addition, I have one other Nationally-certified live find dog as well as a Nationally-certified human remains detection dog.

The role of canines in urban search and rescue is critically important. They play a vital role in the location of survivors. While survivors have been documented to be found in collapsed structures up to 13 to 14 days, obviously we humans have biologic needs of food and water, as well as potential trauma can certainly limit the survival time.

So it is essential that we locate and find victims in disasters quickly and get them out. These factors emphasize the necessity for rapid identification, location, and rescue of any survivors.

This is where our canine search teams live find dogs come in, is for that rapid identification, so that those people can be rescued. Certainly that their, the dog's keen sense of smell with over—up to 300 million olfactory receptors compared to our puny 5 million, that these canines make profoundly effective detectors when well-trained for specific scents.

The live find dog is obviously trained to find and identify nonspecific human scent whereas our human remains detection dogs obviously the—are deceased victims. These canines are also capable of working in some of the most extreme environments whether they be a rubble pile, in a collapsed structure, or a wide-area mass natural disaster.

These canines also are far superior than any current technology at locating both live and deceased victims. Our canine search teams in the Urban Search and Rescue system are comprised of a single handler and their canine who must undergo some pretty rigorous training as well as certification process in order to be deployable within the system.

Handlers are made up of civilians like myself, firefighters, and in some cases law enforcement officers. The primary responsibility for the care of these canines falls directly to the handler.

These dogs live with us and they become part of our family. We will care for these dogs through their retirement, through the remainder of their life. A majority of all of the canine's expenses also fall to the handler. These include food, routine veterinary care as well as if the dog is faced with illness or injury.

Training equipment expenses as well as other training expenses are also borne very often by the handler. Sponsoring agencies may provide some funding for these expenses but the provision of this support will vary throughout the system.

Dogs are typically purchased or adopted by the handler though some system sponsoring agencies will provide dogs for their handlers, but again this is variable. We acquire our canines from multiple sources.

Some handlers choose to receive their dogs as puppies and train them. Others like myself purchase dogs from a private kennel that has a started dog program where they will receive some of their foundation training and then ultimately will finish their training with their handler who must certify with those dogs as a single handler/dog team.

Some organizations also provide—non-governmental organizations will provide dogs through foundations.

Currently, we have 255 Nationally-certified live find teams among the 28 system taskforces. The average age of the dog is about 6½ years. Labrador retrievers make up about 60 percent of the dogs within the FEMA USR system.

That is followed by Belgian Malinois at about 13 percent, golden retrievers, German shepherds, mixed breeds and some other breeds will make up the urban search and rescue live find dogs.

In 2014, we began a system of certifying human remains detection dogs. They had no formal role within the Urban Search and Rescue System prior to that time. They still do not—are not a mandatory requirement, unlike the live find dogs is that no USR team is deployable without at least four certified dogs to go out the door with them. They are a mandatory requirement.

The primary role of the USR taskforces is to identify, obviously, live victims. But when all live victims have been accounted for but there remains people among the missing, the human remains detection dogs are deployed to help bring closure, excuse me, the victims and the families associated with the disaster.

This is exemplified in 2014 following the massive mudslide in Oso, Washington. After local and State responses were overwhelmed, nine taskforces deployed another 20 dogs to help respond and find and locate the victims of the Oso Mudslides in Washington State.

At the cessation of operations when all teams were demobilized all but one of the victims were brought home to their family.

In conclusion, I would just like to tell you what a valuable asset these dogs are to the National USR System. It has been my honor to serve as a handler.

[The prepared statement of Dr. Brown follows:]

PREPARED STATEMENT OF JENNIFER BROWN

MAY 18, 2017

Chairman Perry, Ranking Member Correa, and Members of the subcommittee, thank you for the opportunity to testify as a representative of the South Florida Urban Search and Rescue—Florida Task Force Two (FL–TF2) regarding the important role of urban search and rescue Canine Search Teams in local, State, National, and international disaster response. Canines have been an integral component in search operations since the inception of urban search and rescue task forces, and their—role of locating survivors and victims of natural and man-made disasters is vital to this important capability's success.

In 2005 I was deployed with a Veterinary Medical Assistance Team to the States of Mississippi and Louisiana in response to Hurricane Katrina. During that response, for 5 weeks following Hurricanes Katrina and Rita I had the opportunity to work with Canine Search Teams from Federal Emergency Management Agency's (FEMA) National Urban Search and Rescue Response System (the System) deployed to the above-mentioned States. After witnessing the work these dogs were doing in such extreme environments, I began training with the System's Maryland Task Force One (MD–TF1) to gain more insight into the medical needs of System canines. In 2007, I became an official member of MD–TF1 as the task force veterinarian and ultimately a canine handler. When my canine and I successfully passed our first FEMA Canine Search Team Certification Evaluation in 2009, we were certified as a deployable Canine Search Team for local, State, and National disaster response. Since relocating to Florida in 2010, I have been the task force veterinarian and a canine search specialist for South Florida Urban Search and Rescue Task Force/Florida Task Force Two (FL–TF2), sponsored by the city of Miami. It is in my capacity as a canine handler of two Nationally-certified Live Find and one Nationally-cer-

tified Human Remains Detection dogs that I provide this testimony on the critical role canines perform in disaster response.

BACKGROUND

Urban search and rescue task forces were first developed in the early 1980's by some local jurisdictions to provide response to structural collapse with advanced technical search and rescue capabilities. After several international responses (1985 Mexico City earthquake, Luzon 1990, Armenia 1988) and National responses (1989 Hurricane Hugo, 1989 Loma Prieta earthquake) it was recognized that expansion of this capability would provide critical response infrastructure. Starting with 25 task forces sponsored by local and regional fire departments, the System was formed by FEMA in 1992. Deployed under Emergency Support Function No. 9 (ESF No. 9) these task forces provide the technical expertise and equipment in search and rescue for disasters ranging from individual structural collapses to wide-spread natural or man-made disasters.

A National Incident Management System (NIMS) compliant type 1 US&R task force is composed of up to 80 personnel who perform search, rescue, medical, and technical operations along with other personnel who provide leadership, administrative, communications, planning, and logistical support. Each System type 1 US&R task force's search component must deploy with a minimum of four certified Live Find Canine Search Teams (CST–LF). Without these CST–LF members the entire task force may not deploy, which emphasizes the critical role that these members play.

ROLE OF CANINES IN URBAN SEARCH AND RESCUE

While it has been documented for people to survive in a collapse up to 13–14 days, these are the exceptions and many factors contribute to people surviving for any duration after the event. Potential injuries suffered in the event, weather, and an individual's need for water and food are just some of the factors that result in a necessity for rapid rescue to improve survival. This is where a CST–LF is vital: To provide rapid identification of survivors and their location so that they can be rescued. With approximately 250 million olfactory receptors, compared to a human's 5 million, a dog's superior sense of smell make them profoundly effective detectors when well-trained for specific scents. A CST–LF canine is trained to detect the location of the "hidden" live human scent. These canines are capable of identifying survivors quickly and accurately and are superior to any technology in this vital search role.

CANINE SEARCH TEAMS

Canine Search Teams are comprised of a single handler and their canine who must undergo a rigorous training and testing regime in order to be a deployable asset. Handlers are composed of fire fighters, law enforcement, and civilians. The primary responsibility of the care of the canine falls to the handler, and as such they become part of the handler's family who will care for them through retirement and the remainder of their life. A majority of all the canine's expenses are also borne by the handlers. These expenses include food, general veterinary care, veterinary expenses for illness and injury, and training equipment and expenses. A Sponsoring Agency may provide some funding for these expenses, but provision of this support varies throughout the System. In addition, the dogs are typically purchased or adopted by the handler, though some System Sponsoring Agencies provide dogs for their handlers.

Canines trained and certified for US&R work are acquired from multiple sources. Some handlers will purchase puppies or adolescent dogs without any training through kennels that breed working dogs, other candidates may be selected from rescue organizations after careful screening for the qualities a US&R canine needs to be successful. Another source for US&R canines are kennels and non-governmental organizations that breed and/or train canines specifically for US&R work where handlers or task forces may purchase canines who have been screened and received most of their foundation training. Selection of the appropriate canine for the job is perhaps the most critical component of a Canine Search Team. Canines to be used for US&R work have some unique qualities that set them apart from other working canines. Disaster scenes are often chaotic and environmentally extreme, canines must traverse the sites of collapsed structures quickly and efficiently, with workers and equipment operating around them. In addition to the necessary qualities of all search canines such as a good nose, health, drive, and trainability, US&R canines must also have incredible nerve, strength, and agility in order to be able to work in the disaster environment. Only a small subset of ca-

nines has all these important qualities to make them successful in US&R search operations and achieve CST–LF certification.

There is a significant commitment on the part of a handler to prepare and maintain a canine for US&R deployment. They routinely complete hundreds of training hours every year just to maintain proficiency. Prior to their first Certification Evaluation these hours may be doubled to appropriately prepare both the handler and the canine for the evaluation. It takes, on average, 12–18 months to fully train a canine for its Certification Evaluation. Within the System, Canine Search Teams recertify every 3 years.

CANINE SEARCH TEAMS—LIVE FIND (CST–LF)

While CST–LF have been a vital component of the US&R task forces since their inception in the early '80's a standardized evaluation process was not implemented for System use until 2004. Currently, certification within the System is done in two parts. The first testing component is the Foundation Skills Assessment (FSA) which evaluates obedience, direction and control, alert commitment, agility, and basic search skills. After successful completion of the FSA, a Canine Search Team is then eligible to go through the Certification Evaluation process. The Certification Evaluation is the final test required by the System and successful completion is required for deployability. This test is comprised of two complex rubble pile searches where the testing canine search team must locate up to six "survivors" without any false alerts in order to pass. These Certification Evaluations provide the System a mechanism to assure that its CST–LFs meet the minimum standards for deployment. However, a CST's training does not end there, it will continue throughout the entire career of both the handler and the canine.

As of March 2017, there are 255 CST–LF teams among the System's 28 task forces with an average canine age of 6.5 years. Labrador Retrievers make up a majority of the certified CST–LFs at 60 percent, with Belgian Malinois (13 percent), Golden Retrievers (6 percent), German Shepherds (6 percent), mixed breed (6 percent), and a variety of other breeds making up the remaining of the canines. A certified US&R canine will typically work until 10–12 years of age.

CANINE SEARCH TEAMS—HUMAN REMAINS DETECTION (CST–HRD)

CST–HRD are a relatively new component of US&R task forces and were implemented by the System in 2014. Unlike CST–LF, certified CST–HRDs are not mandatory for deployment of a System task force. Just like with CST–LFs, support of CST–HRDs by System task forces is also voluntary. While the primary role of the US&R task forces is to identify, and rescue survivors, after the searches for survivors has been concluded, and if people remain missing, CST–HRDs may be deployed. The work of the CST–HRD is to locate victims and help bring closure to the friends and families of those who did not survive a disaster. These CST–HRDs work in close coordination with Federal, State, and/or local law enforcement and coroner's offices that are responsible for identification and processing of detected remains. The 2014 response to the SR–530 Mudslides exemplifies the role of the CST–HRD in disaster response. On March 22, 2014, an unstable hillside collapsed engulfing an entire community in Oso, WA and the initial response was carried out by local and State first responders. The State of Washington activated and deployed Washington Task Force One (WA–TF1), one of the System's 28 task forces, as a local resource. At the request of the State and FEMA Region X, the System deployed an Incident Support Team (IST) and California Task Force Seven (CA–TF7) to support on-going operations. Local and regional CST–LFs worked tirelessly with other first responders to locate both survivors and victims of the slide. On April 2, 2014 20 CST–HRDs were deployed from nine different System task forces to augment ongoing recovery operations. Working alongside State and local responders, at the end of official search and recovery operations CST–HRDs from the System helped locate all but one of the 43 victims.

Selection, training, and certification of a CST–HRD canine is similar to that of a CST–LF. Certification for deployment is based on the CST–LF FSA but has only one component. For the CST–HRD Certification Evaluation, obedience, direction and control, alert commitment, agility, and basic search skills in a disaster environment are tested for human remains detection.

Currently there are 74 certified CST–HRDs in the System, with an average age of 6.9 years. Like the CST–LF they are primarily Labrador Retrievers (50 percent), with the remainder being German Shepherds (15 percent), Malinois (10 percent), Mixed Breed (6 percent), and other breeds. A CST–HRD in the System also recertifies every 3 years and is expected to retire at 10–12 years of age.

SUMMARY

Canine Search Teams have an important task in disaster response on a local, regional, National, and international scope to help locate both survivors and victims. CST handlers are extremely dedicated responders who volunteer significant time and expense to assure that they and their canines are prepared to respond to any disaster situation, at any time, in any location. They are a valuable asset to the National US&R Response System and it has been my honor to serve as a handler on both a CST–LF and CST–HRD, as well as a Veterinarian caring for working canines since 2005. I hope to see support continue for these canines and their vital role well into the future.

Thank you, Chairman Perry, Ranking Member Correa, and Members of this subcommittee for the privilege of providing testimony on the role of Canine Search Teams in disaster response.

Mr. PERRY. Thank you. Thank you for your statement, Dr. Brown.

The Chair now recognizes himself for 5 minutes.

I am going to start with Mr. Montes, I think. What can you tell us about any challenges that exist for canines at ports of entry and checkpoints that might inhibit the teams' ability to detect contraband and drugs?

Maybe physical challenges, maybe airflows, things that we—that you know that we don't think about that maybe we should know about to help us understand your difficulty or the challenge for your team.

Mr. MONTES. Yes, sir. So, as the director of the CBP Canine Training Program the scope of my responsibilities where I stand is to work hand-in-hand with the operation of components to understand the challenges they have in their respective areas.

This is where I would ask that Mr. Jaquez can kind-of speak to those operational challenges——

Mr. PERRY. OK.

Mr. MONTES [continuing]. They face and in partnership in the training center we can build those training environments to replicate or emulate those challenges that they have.

Mr. PERRY. All right.

Mr. Jaquez.

Mr. JAQUEZ. So, sir, for the checkpoint scenario that we basically deploy the majority of our canines to, the canine handlers are trained to take into account, you know, the air, the cones, the scent cone, the canopy, the direction of the wind, the heat, all the variables that go with handling the canine. Those handlers know the canine best.

Mr. PERRY. Well. let me move to something that is maybe not as sensational but it is important to at least to people that I am privileged to represent. In the short amount of time that I have been here we have dealt with a—I represent a pretty large fruit belt in Central, South Central Pennsylvania.

Over the last few years we have dealt with a thing called the Plum Pox. The stink bug, and I suspect maybe you know what I am talking about, about this stink bug, and a thing called the ash bore which in—as far as I can tell is going to effectively wipe out every ash tree in the country.

Is that a capability that they can be trained to detect a certain insect? I think, well, maybe a stink bug, right? But I don't know about an ash bore. Is that something that from an agricultural

standpoint, I mean, how far can you go? Is that something you consider?

Just out of curiosity because it is a big deal where we live.

Mr. JAQUEZ. So absolutely. So if there is a recognizable odor, you can train a dog to find it. So, if there is something that we can imprint, an odor that we can imprint on the canine we can use the natural canine's drives and behaviors to change the focus on that.

I guess the best example would be bed bugs.

Mr. PERRY. OK. I mean, is that a thing that the Department of Agriculture works with you on trying to determine potential incoming threats? I mean do you—how do you target—I mean, once it is here, it is here. It is too late, right?

I mean, not that you want more, but once the ash bore got here, I mean, literally you can see a stand of ash trees in a season they are dead. They are all gone. They are not—you know, it is a 100-year-old tree. It is never coming back.

So, I mean, is there any proactive measures to—I think it is probably a big deal for industry and for economies whether it is your fruits or, you know, people make baseball bats out of ash trees, right? Or at least they used to.

If you are a baseball player that is a big deal. So how do we get—I mean do we get in front of it or there a kind of after the fact that we are trying to keep, you know, more from coming? Whether it is turtles, whether it is snakes, whether it is insects or what have you.

How does that work? How does that work out?

Mr. MONTES. So currently as we speak we as far as within the canine program that I manage, it is a training component that we have. We have not had that conversation. This is something that we can definitely take a question for the record and get with USDA and the Office of Field Operations to inquire if there are—if there were or have been, or are having conversations in reference to that particular——

Mr. PERRY. So who? I mean, somebody must develop a list, right, of what we don't want coming in the country? Or is it just anything? Any live animal, any insect, any plant material? Is it all of it can't come in? Who develops that list? Where is that determined?

Mr. MONTES. I think the list of invasive species, sir, is exclusive with the USDA and working with the agricultural component of the Office of Field Operations. They would be able to better speak to that, how that process would go as far as identifying an invasive species and any corrective measures that they would put to prevent that infestation.

Mr. PERRY. OK. This might be a little bit of a morbid question. But I think it is a curiosity probably everybody is wondering about, but doesn't want to ask, and maybe didn't think about it until you were here.

But, Dr. Brown, how do you train/keep current a cadaver dog?

Ms. BROWN. Well similar to any detection dog we have cadaver source material. So just as an explosive dogs or narcotics dogs we have training aids that are really——

Mr. PERRY. What is cadaver source material?

Ms. BROWN. It is literally human remains.

Mr. PERRY. Yes, right.

Ms. BROWN. Yes.

Mr. PERRY. So where does that come from?

Ms. BROWN. Depending on the jurisdiction because this is very variable by State. Every State will have its law as far as who can obtain and maintain human remains. So in different jurisdictions it is much more difficult or much more easy to be able to have a cadaver dog to—and have source for that.

Mr. PERRY. I mean is that a——

Ms. BROWN. So as far——

Mr. PERRY. Is that a licensing requirement? Where do you keep the material, and how long do you leave it out? I mean, I have got just—my mind is awash with the specifics. I can't help myself.

Ms. BROWN. Right. So for example I will have source materials such as teeth, bone, placenta. We will work with people that have donated their bodies for scientific use.

Mr. PERRY. OK.

Ms. BROWN. There are chain of custody requirements based on the State as far as source gets transferred, as far as that goes.

Mr. PERRY. This is a little specific, and maybe it is unpleasant. But do you have leave it out a certain amount of days? Or is there different standards, or?

Ms. BROWN. Certainly you maintain a training log. Depending on, you know, again if we are talking law enforcement is a bit different standard than we are talking disaster. But certainly we look at different times of decomposition.

Mr. PERRY. Right.

Ms. BROWN. So very often storage will freeze our source just so it stops the decay process and then it will get thawed. So it will over time continue to decay. But then we also especially in a disaster situation, we are also—you know, we are always a little hungry for—I know this sounds really morbid. Really hungry for a fresh source.

Mr. PERRY. Right.

Ms. BROWN. Which can be very difficult in our situation. It can be a little bit difficult to——

Mr. PERRY. Yes—when you include hungry in the description——

Ms. BROWN. Right.

Mr. PERRY. But you have to get what you can.

Ms. BROWN. But it can be difficult to obtain and maintain source.

Mr. PERRY. Yes, OK.

Ms. BROWN. Which is a challenge for a lot of people that train human remains-detecting dogs.

Mr. PERRY. Those are the little things we don't think of and from a policy perspective——

Ms. BROWN. Yes, and——

Mr. PERRY [continuing]. And is something we need to know there to make a difference would be an opportune time to tell us. I am spending a lot more time——

Ms. BROWN. Yes.

Mr. PERRY [continuing]. Than I am supposed to with the committee's indulgence, one final question. I imagine a person in your—in your position sees things that many people never see or don't want to see, and they potentially have an impact on you. Do you have access to the same services that maybe a police officer or

other law enforcement or emergency service personnel might need to access too based on your experiences? If you know what I mean.

Ms. BROWN. Yes, we get training in critical incident stress management, and certainly as a task force, you know, as people come home from deployment that is followed through our medical team.

Mr. PERRY. OK.

Ms. BROWN. As far as that goes.

Mr. PERRY. If there are things and items, or issues specific to that question that need to be addressed it would also be a good time to let us know——

Ms. BROWN. Yes.

Mr. PERRY [continuing]. On the committee. We will take the opportunity. I appreciate it.

With that way long—privileged to recognize the Ranking Member Mr. Correa.

Mr. CORREA. Thank you, Mr. Chairman. I was just informed that Ms. Barragán has to leave and has a couple of questions. So I would, with your permission, defer to her for quick questions before I go.

Mr. PERRY. Without objection.

Ms. BARRAGÁN. Thank you. Thank you all for your service. I had an opportunity to come out a little early and get to meet the dogs who did their exercise. It was just really neat to see them in action, and to see how they contribute to the security of our country and the work that the men and women do in your Department. So thank you for that.

I represent the Port of Los Angeles which is—we call it America's Port. It is America's largest port by volume. I have seen in some of the literature some work that the canine units do at seaports. But I haven't had a chance to see any when I have been down there.

Do you know if there are any canine units down in the Los Angeles Port?

Mr. MONTES. So I know that there are canine units deployed in the Los Angeles field office. Particularly where they are actually deployed I can—we would have to get back to you exactly where that is.

Ms. BARRAGÁN. OK. Do you know what kind of work canines would be used for at the seaports around our country?

Mr. MONTES. Absolutely, so the canines that are utilized within the Office of Field Operations go through our training centers, either one of our training centers in El Paso and Front Royal.

Those canines are trained for the basic odors of narcotics and concealed humans. So that basic foundation of law enforcement requirement that is put on these canines, those are deployed universally across CBP whether it is within the Office of Field Operations or the United States Border Patrol.

Ms. BARRAGÁN. OK, great. I also know that I was down at the airport the other day at TSA Meet Me as well CBP. I know that TSA utilizes canine teams at more than 100 of the Nation's airports, mass transit and maritime systems, and recently-deployed canine teams to the airports in Baltimore, Saint Louis, Boston, and Nashville.

How does TSA select which airports to deploy canine teams to?

Ms. HARVEY. Thank you for that question. We use a risk-based deployment methodology. We have about 11 factors. All of the factors and their weights are sensitive. However they are the things that you would typically expect to find.

Like passenger volume, obviously we want to put the teams where they can screen the highest volume of people. The threat of that area, international enplanements and so on.

Ms. BARRAGÁN. Do you happen to know at the largest airports how—on average how many canine teams are used? Like Atlanta, Los Angeles, Chicago?

Ms. HARVEY. Sure. So it really varies by airport. It depends on the passenger volume they have, the number of checkpoints and so on.

For example, Chicago has allocated 14 passenger screening canine teams, but their Chicago Police Department has a number of teams that they also use to work in the public area and secure area. JFK has 20 teams. So it really varies by the airport.

Ms. BARRAGÁN. You know, all the airports are very different. How do the dogs adjust to the different types of layouts and settings that are at the different airports?

Ms. HARVEY. Thank you for that question. Similar to CBP the handlers are trained to figure out how their partner can best work in their environment. When the teams get back from Lackland, from their training at the canine training center there is a period of acclimation where they get used to the air flow.

Many airports have escalators. We don't have escalators at our training centers. So we have to get the canines used to operating on the escalators and so on. So that is really the job of the handler to figure out how to make his or her partner the most comfortable in their environment.

Ms. BARRAGÁN. Great. The last question, anybody can answer, is what can Congress do to help continue to support the canine programs and the work that you will do to protect our country?

Mr. MONTES. At this point from where I stand as a director the CBP Canine Program, the support that we have received thus far in promoting and maintaining the consistency of our training centers to ensure that we are meeting our operational requirements, we would definitely defer to our senior leadership to identify what those operational requirements are.

In turn from a training perspective ensure that we are meeting or we would develop and have available the training locations to meet those operational needs.

Ms. HARVEY. Similarly from TSA's perspective Congress has been very supportive of the program in terms of resources. So the program has expanded over time and we greatly appreciate that as well as your advocacy for the program.

Even in many of your local jurisdictions I know that you interact with the law enforcement that operate our canines as well as our teams in the passenger screening queue. We appreciate that support and advocacy.

Ms. BARRAGÁN. Great. Thank you.

I yield back.

Mr. PERRY. The Chair thanks the gentlewoman from California, Ms. Barragán.

The Chair now recognizes the gentleman from Louisiana, Mr. Higgins.

Mr. HIGGINS. Thank you, Mr. Chairman.

Director Montes, you train canines, right brother?

Mr. MONTES. Yes, sir.

Mr. HIGGINS. Have you ever observed in your career, in your service for your country, a machine or any device, any man-made device that can detect explosives better than one of your well-trained dogs and his handler?

Mr. MONTES. Sir, I started my canine career, sir, 23 years ago in the United States Marine Corps. Since then I have been in and out of the canine program. Being a canine handler in the Marine Corps, as an explosive handler, and a narcotic handler, evolving my personal career now sitting in front of you as the director of the CBP Canine Program.

It is one of God's most simplest designs, and one of the most effective ways to utilize in such a diverse operational environment that we experience. Technology has its purposes. But technology as well has its challenges.

These canines have these innate abilities as you—that we demonstrated earlier today these drives just to work for a toy. So there is no better design in my opinion, sir, than a canine to utilize in the various operational environments that we experience within the United States.

Mr. HIGGINS. Thank you for your candid and thorough answer, sir. I ask that because our job on this committee is to protect the citizenry of our country. But at the same time we are a Nation that faces a $20 trillion debt. We are faced with decisions to make regarding what is the best means by which to protect the American citizens within our homeland.

It occurs to me in my experience, I have a military background in law enforcement, canines work damn well. They are much less expensive than million-dollar machinery. They are pretty easy to maintain.

So I am going to ask you this, sir. Can your dogs detect composition four, C4, and Semtex?

Mr. MONTES. So, sir, for the Customs and Border Protection we currently don't train our dogs on explosives, sir.

Mr. HIGGINS. Who should I address that question to? Ms. Harvey.

Ms. HARVEY. Sir, the fullest of explosives that our teams are trained on is sensitive security information and we can share that with you in another setting.

Mr. HIGGINS. Roger that. Ms. Harvey, this question would be directed at you, ma'am, as Director of Office of Security Operations for the TSA. I am specifically focused on TSA and explosive detection.

I would ask you, ma'am, as a traveler yourself no doubt you——

Ms. HARVEY. I do.

Mr. HIGGINS [continuing]. You traverse through the airports of our Nation.

Ms. HARVEY. Yes.

Mr. HIGGINS. Would you feel safer on an aircraft with passengers and baggage that has been checked by one machine or two dogs with their handlers?

Ms. HARVEY. Thank you for that question. Canines are incredibly effective. They can do things that we can't even measure with the machines. I feel very safe when the passengers and the baggage have been screened by a canine.

Mr. HIGGINS. Thank you for your answer.

Mr. Chairman, it is my humble suggestion to this committee that as we move forward in making considered recommendations for the full committee regarding the expenditure of the people's treasure that we recall this conversation from the experts and boots on the ground.

I myself find that a canine team, a well-trained canine team with a good handler is the most effective means by which to detect explosive substance, and as a traveler, frequent traveler I feel quite safe when I see canine teams in the airport.

With that, I yield back.

Mr. PERRY. The Chair thanks the gentleman.

The Chair now recognizes the gentleman from California, Mr. Correa.

Mr. CORREA. Thank you, Mr. Chairman. I just wanted to say that I want to follow-up on some of Mr. Higgin's comments. I think he is on to something here.

As I mentioned, I took a tour of the border a few weeks ago. The most crossed border probably in the world is the San Ysidro border. A lot of cars, a lot of people flowing through that on a daily basis.

My question would be, is, are you fully staffed in terms of having canine units to do your job properly, not only there but in the rest of the country? Because if your answers to Mr. Higgins were that canine units are, you know, best.

I would imagine Dr. Carrick that we can probably train those canine units to do even more in the future. The question being the Treasury, our budgetary challenges. But, again, balancing our budgetary challenges versus the safety of our country, safety of our citizens.

The question is: Are we short on these canine units? Can we use more in terms of investing in this kind of defense for our country? Open it up.

Mr. JAQUEZ. Well, sir, I would like to—if you could please specify where exactly are you looking at in terms of deployment for the canines.

Mr. CORREA. Thank you, Director.

Mr. JAQUEZ. Between the borders or at the borders?

Mr. CORREA. I would say all of the above. Because I think the defense of our country is at airports, ports of entry, their vehicles, you know, ships, airplanes, all of the above.

Mr. JAQUEZ. So between the ports of entry for the Border Patrol, we are under staffing requirement currently with the canines. But we work with OTD to get as close to that as possible.

We rely heavily on the field to tell us what they can use and what they can deploy. We don't want to give them assets that they can't deploy. So yes we are understaffed, but not to detriment of our operation. Does that make sense?

Mr. CORREA. Can you restate the answer? Because if you are understaffed that means that there are—I don't want to put words in your mouth, sir. But if you are understaffed that means that you could use more.

Mr. JAQUEZ. So our canine——

Mr. CORREA. But it is not at the detriment of your operations but I guess if I may restate my question, should we be investing, be looking at investing more on canine units as opposed to as Mr. Higgins alluded other technologies, other areas in our defense of our country?

Mr. JAQUEZ. So while I am biased for the canine program——

Mr. CORREA. We are all biased. We love these dogs.

Mr. JAQUEZ. We are biased for the Canine Program. It does take a mix of technology, manpower, and tools. Canines are a tool. But there are other tools that we need on the border as well. So to me it is a combination of all those aspects put together to secure the border.

Mr. CORREA. So if I may, I want to ask Ms. Harvey a question. Which is can you compare the success rate or effectiveness of canine explosive detection teams versus human screening methods?

Ms. HARVEY. So similar to the——

Mr. CORREA. Including technology.

Ms. HARVEY. Sure. So yes. We know the effectiveness of the canines. They are very effective at detecting explosives. When you go through a checkpoint there are a number of other things—or your baggage goes through screening, there are a number of other things that TSA is looking for.

There are prohibited items that canines can't find and that is where our layered approach works. For example, you know, guns and knives are things that our—that our canines aren't trained to detect. So it does take a layered system.

Mr. CORREA. They are trained to detect or not?

Ms. HARVEY. They are not trained to detect knives or guns. They are trained solely on explosives.

Mr. CORREA. OK. So it is a layered defense then that we are talking about. So for example at our border crossings then you would have both X-ray machines and canine units?

Ms. HARVEY. So I can only speak to the airports.

Mr. CORREA. OK.

Ms. HARVEY. Sorry.

Mr. CORREA. Anybody else speak there?

Mr. MONTES. Absolutely, sir. You know, we like to use this terminology, you know, bad guys are like water. They are going to flow through the path of least resistance.

So if you have an enforcement posture at a port of entry, whether it is an NII technology, X-ray technology, canine technology, or even the fine officers and agents that are working at the port of entry as soon as we start to close that noose that is gonna—now they are gonna try to find another area of vulnerability.

This is where the Office of Field Operations and the United States Border Patrol work hand-in-hand. As the director of the CBP Canine Program I sit down with my counterparts to determine how our canine—how effective our canine units are out in the

field, and what do we need to increase or amend in our training environments.

So there is definitely a comprehensive multi-layered approach to where all of these mechanisms, systems, is placed with the best technology are canines and manpower all contribute to our law enforcement operations to prevent illicit items and goods from entering the United States.

Mr. CORREA. Final question is, anybody out there, the VIPR Program is—there are some—the administration is proposing cuts to the program. How will this affect our defense of our country? How will this affect your staffing, your canine units available to do your job?

Ms. HARVEY. Sir, while our canine—so TSA canine units whether they are law enforcement or TSA handlers they sometimes participate in the VIPR operations, our funding does not come from that program.

So we have seen no cut in the canine program as a result of that.

Mr. CORREA. Thank you.

Ms. HARVEY. You are welcome.

Mr. PERRY. The Chair thanks the Ranking Member.

The Chair now recognizes the gentleman from South Carolina, Mr. Duncan.

Mr. DUNCAN. Thank you, Mr. Chairman.

Before we get started this is Law Enforcement Week. I just want to thank all the men and women in the room that work in law enforcement protecting our country in your various capacities. That goes for the canines as well.

We appreciate the work that the dogs do to keep our country safe at the ports of entry against drug smuggling, against weapons, other things, and airports. So thank you. God bless you for what you do. I wanted to let you know that you are in our thoughts and prayers not just this week but always.

Every single day we appreciate what you do. I speak on behalf of the Members of the third Congressional District, people I represent in South Carolina. But I think I speak for the Nation.

We do a law enforcement appreciation tour across my district. One thing I have noticed, Mr. Chairman, is historically people have gone up to men and women in military uniforms and thanked them for their service to their country.

But what we are seeing now, folks going up to law enforcement, first responders all across and saying thank them, thank you for what you do, keep our Nation safe, keep our communities safe, keep our families and our neighbors and our properties safe.

So it is all-inclusive for law enforcement. So again I say thanks.

I traveled back a number of years ago down to the Nogales sector in Arizona. While we were there, there was an inland checkpoint, not at the border. We went to the border of course. But there was a checkpoint.

I don't want to give away where it is. Some miles inland, maybe 30. I don't know. It was a canopy over the road. Canines were used to check the cars as they came through. I saw the efforts of the smugglers to thwart the dogs, sometimes having the drugs three cars back, but having multiple cars with indicators on it that the dogs would hit on.

So those cars could be pulled out of line distracting the officers and the canines while that car was being searched so that the contraband could come through.

It is a challenge every day for you guys. I realize that. One thing that struck me though was how hot it was under—it was a shaded area but it was just an open shelter over the highway.

There was a canine kennel that was air conditioned. I don't think the men and women had the air conditioning. I think the dogs did. I was proud of that. But I also had conversations with the folks with CBP there about, and ICE, about future plans to make that more of a permanent facility with good facilities for the men and women that were working the checkpoint but also for the canines.

Can you tell me is that—has that happened? Have they I guess built that out? Is that a problem in multiple checkpoints across the southwest particularly because of the extreme temperatures?

It would take a toll on the dogs. We were told that over and over the toll that the heat takes on the canines.

So I would love for you to talk about what the facilities are like. Specifically with the canines but you can be general, and what we can do to try to help facilitate making sure that facilities like that have got in Nogales or in the Nogales sector were up to the needs of the men and women.

So Mr. Montes, if you want to talk about that. I would come all the way across.

Mr. MONTES. Absolutely, sir. So from a training perspective this is where myself and Mr. Jaquez, my counterpart, we discuss how we train our canines. So right now we have a canine entity or an academy in El Paso, Texas and we have it in Front Royal, Virginia.

The one in El Paso, Texas has the environment and the climate so that when we train our canines, when Mr. Jaquez makes that operational request, we take those canines, we send them to El Paso, Texas. We train them in that environment so they are acclimatized.

Because ideally these canines will not be able to work under a sheltered environment, under a covered environment. They usually, normally work in an austere environment.

As for the infrastructure of these checkpoints I would defer to Mr. Jaquez to answer that, sir.

Mr. JAQUEZ. Mr. Duncan, so for the checkpoints of course we analyze the priorities across the board to see where the funding goes for each checkpoint in each facility. We have a lot of facilities across the border in the Border Patrol that require updates.

But as far as it relates to the canine they are the primary concern. The handlers will make sure when that canine is deployed and when he is put up. If the dog is suffering from heat stress, dehydration, that handler is trained to make that decision and not keep the dog out in that element.

Mr. DUNCAN. Chime in on that. I would like to know what kind of toll it takes on the dogs working in that hot environment day in, day out, and maybe how many dogs you have to have in rotation.

Mr. JAQUEZ. So——

Mr. DUNCAN. Have you had any loss of life in the canine area from——

Mr. JAQUEZ. Every year with the Border Patrol because our canines are out there in the element every day, every year we send out a policy reminder for heat stress to make sure that our canine handlers are up to speed.

We also have a biweekly training where we train the handlers to keep an eye on the dog and we identify any deficiencies between the team. The primary responsibility is the care and maintenance of that canine. It is the foremost for the handler and the instructors in the field.

When it comes to deployment of the canine we try to rotate the canines through the checkpoint as much as possible. If at all possible you want to have a nose on the point as much throughout the day as possible.

They don't necessarily have to sniff every vehicle. But they are there air scenting all the traffic coming through the checkpoint. So it is not necessarily as much work as it would be putting a nose to every seam on the vehicle. Does that make sense?

Mr. DUNCAN. Thank you. My time has expired. It is up to the Chairman.

Mr. MONTES. If I may? So from a training perspective when the Border Patrol agents and the OFO officers come to our academy they receive a robust training in first aid to identify these fatigues in these canines to understand how and when to deploy their canines in the field.

That all starts in the academy. So as they go back, that first initial training that we provide them in our academies on basic canine first aid, that now evolves when they go back and they work for their training supervisors in the field and their senior mentor handlers to ensure that they are deploying their canines within their capabilities.

So they are not succumbing to some kind of heat illness or distress.

Mr. DUNCAN. Do you ever have any animal rights activists show up and complain about dogs being used in that heat? Is that a factor?

Mr. MONTES. At the training center, no. We haven't had anybody come to complain as far as us training our dogs. We have an open door policy. We try to provide as many visits that have been vetted, what we do, to show them that our canines within CBP receive the optimal best veterinary care, the optimal best housing.

So these are our partners. These are our law enforcement partners. It is our responsibility and it starts at the canine center to ensure that we are picking the absolute best dog, the absolute best health so that when this canine goes to the field it can work optimally in an operational environment.

As well as us, and we talk about that continually. Like we want to make sure that our canines work for a relative 7 to 9 years so that they now can have a reasonable retired life. Because we do ask of them very much.

Mr. DUNCAN. Thank you.

My time has expired. I appreciate the leniency, Mr. Chair.

Mr. PERRY. The Chair thanks to the gentleman from South Carolina.

The Chair recognizes the gentleman from Alabama, Mr. Palmer.

Mr. PALMER. Thank you, Mr. Chairman. Thank you to the committee for allowing me to participate in this. I just want to point out an article that was in the *Wall Street Journal* Saturday, the Saturday/Sunday edition, March 25, 26, 2017 that says dogs still beat technology in the smell test. I would like to enter that into the record if I may.

[The information follows:]

ARTICLE SUBMITTED FOR THE RECORD BY HONORABLE GARY PALMER

*Wall Street Journal*

Dogs clearly love to smell. They snarfle their way along the sidewalk. They plant their snouts where you wish they wouldn't. They snuftle, snort and sneeze, pulling in great gulps of air and sorting out the scents as they go.

We accept that dogs have sharp noses, and we train them to detect bombs, drugs, bodies, fugitives, pests and cancer. But our knowledge of the limits of their abilities is scant. Studies are relatively few, the number of animals tested is typically small, and the results are disparate.

A variety of things can impair a dog's performance, from boredom to stress to cues from a handler. Their accuracy may approach perfection, but it also may dip to disturbingly low levels.

"There are not many sensors you would deploy in the real world and not know when it's not going to work," said Nathaniel Hall, director oftbe Canine Olfaction Research and Education Laboratory at Texas Tech University.

One Universitv of California, Davis study testing the influence of handlers found that drug- and bomb-sniffing dogs were wrong more than half the time when their handlers were given erroneous information about the presence of target odors.

For such reasons, a carefully calibrated machine might be preferable to a dog.

Easier said than done.

"What's cool about dogs is when they do come into contact with an odor, they can track it to its source," said L. Paul Waggoner, co-director of the Canine Performance Sciences Program at Auburn University. "There is not an instrument out there that replicates a dog's nose." That's not for lack of effort.

The Defense Advanced Research Projects Agency of the U.S. Department of Defense spent $66 million between 1997 and 2010 drawing on the expertise of at least 35 different research institutions to develop sensors that could detect explosives as ably as a dog and identify other chemicals.

They couldn't do it.

Meanwhile, scientitic studies to measure the extent of dogs' sniffing powers typically have involved few animals, and the results have varied wildly.

In a frequently cited 1953 study, Walter Neuhaus, a German researcher, tested a single fox terrier and found it could detect butyric acid, sometimes described as smelling like vomit or body odor, at the astonishingly low concentration of .0004 parts per trillion.

In 1960, David G. Moulton, a researcher at the University of Pennsylvania, tested the same chemical with two crossbred Labradors. Their limit was 137 parts per trillion, or roughly 340,000 times greater than the concentration documented by Neuhaus. Studies with other breeds and odors have also delivered mixed results.

In 1984, Deena Hope Krestel tested six beagles and found they could pick out amyl acetate, a chemical that smells like bananas, at concentrations of 52,000 to 32,600 parts per trillion. Dianne Beidler Walker fared better in 2006 with two dogs, a Rottweiler and a standard schnauzer, that detected the same chemical at just 1.9 parts per trillion and 1.14 parts per trillion. Differences in things such as the testing method or canine training can affect outcomes, and even with varying levels of sensitivity, the studies confirm dogs have an acute sense of smell.

Some say that validation is enough.

"Let's talk about human search and rescue," said Cynthia M. Otto, director of the Penn Vet Working Dog Center at the University of Pennsylvania, who has trained dogs to detect explosives, cancer and bedbugs. "We don't care about the thresholds. We have a whole body."

Rather than focusing on sensitivity, other studies have focused on the perfection of training techniques or determining whether dogs can be replaced.

In the 1970s, the Southwest Research Institute, working for the U.S. Army, tested the odor-detecting ability of a variety of animals compared with dogs.

Cats were excluded because they are uncooperative. Cows were left out because the idea of bomb-sniffing bovines struck the researchers as ludicrous. Sheep and

goats were deemed too stupid. But dogs, pigs, ferrets, coyotes, wolves, foxes, skunks, opossums, deer and raccoons made the cut.

Surprisingly, pigs and ferrets outperformed German shepherds and Labrador retrievers, breeds often chosen for odor detection.

But overall, dogs won out because of their combination of qualities: Not only do they have strong noses, they are compatible with people, they respond to training, and—for now—they beat technology paws down.

Mr. PALMER. Mr. Carrick, you said they are the best and most mobile detection asset available. I think that——

Mr. CARRICK. Yes, sir.

Mr. PALMER. I appreciate that.

Then Mr. Montes, you said the bad guys are going to seek the path of least resistance.

That said doesn't it make sense to do more in terms of perimeter security at our airports and our transportation hubs by utilizing dogs, particular on the—like I said, on the perimeter or perhaps inside, pre, before you go through the checkpoints?

Ms. HARVEY. So from TSA's perspective, yes, we do actually use—we have over 800 teams that are deployed at airports across the country. They work a variety of locations. They are very mobile as Dr. Carrick said.

They work in the public area. They also work in the secured area to screen for any insiders who might intend to do us harm as well as at our checkpoint.

Mr. PALMER. There is not a constant presence. I don't——

Ms. HARVEY. There is not.

Mr. PALMER. There is not even a constant presence at DCA. You pull up to the curb and you see a squad car, a police car, but you don't see a dog. I spent 3 hours in the Delta line a few weeks ago when the thunderstorms canceled all our flights, hundreds of people.

There was no patrols with dogs or anything. It concerns me that we are not doing that in light of what happened in Brussels. I think was it Turkey that we had an incident? Then of course we had the baggage claim incident at Fort Lauderdale.

Let me ask you this, Ms. Harvey. I think you are funded at $121.7 million. Are you adequately funded for your canine units?

Ms. HARVEY. Yes. So in fiscal year 2017 actually Congress funded us for 50 additional teams. So we are busy training and deploying those teams. That brings us to a total of 1,047.

Mr. PALMER. Where do you get your dogs?

Ms. HARVEY. A variety of sources. So we are co-located with the Military Working Dog Program that DoD runs. And we have an interagency agreement with DoD. We use the same vendors that they use for the majority of our dogs.

We also have a couple of agreements with domestic vendors from which we also get canines.

Mr. PALMER. Who are they?

Ms. HARVEY. I am not familiar with the whole list of the vendors that we have——

Mr. PALMER. Are any of the dogs foreign-sourced?

Ms. HARVEY. Through DoD, yes, some of their vendors are overseas vendors.

Mr. PALMER. Dr. Brown, are any of your dogs foreign-sourced?

Ms. BROWN. No.

Mr. PALMER. Thank you. You know, the administration has an emphasis on Buy American. It just seems to me it would make sense that you would prefer American dogs and American-trained dogs over foreign-sourced dogs, particularly the vendors that train them from puppies.

Why do you have a preference in any context for a foreign-sourced dog?

Ms. HARVEY. Sure. So, we don't actually have a preference for foreign-sourced dogs. However, we have a large requirement——

Mr. PALMER. Oh yes.

Ms. HARVEY [continuing]. For a large number of dogs.

Mr. PALMER. Let me ask you this. Do you not have an adequate supply of American-sourced dogs?

Ms. HARVEY. We are working very closely with our domestic vendors to buildup that supply. But we have not identified a large enough supply domestically to do that.

Mr. PALMER. Have you fulfilled the contracts that you have with American companies?

Ms. HARVEY. We are working very closely with the vendors that we have. Those agreements are new.

Mr. PALMER. The answer is no. You haven't fulfilled all your contracts. That is part of what bothers me is we don't have the perimeter security that I think is necessary at our airports and our rail transportation and other transportation hubs.

You are not utilizing all of the assets that are available to you in terms of your funding. You don't have enough dogs. But there are contracts out there for dogs that you haven't fulfilled. I would like for you to check into that.

Ms. HARVEY. Thank you. We will.

Mr. PALMER. All right.

I yield the balance of my time. Thank you, Mr. Chairman.

Mr. PERRY. The Chair thanks the gentleman from Alabama.

Before we close maybe a couple—I have one more question. And I think the Ranking Member has some thoughts.

Ms. Harvey, there was a line of questioning from Ms. Barragán that kind of piqued my curiosity when you talked about how teams are stationed at airports based on traffic and so on and so forth.

I understand some of this might be of sensitive nature and if it is I will expect you to refrain and just tell me we need to talk about that somewhere else. But can I make the presumption or assumption that the stationing of the units is based on a threat matrix that is reviewed on a somewhat regular or scheduled basis and then assets are moved based on that as well as traffic density and volume, et cetera?

Ms. HARVEY. Yes. In fact in 2016 we did relocate 28 of our canine, passenger screening canine teams from smaller, lower-risk locations to some of the higher-risk locations. We do review that.

Mr. PERRY. Is there anything that Congress needs to do or information that you need to get to that you don't currently have or struggle to get regarding the efficacy of the threat matrix, the timeliness, and your ability to move assets adequately, timely? Is there anything lacking there for which there is something that we are in the way or we are holding up that we could make a difference for you?

Ms. HARVEY. No, I don't think so. I think we have all the authorities we need. We review the threat matrix, as you call it, pretty regularly. We have authority to move the teams around.

Mr. PERRY. You have a different name for that? That is the name—I am a military guy. So, you know, that is what I use.

Ms. HARVEY. Yes.

Mr. PERRY. But if you can school me, what is the correct terminology? I want to be—I don't want to be disrespectful.

Ms. HARVEY. It is the same thing. We call it a risk-based allocation.

Mr. PERRY. OK. All right. All right. Risk-based allocation. OK. So bottom line is, as far as you are concerned at this very moment in time you have the adequate tools for your risk-based allocation to do the job as necessary.

Ms. HARVEY. Yes. Yes, sir.

Mr. PERRY. All right. With that I recognize the Ranking Member.

Mr. CORREA. Thank you, Mr. Chair.

First of all, I want to thank all of the folks that are here today in testimony. Also those police officers, peace officers, I want to join my colleagues in thanking you for service to our country and our citizens as well as to our canines as well.

As I am hearing all of the testimony not only from our witnesses but also my colleagues here I am trying to put it all together. Because as the policymakers, an American policymaker, Member of this committee, you know, I always pray that day never come when the bad guys bust through and score on us again.

So, you know, as I try to put the big picture together here, Ms. Harvey, you talk about allocation of resources, some low-threat to high-threat, that tells me that maybe we need more resources to cover both bases because I think, Mr. Montes, you said the bad guys are like, water that flows from, you know, to that area of high——

Mr. MONTES. Like water, sir, they are going to extort the path of least resistance.

Mr. CORREA. Thank you very much. I am not going to put words in your mouth. But I am convinced—I think you all, though you say you have adequate resources, I think this is an area you could use more resources.

My colleague from Alabama says, you know, you are not buying enough of these resources from American sources and tells me maybe you are not ordering enough of these resources from American sources.

But again, not putting words in your mouth, but I walk away from this hearing even more convinced than before that we need to invest more in our canine units. Very cost-effective.

Dr. Carrick, I think you were saying that we can train them to do even more. I think we have got to go in that direction to defend our country, protect our citizenry, and to make sure that you do the best job you can in protecting our country.

With that, Mr. Chair, I yield the remainder of my time.

Mr. PERRY. The Chair thanks the gentleman.

Ladies and gentlemen we are just—we are really privileged to have you here today and learn a little bit about your world that we don't really think about unfortunately most of the time, right?

When we see you, see the dogs, then it is on our mind. But, you know, 24 hours a day, 365 days a year you are out there and especially on this week it is important to acknowledge your significant contributions and to say thank you very much.

We appreciate your efforts and your sacrifice to keep us safe. We want to be helpful. So if there is—if there is something that comes to mind after the hearing that you think we need to know that would be critical to assisting and aiding you in performing your duties and completing your mission effectively we need to know that.

We encourage you to reach out and make sure that we have that information, and we will see if we can do our level best to make sure you are adequately equipped in whatever you need. Whatever it is that you need if there is a shortcoming we want to be there for you.

So with that we thank you very, very kindly for your attention today and for your time away from wherever it is you work and for the dogs' attendance as well.

Mr. Montes.

Mr. MONTES. Yes, I would like to add one last thing in there. Thank you for the opportunity to come and speak here today. Today you saw a small example of the capabilities of these canines. Within CBP we have such a dynamic and diverse environment.

I do extend an invitation to yourself, sir, and your representatives as well to come and visit either one of our facilities so that you can get a global scope of how the Office of Training and Development, the United States Border Patrol, and the Office of Field Operations work together to ensure that our training environments emulate if not replicate the operational environment so that our effectiveness is top-notch.

Mr. PERRY. I appreciate that. I am sure we will consider taking you up on it. We will have to take a look at the travel schedule. Front Royal is pretty close. The other one is a little far. But maybe we could do something there.

Anyhow, we have got some votes. So the Chair now thanks the witnesses for the valuable testimony and the Members for their questions.

Members may have some additional questions for the witnesses. We will ask you to respond to these in writing. Pursuant to committee rule VII(D), the hearing record will remain open for 10 days. Without objection, the subcommittee stands adjourned.

[Whereupon, at 4:01 p.m., the subcommittee was adjourned.]