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BORDER SECURITY

Progress and Challenges in DHS's Efforts to Implement and Assess Infrastructure and Technology

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Accessible Version

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Progress and Challenges in DHS's Efforts to Implement and Assess Infrastructure and Technology

Why GAO Did This Study

DHS has employed a variety of technology, infrastructure, and other assets to help secure the border. For example, in January 2011, CBP developed the Arizona Border Surveillance Technology Plan, which includes seven acquisition programs related to fixed and mobile surveillance systems, agent-portable devices, and ground sensors. CBP has also deployed tactical infrastructure—fencing, roads, and lights—and tactical communications (radio systems) and uses air and marine assets to secure the border. In recent years, GAO has reported on a variety of DHS border security programs and operations.

This statement addresses some of the key issues and recommendations GAO has made in the following areas: (1) DHS's efforts to implement the Arizona Border Surveillance Technology Plan and deploy tactical infrastructure, (2) CBP's and ICE's efforts to modernize radio systems, and (3) OAM mix and placement of assets. This statement is based on prior products GAO issued from September 2009 through April 2015, along with selected updates conducted in April and May 2015 to obtain information from DHS on actions it has taken to address prior GAO recommendations.

What GAO Recommends

In its prior work, GAO made recommendations to DHS to strengthen its management of plans and programs, tactical communications, and mix and placement of OAM assets. DHS generally agreed and plans to address the recommendations. Consequently, GAO is not making any new recommendations in this testimony.

What GAO Found

GAO reported in March 2014 that U.S. Customs and Border Protection (CBP), within the Department of Homeland Security (DHS), had made progress in deploying programs under the Arizona Border Surveillance Technology Plan (the Plan), but that CBP could strengthen its management and assessment of the Plan's programs. Specifically, GAO reported that CBP's schedules and life-cycle cost estimates for the Plan and its three highest-cost programs met some but not all best practices and recommended that CBP ensure that its schedules and estimates more fully address best practices, such as validating its cost estimates with independent estimates. CBP concurred and is taking steps toward addressing GAO's recommendations, such as planning to update cost estimates by the end of calendar year 2015. Further, in March 2014, GAO reported that while CBP had identified mission benefits of technologies to be deployed under the Plan, such as improved situational awareness, the agency had not developed key attributes for performance metrics for all technologies, as GAO recommended. In April 2015, GAO reported that CBP had identified a set of potential key attributes for performance metrics for deployed technologies and CBP officials stated that by the end of fiscal year 2015, baselines for each performance measure will be developed and the agency will begin using the data to evaluate the contributions of specific technology assets.

In March 2015, GAO reported that DHS, CBP, and U.S. Immigration and Customs Enforcement (ICE) had taken steps to upgrade tactical communications equipment and infrastructure, such as completing full modernization projects in four of the nine southwest border sectors, but could benefit by developing performance and program plans. Since rolling out upgrades—which include replacing and updating equipment and expanding infrastructure—CBP had not established an ongoing performance monitoring plan to determine whether the systems were working as intended. CBP agreed to develop such a plan, as GAO recommended, and is working to complete the plan by the end of 2015. Further, GAO reported in March 2015 that ICE did not have a program plan to manage its portfolio of modernization projects. DHS concurred with GAO's recommendation to develop a plan and stated that ICE will develop a program to facilitate, coordinate, and maintain ICE's radio systems, and document resource needs, define program goals, and establish performance measures by January 2016.

In March 2012, GAO reported that the Office of Air and Marine (OAM) within CBP could benefit from reassessing its mix and placement of assets to better address mission needs and threats. GAO reported that OAM should clearly document the linkage of deployment decisions to mission needs and threat and its analysis and assessments used to support its decisions on the mix and placement of assets. GAO also reported that OAM could consider how border technology deployment will affect customer requirements for OAM assets. GAO recommended that CBP reassess the mix and placement of OAM's assets to include mission requirements, among other things. CBP concurred, and after May 2013, OAM began a realignment of personnel, aircraft, and vessels from the northern border to the southern border based on its evaluation of the utilization and efficiency of current assets and available funding to accomplish the transfers. In April 2015, OAM officials stated that they are working to provide GAO with the data and analysis used to support the realignment of assets.

Testimony of Rebecca Gambler

Chairman Johnson, Ranking Member Carper, and Members of the Committee:

I am pleased to be here today to discuss the Department of Homeland Security's (DHS) efforts to acquire and deploy various assets to secure U.S. borders. In the years since DHS's inception, increased activity across the nation's borders has led to an increase of agency resources. For instance, at the end of fiscal year 2004, the first full year DHS existed as an agency, it had about 10,500 agents assigned to patrol the U.S. land borders and about 17,600 officers inspecting travelers at air, land, and sea ports of entry (POE).[1] At the end of fiscal year 2014, approximately 21,000 agents were assigned to patrol the U.S. land borders and more than 22,000 officers were assigned to air, land, and sea POEs.

In addition to this increase in personnel, DHS has employed a variety of technology, infrastructure, and other assets to assist with its efforts to secure the border. For example, in November 2005, DHS announced the launch of the Secure Border Initiative (SBI) program, which was responsible for developing a comprehensive border protection system using technology, known as the Secure Border Initiative Network (SBInet), and tactical infrastructure—fencing, roads, and lighting—along the southwest border to deter smugglers and aliens attempting to illegally cross the border. In January 2011, in response to internal and external assessments that identified concerns regarding the performance, cost, and schedule for implementing the systems, the Secretary of Homeland Security announced the cancellation of further procurements of SBInet systems. After the cancellation of SBInet, CBP developed the Arizona Border Surveillance Technology Plan (the Plan), in January 2011, which includes a mix of radars, sensors, and cameras to help provide security for the remainder of the Arizona border. Moreover, DHS has continued to deploy other tactical infrastructure along the southwest border.

DHS is also utilizing surveillance technology, tactical communications (TACCOM) systems, and other assets to assist its efforts to more effectively and efficiently secure the border. For instance, CBP and U.S.

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[1]POEs are the facilities that provide for the controlled entry into or departure from the United States for persons and materials. Specifically, a POE is any officially designated location (seaport, airport, or land border location) where DHS officers or employees are assigned to clear passengers and merchandise, collect duties, and enforce customs laws, and where a person may apply for admission into the United States.

Immigration and Customs Enforcement (ICE) agents and officers responsible for securing the southwest border depend on land-mobile radio systems (radio systems) for secure, reliable, and timely exchanges of critical information to effectively carry out their mission, especially in remote areas along the southwest border. Further, CBP components, including the Office of Border Patrol (Border Patrol), also rely on the support of Office of Air and Marine (OAM) aircraft, vessels, and crew to help enforce border security. Within CBP, OAM operates a fleet of air and marine assets in support of federal border security efforts.

Over the years, we have reported on the progress and challenges DHS faces in implementing its border security efforts. My statement discusses our key findings in the following areas:

- DHS's effort to implement the Arizona Border Surveillance Technology Plan and deploy tactical infrastructure,
- CBP's and ICE' s efforts to modernize radio systems, and
- OAM mix and placement of assets.

This statement is based on related reports and testimonies we issued from 2009 through 2015 that examined DHS efforts to secure the U.S. border (see Related GAO Products at the end of this statement). It also includes selected updates we conducted in April and May 2015 on DHS's efforts to address our previous recommendations. Our reports and testimonies incorporated information we obtained and analyzed from officials from various DHS components and state and local law enforcement agencies. More detailed information about our scope and methodology can be found in our reports and testimonies. For the updates, we collected information from DHS on actions it has taken to address findings and recommendations made in prior reports on which this statement is based. We conducted all of this work in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

CBP Has Taken Steps to Strengthen the Management of and Assess the Effectiveness of Its Border Surveillance Technologies and Fencing, but Additional Actions Are Needed

CBP Plans to Update Program Schedules and Life-Cycle Cost Estimates, but Has Not Yet Provided Complete Information to Reflect It Is Following Best Practices

In March 2014 and April 2015, we reported that CBP had made progress in deploying programs under the Arizona Border Surveillance Technology Plan, but that CBP could take additional action to strengthen its management of the Plan and the Plan's various programs.[2] The Plan's seven acquisition programs include fixed and mobile surveillance systems, agent portable devices, and ground sensors. Its three-highest cost programs which represent 97 percent of the Plan's estimated cost are the Integrated Fixed Tower (IFT), Remote Video Surveillance System (RVSS), and Mobile Surveillance Capability (MSC).[3]

In March 2014, we found that CBP had a schedule for each of the Plan's seven programs, and that four of the programs would not meet their originally planned completion dates. We also found that some of the programs had experienced delays relative to their baseline schedules, as

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[2]GAO, *Arizona Border Surveillance Technology Plan: Additional Actions Needed to Strengthen Management and Assess Effectiveness*, GAO-14-368 (Washington, D.C.: Mar. 4, 2014), and *Homeland Security Acquisitions: Major Program Assessments Reveal Actions Needed to Improve Accountability*, GAO-15-171SP (Washington, D.C.: Apr. 22, 2015).

[3]The IFT consists of towers with, among other things, ground surveillance radars and surveillance cameras mounted on fixed (that is, stationary) towers. The RVSS includes multiple color and infrared cameras mounted on monopoles, lattice towers, and buildings and differs from the IFT in, among other things, the RVSS does not include radars. The MSC is a stand-alone, truck-mounted suite of radar and cameras that provides a display within the cab of the truck.

of March 2013.[4] More recently, in our April 2015 assessment of DHS's major acquisitions programs, we reported on the status of the IFT program in particular, noting that from March 2012 to September 2014, the program's initial operational capability date had slipped from the end of September 2013 to the end of September 2015. CBP officials said that this slip occurred because the program released its request for proposals behind schedule, and then received more proposals than anticipated. The subsequent bid protest extended the slip. CBP officials said these delays contributed to the IFT's full operational capability slip, but funding shortfalls are the major contributor to the delay. Originally, full operational capability was scheduled to occur by September 2015, but as of December 2014, it was scheduled for March 2022. The IFT program anticipated it would receive less than half the fiscal year 2015 funding it needed to remain on track, and it anticipated its funding plan would be reduced further in the future. As a result of this expected funding shortage, the program anticipated it would be able to deliver 24 of 52 planned IFT units, with the funding through 2020, and that it planned to deploy the IFT units to three of the six original Border Patrol Station areas of responsibility. Furthermore, the Chief of the Border Patrol had informed the program that 12 of the 28 remaining IFT units systems are not needed given changing threats.

Further, with regard to schedules, scheduling best practices are summarized into four characteristics of reliable schedules—comprehensive, well constructed, credible, and controlled (i.e., schedules

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[4]The baseline schedule is to represent the original configuration of the program plan and to signify the consensus of all stakeholders regarding the required sequence of events, resource assignments, and acceptable dates for key deliverables. The current schedule is to represent the actual plan to date.

are periodically updated and progress is monitored).[5] We assessed CBP's schedules as of March 2013 for the three highest-cost programs and found in March 2014 that schedules for two of the programs at least partially met each characteristic (i.e., satisfied about half of the criterion), and the schedule for the other program at least minimally met each characteristic (i.e., satisfied a small portion of the criterion).[6] For example, the schedule for the IFT program partially met the characteristic of being credible in that CBP had performed a schedule risk analysis for the program, but the risk analysis was not based on any connection between risks and specific activities. For the MSC program, the schedule minimally met the characteristic of being controlled in that it did not have valid baseline dates for activities or milestones by which CBP could track progress. We recommended that CBP ensure that scheduling best practices are applied to the IFT, RVSS, and MSC schedules. DHS concurred with the recommendation and stated that CBP planned to ensure that scheduling best practices would be applied as far as practical when updating the three programs' schedules. In May 2015, CBP provided us a summary of its completed and planned milestones for the IFT, RVSS, and MSC programs. However, CBP has not provided us with a complete program schedule for the IFT, RVSS, and MSC, and, therefore, we cannot determine the extent to which the agency has followed best practices when updating the respective schedules.

In March 2014, we also found that CBP had not developed an Integrated Master Schedule for the Plan in accordance with best practices. Rather, CBP had used separate schedules for each program to manage

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[5]GAO, *GAO Schedule Assessment Guide: Best Practices for Program Schedules,* GAO-12-120G (exposure draft) (Washington, D.C.: May 2012). We developed this guide through a compilation of best practices that federal agencies and industry use. According to this guide, for a schedule to be comprehensive, among other things, the schedule should (1) capture all activities, as defined in the work breakdown structure, (2) reflect what resources are needed to do the work, and (3) establish the duration of all activities and have specific start and end dates. To be well constructed, among other things, a schedule should have all of its activities sequenced in the order that they are to be implemented with the most straightforward logic possible. To be credible, the schedule should reflect the order of events necessary to achieve aggregated products or outcomes, and activities in varying levels of the schedule map to one another. Moreover, a schedule risk analysis should be conducted to predict a level of confidence in meeting the program's completion date. For a schedule to be controlled, the schedule should be updated periodically using actual progress and logic to realistically forecast dates for program activities, and a baseline schedule should be maintained to measure, monitor, and report the program's progress.

[6]GAO-14-368.

implementation of the Plan, as CBP officials stated that the Plan contains individual acquisition programs rather than integrated programs. However, collectively these programs are intended to provide CBP with a combination of surveillance capabilities to be used along the Arizona border with Mexico, and resources are shared among the programs. According to scheduling best practices, an Integrated Master Schedule is a critical management tool for complex systems that involve a number of different projects, such as the Plan, to allow managers to monitor all work activities, how long activities will take, and how the activities are related to one another. We concluded that developing and maintaining an integrated master schedule for the Plan could help provide CBP a comprehensive view of the Plan and help CBP better understand how schedule changes in each individual program could affect implementation of the overall plan. We recommended that CBP develop an integrated master schedule for the Plan. CBP did not concur with this recommendation and maintained that an integrated master schedule for the Plan in one file undermines the DHS-approved implementation strategy for the individual programs making up the Plan, and that the implementation of this recommendation would essentially create a large, aggregated program, and effectively create an aggregated "system of systems." DHS further stated that a key element of the Plan has been the disaggregation of technology procurements. However, as we noted in the report, collectively these programs are intended to provide CBP with a combination of surveillance capabilities to be used along the Arizona border with Mexico. Moreover, while the programs themselves may be independent of one another, the Plan's resources are being shared among the programs. We continue to believe that developing an integrated master schedule for the Plan is needed. Developing and maintaining an integrated master schedule for the Plan could allow CBP insight into current or programmed allocation of resources for all programs as opposed to attempting to resolve any resource constraints for each program individually.

In addition, in March 2014, we reported that the life-cycle cost estimates for the Plan reflected some, but not all, best practices. Cost-estimating best practices are summarized into four characteristics—well documented, comprehensive, accurate, and credible. Our analysis of CBP's estimate for the Plan and estimates completed at the time of our review for the two highest-cost programs—the IFT and RVSS programs— showed that these estimates at least partially met three of these characteristics: well documented, comprehensive, and accurate. In terms of being credible, these estimates had not been verified with independent cost estimates in accordance with best practices. We concluded that

ensuring that scheduling best practices were applied to the programs' schedules and verifying life-cycle cost estimates with independent estimates could help better ensure the reliability of the schedules and estimates, and we recommended that CBP verify the life-cycle cost estimates for the IFT and RVSS programs with independent cost estimates and reconcile any differences. DHS concurred with this recommendation, but stated that at this point it does not believe that there would be a benefit in expending funds to obtain independent cost estimates and that if the costs realized to date continue to hold, there may be no requirement or value added in conducting full-blown updates with independent cost estimates. We recognize the need to balance the cost and time to verify the life-cycle cost estimates with the benefits to be gained from verification with independent cost estimates. However, we continue to believe that independently verifying the life-cycle cost estimates for the IFT and RVSS programs and reconciling any differences, consistent with best practices, could help CBP better ensure the reliability of the estimates. As of May 2015, CBP officials stated that the agency plans to update the life-cycle cost estimates for the three of its highest-cost programs under the Plan, including IFT and RVSS, by the end of calendar year 2015.[7]

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[7]GAO, *2015 Annual Report: Additional Opportunities to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits*, GAO-15-404SP (Washington, D.C.: Apr. 14, 2015).

CBP Has Made Progress toward Assessing Performance of Surveillance Technologies and Fencing, but Has Not Yet Fully Applied Performance Metrics or Assessed the Contributions of its Technologies

We reported in March 2014 that CBP identified the mission benefits of its surveillance technologies, as we recommended in November 2011.[8] More specifically, CBP had identified mission benefits of surveillance technologies to be deployed under the Plan, such as improved situational awareness and agent safety. However, we also reported that the agency had not developed key attributes for performance metrics for all surveillance technology to be deployed as part of the Plan, as we recommended in November 2011. As of May 2015, CBP had identified a set of potential key attributes for performance metrics for all technologies to be deployed under the Plan; however, CBP officials stated that this set of measures was under review as the agency continues to refine the measures to better inform the nature of the contributions and impacts of surveillance technology on its border security mission.[9] While CBP has yet to apply these measures, CBP established a time line for developing performance measures for each technology. CBP officials stated that by the end of fiscal year 2015, baselines for each performance measure will be developed, at which time the agency plans to begin using the data to evaluate the individual and collective contributions of specific technology assets deployed under the Plan. Moreover, CBP plans to establish a tool by the end of fiscal year 2016 that explains the qualitative and quantitative impacts of technology and tactical infrastructure on situational awareness in specific areas of the border environment. While these are positive steps, until CBP completes its efforts to fully develop and apply key attributes for performance metrics for all technologies to be deployed under the Plan, it will not be able to fully assess its progress in implementing the Plan and determine when mission benefits have been fully realized.

Moreover, in March 2014, we found that CBP does not capture complete data on the contributions of these technologies, which in combination with other relevant performance metrics or indicators could be used to better determine the contributions of CBP's surveillance technologies and inform resource allocation decisions. Although CBP has a field within its Enforcement Integrated Database for maintaining data on whether technological assets, such as SBInet surveillance towers, and nontechnological assets, such as canine teams, assisted or contributed to

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[8]See GAO-14-368, and *Arizona Border Surveillance Technology: More Information on Plans and Costs Is Needed before Proceeding*, GAO-12-22 (Washington, D.C.: Nov. 4, 2011).

[9]GAO-15-404SP.

the apprehension of illegal entrants and seizure of drugs and other contraband, according to CBP officials, Border Patrol agents were not required to record these data.[10] This limited CBP's ability to collect, track, and analyze available data on asset assists to help monitor the contribution of surveillance technologies, including its SBInet system, to Border Patrol apprehensions and seizures and inform resource allocation decisions. We recommended that CBP require data on asset assists to be recorded and tracked within its database and that once these data were required to be recorded and tracked, analyze available data on apprehensions and technological assists, in combination with other relevant performance metrics or indicators, as appropriate, to determine the contribution of surveillance technologies to CBP's border security efforts. CBP concurred with our recommendations and has taken steps to address it. In June 2014, in response to our recommendation, CBP issued guidance informing Border Patrol agents that the asset assist data field within its database was now a mandatory data field. Agents are required to enter any assisting surveillance technology or other equipment before proceeding. While this is a positive step, to fully address our recommendations, CBP needs to analyze data on apprehensions and seizures, in combination with other relevant performance metrics, to determine the contribution of surveillance technologies to its border security mission.

In addition, with regard to fencing and tactical infrastructure, CBP reported that from fiscal year 2005 through May 2015, the total miles of vehicle and pedestrian fencing along 2,000-mile U.S.-Mexico border increased from approximately 120 miles to 652 miles.[11] With the completion of the new fencing and other tactical infrastructure, DHS is now responsible for maintaining this infrastructure including repairing breached sections of fencing which cost the department at least $7.2 million in 2010, as reported by CBP. Moreover, we have previously reported on CBP's efforts to assess the impact of fencing and tactical infrastructure on border security. Specifically, in our May 2010 and September 2009 reports, we found that CBP had not accounted for the impact of its investment in border fencing and infrastructure on border security. CBP

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[10]In addition to maintaining data on asset assists, the Border Patrol collects and maintains data on apprehensions and seizures in DHS's Enforcement Integrated Database.

[11]The length of the border with Mexico is defined by the U.S. International Boundary and Water Commission at 1,954 miles. The length of the land border is 675 miles, while the length of the border along the Colorado River and Rio Grande is 1,279 miles.

had reported an increase in control of southwest border miles, but could not account separately for the impact of the border fencing and other infrastructure. In September 2009, we recommended that CBP determine the contribution of border fencing and other infrastructure to border security. DHS concurred with our recommendation, and in response, CBP contracted with the Homeland Security Studies and Analysis Institute to conduct an analysis of the impact of tactical infrastructure on border security.[12]

DHS Components Have Taken Steps to Address Radio Interoperability Challenges, but Could Better Manage These Efforts

DHS Components Have Taken Steps to Upgrade Tactical Communications Equipment and Infrastructure, but Could Benefit by Developing Performance and Program Plans

To effectively carry out their respective border security missions, CBP and ICE agents and officers require interoperable communications—the capability of different electronic communications systems to readily connect with one another to enable timely communications—with one another and with state and local agencies, as we reported in March 2015.[13] In 2008, DHS components, including CBP and ICE, initiated individual TACCOM modernization programs to upgrade radio systems that were past expected service life to improve the performance of these systems and to help achieve interoperability across federal, state, and local agencies that are responsible for securing the border. In March 2015, we reported that from 2009 through 2013, CBP completed full modernization

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[12]GAO, *Secure Border Initiative: DHS Has Faced Challenges Deploying Technology and Fencing Along the Southwest Border*, GAO-10-651T (Washington, D.C.: May 4, 2010), and *Secure Border Initiative: Technology Deployment Delays Persist and the Impact of Border Fencing Has Not Been Assessed*, GAO-09-896 (Washington, D.C.: Sept. 9, 2009).

[13]GAO, *Border Security: Additional Efforts Needed to Address Persistent Challenges in Achieving Radio Interoperability,* GAO-15-201 (Washington, D.C.: Mar. 23, 2015).

projects in 4 of the 9 sectors that constitute the southwest border.[14] In these 4 sectors, Yuma, Tucson, Rio Grande Valley, and El Paso, CBP has (1) upgraded outdated analog tactical communications equipment and infrastructure to digital systems and (2) expanded coverage and provided capacity enhancements by procuring additional equipment and building out new tower sites in areas where CBP agents operate that were not previously covered with existing infrastructure.

In 2009, CBP also revised its modernization approach for all remaining sectors, halting the addition of any new tower sites, and adding a project known as Digital in Place (DIP) as a capstone to this program. The scope of the DIP project entails one-for-one replacements of analog systems with digital systems and does not provide additional coverage or capacity enhancements. CBP plans to implement DIP in the remaining 5 sectors along the southwest border that did not receive full modernization upgrades. As of May 2015, DIP projects had been completed in 3 of the 5 sectors along the southwest border—Big Bend, Laredo, and Del Rio— and were under way in other locations across the nation.[15] According to CBP, because DIP does not include new site build-outs, among other things, this approach will greatly reduce the costs associated with the full modernization approach and is expected to be completed in a relatively shorter time period.

Further, in March 2015 we found that CBP conducted a limited operational test in 1 sector, Rio Grande Valley, and both CBP and DHS officials stated that the agency does not plan to conduct additional testing on the deployed systems or conduct any operational testing for the DIP projects because the agency is replacing outdated equipment with commercial-off-the-shelf technology on a one-for-one basis.[16] In addition, CBP had not developed an agency-wide plan to monitor the performance of its radio systems. In particular, CBP had not yet collected sufficient data to determine how well the systems are functioning within and across sectors, and had not obtained perspectives from radio users since the

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[14]There are 20 Border Patrol sectors across the United States. The 9 Border Patrol sectors that constitute the southwest border are San Diego, El Centro, Yuma, Tucson, El Paso, Big Bend, Laredo, Del Rio, and Rio Grande Valley. These sectors represent geographic focus areas for tactical communications modernization upgrade projects.

[15]CBP has not yet set time frames for completion of these upgrades.

[16]GAO-15-201.

systems were deployed in each location. We concluded that such information could help CBP better identify any challenges with use of the system and assess system performance. For example, although CBP collects information on radio system availability and maintenance, CBP officials stated that they have not used this information to assess overall system performance to determine the extent to which upgraded radio systems are meeting user needs or to identify areas in need of corrective action. According to CBP officials, the agency had not yet analyzed available data to determine the extent to which upgraded radio systems are meeting user needs or to identify areas in need of corrective action because complete operational data have not been collected for all sites to which radio systems were deployed and because these data are maintained across different repositories that are not currently linked together. CBP officials recognized the need to collect sufficient data to monitor radio system performance and at the time of our report, stated that the agency was taking steps to address this need by collecting data in recently modernized sites. They further stated that once the data had been collected, the agency planned to consolidate these data in a central repository.

Moreover, in March 2015 we found that most of the groups of CBP radio users we met with reported experiencing challenges relating to operational performance. For example, 7 of the 10 groups of CBP radio users we met with in the Tucson, Rio Grande Valley, and El Paso sectors stated that coverage gaps continued to affect their ability to communicate, even after the upgrades were completed. Specifically, 2 groups stated that coverage in some areas seemed to be worse after the upgrades were completed, 4 groups stated that coverage gaps had been reduced but continued to exist after the upgrades, and 1 group stated that while coverage had improved in some areas, the group did not receive the coverage enhancements it expected to receive, especially in critical areas. We recommended in March 2015 that CBP develop a plan to monitor the performance of its deployed radio systems. DHS concurred with this recommendation and stated that it will work to complete a CBP Land Mobile Radio System Performance Monitoring Plan by December 31, 2015.

We also found in March 2015 that ICE does not have complete information to effectively manage its TACCOM modernization program.[17]

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[17]GAO-15-201.

Specifically, we reported that ICE has 58 completed, ongoing, or planned projects under its TACCOM modernization program and has taken some actions to modernize its TACCOM radio systems, including along the southwest border. Specifically, according to ICE officials, the agency has replaced individual analog TACCOM radios and equipment with digital systems across all 26 ICE regions, including the southwest border regions. In addition, while ICE has completed full modernization projects—which entail expanding coverage and capacity by building new sites—in other regions across the United States, it had not developed plans to modernize any southwest border regions. Instead, to meet the needs of ICE radio users in the southwest border regions, ICE officials stated that the agency's strategy focused on leveraging other agency infrastructure in areas where ICE does not have infrastructure until funding is approved to initiate modernization projects in these regions. For example, in Yuma and Tucson, ICE officials stated that the agency primarily uses CBP's radio system.

Further, we found that while ICE has developed some documentation for the individual projects, such as individual project plans, and provided us with an integrated master schedule for the 58 ongoing, planned, and completed projects, the agency had not documented an overall plan to manage its TACCOM modernization program and provide oversight across all projects.[18] For example, ICE officials were unable to provide documentation that all TACCOM equipment had been upgraded to digital systems.[19] Additionally, our interviews with groups of ICE radio users showed that agency efforts to upgrade its TACCOM technology—including leveraging other agency infrastructure in areas where ICE does not have infrastructure—may not be supporting ICE radio user needs along the southwest border. For example, 2 of the 3 groups of ICE radio users we met with in Tucson, Rio Grande Valley, and El Paso that operate on CBP land-mobile radio networks stated that coverage was worse after the upgrades or did not meet ICE radio user needs because the new system did not provide the capabilities the agency promised to deliver. The third group stated that CBP's modernization project upgrades enhanced coverage in a limited capacity but created new challenges for ICE

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[18]GAO-15-201.

[19]ICE TACCOM program officials stated that they could not locate this information because they do not have program documentation prior to 2009, when ICE's Office of the Chief Information Officer assumed responsibility for the ICE TACCOM program.

because of the increase in communication traffic. Specifically, ICE radio users in this location stated that since they are using CBP channels, Border Patrol has priority of use, so when there is too much traffic on a channel, ICE radio users are unable to access the channel or get kicked off the system and hear a busy signal when attempting to use their radios. All 4 groups of ICE radio users we met with stated that operability and interoperability challenges frequently compromised their investigations and resulted in unacceptable risks to officer safety.

We reported that ICE officials agreed that ICE radio user coverage needs had not been met in the southwest border areas and at the time of our report stated that the agency was taking steps to assess radio user needs in these locations. Specifically, ICE officials stated that they were soliciting information from radio users on their operational needs and briefing ICE management to inform future decisions about ICE coverage and funding needs. However, at that time ICE officials also stated that there were no plans for creating a program plan to guide and document these efforts. We recommended that ICE develop a program plan to ensure that the agency establishes the appropriate documentation of resource needs, program goals, and measures to monitor the performance of its deployed radio systems. DHS concurred with this recommendation. In response to our recommendation, DHS stated that ICE's Office of the Chief Information Officer will develop a program to facilitate, coordinate, and maintain ICE's deployed radio systems, and will ensure that the agency establishes the proper documentation of resource needs, defines program goals, and establishes measures to monitor performance by January 31, 2016.

Additional Efforts Are Needed to Ensure That CBP and ICE Agents and Officers Receive Necessary Training

We also concluded in March 2015 that CBP and ICE could do more to ensure the agencies are meeting the training needs of all CBP and ICE radio users.[20] We reported that CBP provided training to its agents and officers on upgraded radio systems in each southwest border location that received upgrades. However, 8 of 14 CBP radio user groups we met with suggested that radio users be provided with additional radio training to enhance their proficiency in using radio systems. Further, we found that CBP does not know how many radio users are in need of training. We recommended in March 2015 that CBP (1) develop and implement a plan to address any skills gaps for CBP agents and officers related to understanding the new

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[20]GAO-15-201.

digital radio systems and interagency radio use protocols, and (2) develop a mechanism to verify that all Border Patrol and Office of Field Operations radio users receive radio training. DHS concurred with these recommendations and estimated a completion date of March 31, 2016.

We also found that ICE provided training on the upgraded radio systems in one location, but 3 of the 4 ICE radio user groups we met with in field locations stated that additional training would help address challenges experienced by radio users. Further, ICE officials stated that they did not track the training that the agency provided. We recommended in March 2015 that ICE (1) develop and implement a plan to address any skills gaps for ICE agents related to understanding the new digital radio systems and interagency radio use protocols, and (2) develop a mechanism to verify that all ICE radio users receive radio training. DHS concurred with these recommendations. In response to these recommendations, DHS stated that ICE will propose an increase in training for new agents and will develop a mechanism to verify that all ICE radio users receive radio training by March 31, 2016.

OAM Could Benefit from Reassessing Its Mix and Placement of Assets to Better Address Mission Needs and Threats

Our March 2012 report on OAM assets highlighted several areas the agency could address to better ensure the mix and placement of assets is effective and efficient. [21] These areas included: (1) documentation clearly linking deployment decisions to mission needs and threats, (2) documentation on the assessments and analysis used to support decisions on the mix and placement of assets, and (3) consideration of how deployment of border technology will affect customer requirements for air and marine assets across locations.

Specifically, our March 2012 report found that OAM had not documented significant events, such as its analyses to support its asset mix and placement across locations, and as a result, lacked a record to help demonstrate that its decisions to allocate assets were the most effective ones in fulfilling customer needs and addressing threats, among other things. While OAM's Fiscal Year 2010 Aircraft Deployment Plan stated that OAM deployed aircraft and maritime vessels to ensure its forces were positioned to best meet the needs of CBP field commanders and respond to the latest intelligence on emerging threats, OAM did not have

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[21]GAO, *Border Security: Opportunities Exist to Ensure More Effective Use of DHS's Air and Marine Assets*, GAO-12-518, (Washington, D.C. Mar. 30, 2012).

documentation that clearly linked the deployment decisions in the plan to mission needs or threats. We also found that OAM did not provide higher rates of support to locations Border Patrol identified as high priority, a fact that indicated that a reassessment of OAM's resource mix and placement could help ensure that it meets mission needs, addresses threats, and mitigates risk. OAM officials stated that while they deployed a majority of assets to high-priority sectors, budgetary constraints, other national priorities, and the need to maintain presence across border locations limited overall increases in assets or the amount of assets they could redeploy from lower-priority sectors. While we recognized OAM's resource constraints, the agency did not have documentation of analyses assessing the impact of these constraints and whether actions could be taken to improve the mix and placement of assets within them. Thus, the extent to which the deployment of OAM assets and personnel, including those assigned to the southwest border, most effectively utilized OAM's constrained assets to meet mission needs and address threats was unclear.

We also found in March 2012 that OAM did not document assessments and analyses to support the agency's decisions on the mix and placement of assets. DHS's 2005 aviation management directive requires operating entities to use their aircraft in the most cost-effective way to meet requirements. Although OAM officials stated that it factored cost-effectiveness considerations, such as efforts to move similar types of aircraft to the same locations to help reduce maintenance and training costs into its deployment decisions, OAM did not have documentation of analyses it performed to make these decisions. OAM headquarters officials stated that they made deployment decisions during formal discussions and ongoing meetings in close collaboration with Border Patrol, and considered a range of factors such as operational capability, mission priorities, and threats. OAM officials said that while they generally documented final decisions affecting the mix and placement of assets, they did not document assessments and analyses to support these decisions.

In addition, we reported that CBP and DHS had ongoing interagency efforts under way to increase air and marine domain awareness across U.S. borders through deployment of technology that may decrease Border Patrol's use of OAM assets for air and marine domain awareness. However, at the time of our review, OAM was not planning to assess how technology capabilities could affect the mix and placement of air and marine assets until the technology has been deployed. Specifically, we concluded that Border Patrol, CBP, and DHS had strategic and

technological initiatives under way that would likely affect customer requirements for air and marine support and the mix and placement of assets across locations. CBP and DHS also had ongoing interagency efforts under way to increase air and marine domain awareness across U.S. borders through deployment of technology that may decrease Border Patrol's use of OAM assets for air and marine domain awareness. OAM officials stated that they would consider how technology capabilities affect the mix and placement of air and marine assets once such technology has been deployed.

To address the findings of our March 2012 report, we recommended that CBP, to the extent that benefits outweigh the costs, reassess the mix and placement of OAM's air and marine assets to include mission requirements, performance results, and anticipated CBP strategic and technological changes. DHS concurred with this recommendation and responded that it planned to address some of these actions as part of the Fiscal Year 2012-2013 Aircraft Deployment Plan.[22] In September 2014, CBP provided this Plan, approved in May 2012, and updated information on its subsequent efforts to address this recommendation, including a description of actions taken to reassess the mix and placement of OAM's assets. In particular, CBP noted that in late 2012, it initiated some actions based on its analysis of CBP data and assessment of OAM statistical information, such as the priority for flight hours by location based on Border Patrol and OAM data on arrests; apprehensions; and seizures of cocaine, marijuana, currency, weapons, vehicles, aircraft, and vessels. According to OAM, after consulting with DHS and CBP officials and approval from the DHS Secretary in May 2013, the office began a realignment of personnel, aircraft, and vessels from the northern border to the southern border based on its evaluation of the utilization and efficiency of current assets and available funding to accomplish the transfers. CBP's actions are a positive step to more effectively allocating scarce assets. As of April 2015, OAM officials said that they were in the process of providing GAO with the data and analysis used to support this realignment of assets in order to fully document implementation of the recommendation.

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[22]CBP stated that because of timing, it was not able to fully incorporate all elements of the GAO report's recommendations into the Fiscal Year 2012-2013 Aircraft Deployment Plan. In April 2012, DHS stated that CBP would document the mission requirements and threats that support the decisions on the mix and placement of OAM's air and marine assets in its Fiscal Year 2014-2015 Aircraft Deployment Plan to be completed in fiscal year 2013. However, in September 2014, CBP stated that it had not issued this plan.

Chairman Johnson, Ranking Member Carper, and members of the committee, this concludes my prepared statement. I will be happy to answer any questions you may have.

GAO Contact and Staff Acknowledgments

For further information about this testimony, please contact Rebecca Gambler at (202) 512-8777 or gamblerr@gao.gov. In addition, contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals making key contributions to this statement included Kirk Kiester (Assistant Director), as well as Carissa Bryant, Adam Gomez, Yvette Gutierrez, Jon Najmi, Meg Ullengren, and Michelle Woods. Other contributors to the work on which this statement is based included Cindy Ayers, Jeanette Espinola, and Nancy Kawahara.

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