



SOUTHWEST DEFENSE ALLIANCE

Supporting Defense, Energy and Industry for National Security and the Nation's Warfighters

The Economic Impact of the National Defense Drawdown and Sequestration on the Southwest Region: 2009-2017

Underwritten by:



Prepared by:

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About the Southwest Defense Alliance

The Southwest Defense Alliance is a non-profit, non-partisan public benefit corporation founded in 1997 and represented by civic leaders, retired flag officers, elected officials, and government representatives from counties and cities as well as defense and military experts from Arizona, California, Nevada, New Mexico, Texas, and Utah. The Alliance works to preserve and enhance critical defense missions, facilities, a robust industrial base and other key assets in the Southwest Defense Complex, which includes vitally important military test and training facilities in the six southwestern states. These facilities represent the most extensive array of test and training ranges, laboratories, weapons expertise and technological research and development installations in the world.

The Alliance is dedicated to "Supporting Defense, Energy and Industry for National Security and the Nation's Warfighters."

The Honorable Pete Wilson, former Governor of California and a former United States Senator who served on the Senate Armed Services Committee, is the Honorary Chairman of the Southwest Defense Alliance.

About the Southern California Leadership Council

The Southern California Leadership Council was founded in 2005 as a non-partisan, non-profit, business-led public policy partnership of business and community leaders. The Leadership Council exerts strong leadership on issues of regional significance, providing a common voice on major public policies critical to economic vitality, job growth and quality of life in Southern California. The Leadership Council unites business and community leaders from throughout the seven-county region into one effective leadership organization whose membership includes three former California Governors and two dozen Presidents and CEO's of top Southern California companies.

Since its inception, the Leadership Council has been providing leadership on a number of important regional issues including:

- Economic competitiveness and the policies that help retain key jobs and key industries in Southern California
- Transportation planning, infrastructure and financing mechanisms
- Goods movement and the infrastructure and policies to keep our region competitive
- Water and Energy supply and reliability
- Climate Change policies implemented so as to preserve our global competitiveness

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Key Findings (1 of 2)

- Sequestration is the automatic spending cuts in the federal budget that will go into effect without Congressional action, and will have a wide-ranging negative impact across the Southwest region for defense industries and infrastructure. The purpose of our study is to give public policy makers and the public at-large a better understanding of how sequestration will affect the economies of each state in the Southwest region
- We project spending shifts in line with national expectations, but the actual impact could vary based upon how these sequestration cuts are implemented and where they will occur. Additionally, the most recent data available on a state-by-state basis for military spending has been unavailable for the most recent Fiscal Years, thus necessitating the development of a model to project future spending on a state-by-state basis
- To develop this model, we used projections from the Department of Defense for outlays into the next five Fiscal Years
- To determine the total state economic impact, we apply the share of each state's direct spending based upon the most recently available data and extrapolate annual spending on a strictly proportional basis. Our findings are based on current sequestration statistics and could be subject to change contingent upon Congressional action or specific program cuts recommended by DOD
- Sequestration will adversely affect DOD spending throughout the Southwest region. If the region bears a proportionate share of the projected spending decreases, spending will decrease by \$22.7 billion between 2009 and 2017
- The economic impacts from the projected and proportional spending decrease will be adverse, with a decrease of 737,000 supported jobs, \$42.9 billion in total economic output, and \$13.5 billion in total earnings by 2017. Each state in the region will feel an economic impact as well between 2009 and 2017:
 - Arizona
 - 99,000 lost jobs
 - \$5.4 billion in decreased economic output
 - \$1.7 billion in decreased personal earnings
 - California
 - 336,000 lost jobs
 - \$21.4 billion in decreased economic output
 - \$6.9 billion in decreased personal earnings

Key Findings (2 of 2)

- Nevada
 - 17,000 lost jobs
 - \$0.9 billion in decreased economic output
 - \$0.3 billion in decreased personal earnings
- New Mexico
 - 16,000 lost jobs
 - \$0.8 billion in decreased economic output
 - \$0.3 billion in decreased personal earnings
- Texas
 - 247,000 lost jobs
 - \$13.1 billion in decreased economic output
 - \$4.0 billion in decreased personal earnings
- Utah
 - 22,000 lost jobs
 - \$1.4 billion in decreased economic output
 - \$0.4 billion in decreased personal earnings

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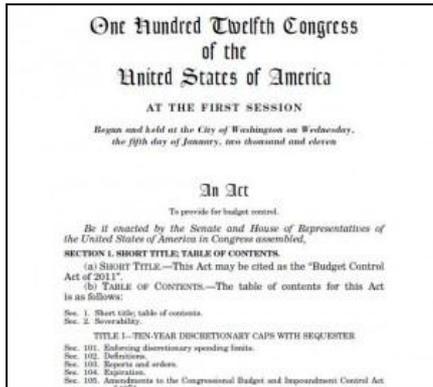
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Our current situation

- With an emphasis by the Department of Defense on shifting towards the Pacific theatre, the existing military infrastructure in the Southwest region is of critical importance to the greater military mission
- In addition to the importance of defense infrastructure in the region, these installations provide tangible fiscal benefits to state governments and economic benefits to the regional economy
- In 2009, national defense in the Southwest region of the United States directly and indirectly supported 2.8 million jobs, contributed over \$300 billion to the regional economy and fueled over \$96 billion in personal earnings
- Overall spending on national defense continues to decline since its peak in 2010. Moreover, spending is projected to decline further as a result of changes in Federal priorities
- The specific impacts of sequestration on national defense installations for each state have not been laid out yet due to the recent adoption of sequestration policies by Congress and some institutional reticence. Additionally, the DOD has not provided updated information on troop deployment and spending on a state-by-state basis recently, making data from 2009 the most recent information available
- Specific information on state-by-state impacts of sequestration has not yet been made available. However, stakeholders in various states are increasingly seeking insight into how Sequestration may impact their states and regions. In an effort to help inform the policy debate, our study provides information in regards to how Sequestration could impact the Southwest region if the region were to absorb its proportionate share of proposed cuts. Though not definitive, the information provided in this report is intended to help guide policy discussions as decision are made

Sequestration is a federal policy that sets automatic spending cuts for the federal budget absent Congressional action

What Is Sequestration?



- Under the Budget Control Act of 2011, sequestration is the automatic reduction of spending triggered if Congress approves spending levels that exceed certain "caps" set out by the Act
- Sequestration would apply mandatory cuts for all programs without discretion on all accounts with the exception of certain programs like Social Security, Medicaid, Medicare, federal retirement and military personnel accounts

When Will It Happen?



- The Budget Control Act of 2011 calls for sequestration of spending from FY 2013 through FY 2021
- Unless Congress otherwise acts to limit spending, the Act will take effect on January 1, 2013
- Defense contractors and subcontractors are already making business decisions under the assumption that sequestration will occur
- Sequestration can be avoided under the Act if Congress implements spending limitations deep enough to avoid the Act's triggers or amending the Act to eliminate the sequestration provisions

How Much Will Be Affected?



- If sequestration occurs, \$1.2 trillion in spending reductions are required from FY 2013 through FY 2021
- On average, from 2013-2021 federal spending would be reduced by \$109 billion annually
- In FY 2013, sequestration would cut the federal budget by 2.8%
- These reductions will come from cuts in program expenditures in both defense and non-defense departments
- However, defense spending will be disproportionately affected. While DOD accounts for 19% of the federal budget, it is scheduled to take on 50% of the total cuts

Current literature estimates that the Department of Defense will bear the brunt of the national defense-related spending cuts

Department of Defense



- The DOD payroll contains¹:
 - Active-duty military
 - Reservists and national guard
 - Civilians
- The department's contracts include:
 - General operations and service
 - Weapon system maintenance
 - General maintenance
 - Research and testing
 - Construction
- Grants for economic planning and base reuse studies

Programs Affected and Literature Impact Estimates

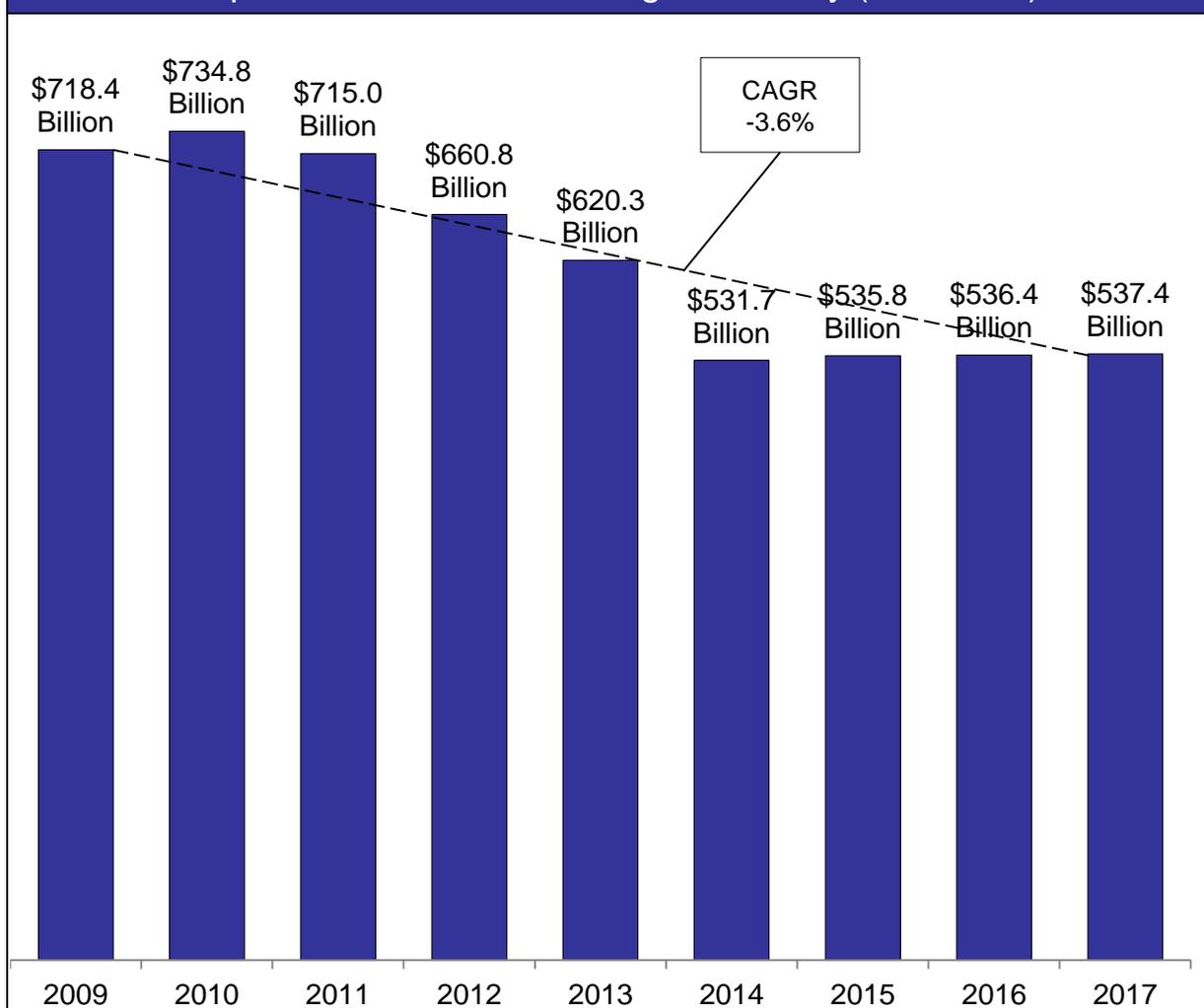
- Virtually all programs and accounts within the Department of Defense will be impacted with the exception of military personnel, as stated by the President
- The majority of spending reductions due to cap along with the estimated \$54.7 billion in annual defense cuts will be realized at DOD
- According to a report published through George Mason University, the national economic impact of Department of Defense cuts for FY 2013 could be:
 - Job loss of 1.1 million²
 - GDP decrease of \$94.5 billion²
 - Personal Earnings decrease of \$46.5 billion²

1. U.S. Department of Defense, Defense Procurement and Acquisition Policy, Defense Federal Acquisition Regulation Supplement

2. Fuller, Stephen S., "The Economic Impact of the Budget Control Act of 2011 on DOD & Non-DOD Agencies," George Mason University, July 2012.

Analysis of national defense budget sequestration shows that DOD spending for the entire U.S. will decrease \$181 billion by 2017 without Congressional action

Department of Defense Budget Authority (FY 2013\$)



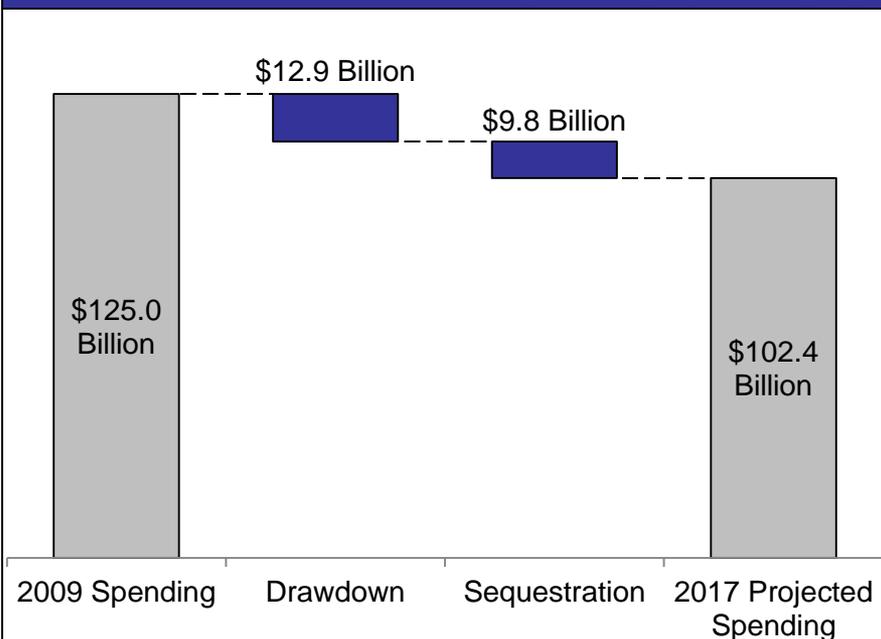
Key Observations

- The Budget Control Act of 2011 (BCA) sets a cap on total national defense funding each year from 2013 to 2021
- The Compound Annual Growth Rate (CAGR) from 2009-2017 would be -3.6%
- Beyond the savings generated by the discretionary caps, there will also be a required \$54.7 billion defense spending reduction each year through 2021
- The BCA requires that the national defense budget for FY 2013 be reduced to \$491 billion (including the \$54.7 billion annual reduction) through sequestration
- Even if a Congressional budget is passed that avoids spending triggers, it is anticipated that numerous DOD programs will need to be reduced further or cut in order to avoid those triggers

SOURCE: Office of the Under Secretary of Defense, Comptroller, "National Defense Budget Estimates for FY 2013," U.S. Department of Defense, March 2012.

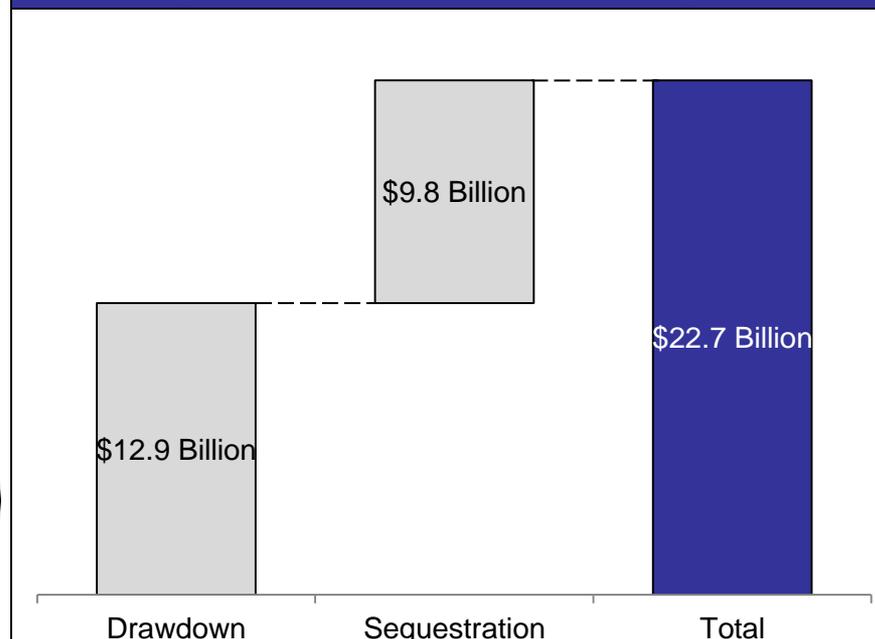
Since 2009, total DOD spending is projected to cut 18% across the entire Southwest region from the drawdown and sequestration

Decreased Southwest DOD Spending by Category



- Sequestration represents a 18.1% cut to the entire defense budget for the Southwest region
- Procurement and modest personnel sequestration account for the decrease in Southwest region spending
- The major impact will be procurement of all programs that are not currently under contract
- Most other defense accounts that do not affect state spending will also be subjected to sequestration such as operations and maintenance, family housing, and military construction

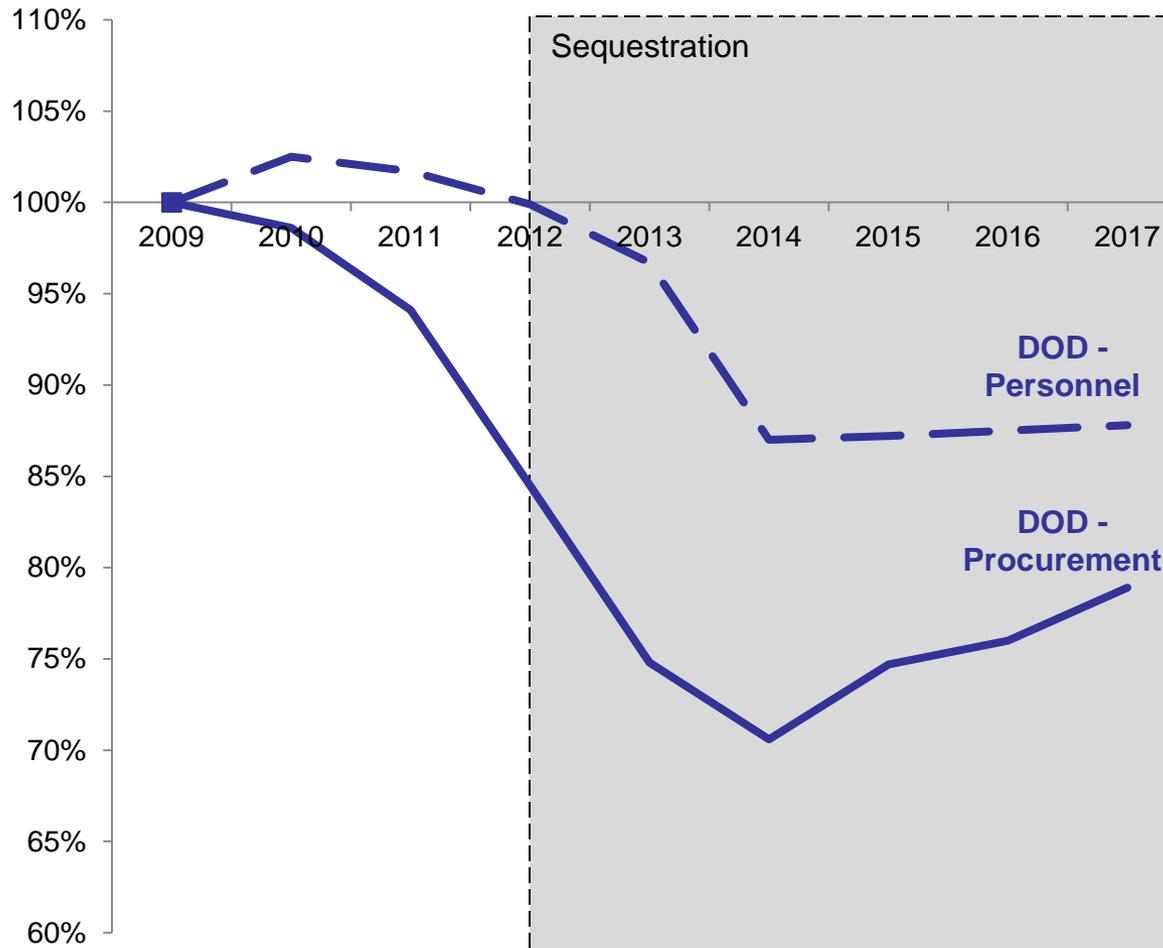
Total Impacts from Drawdown and Sequestration



- DOD will see a large decrease in spending after 2009, decreasing by \$22.7 billion in the Southwest region
- The defense drawdown between 2009 and 2012 amount for the majority of the decreased spending across the region
- However, impacts from sequestration cuts will significantly increase the impact
- The automatic cuts in sequestration will compound existing impacts from the drawdown and affect the employment, output, and household earnings as we will describe

For our methodology, we apply government sequestration projections on a proportional basis to each state based on the most recently available data

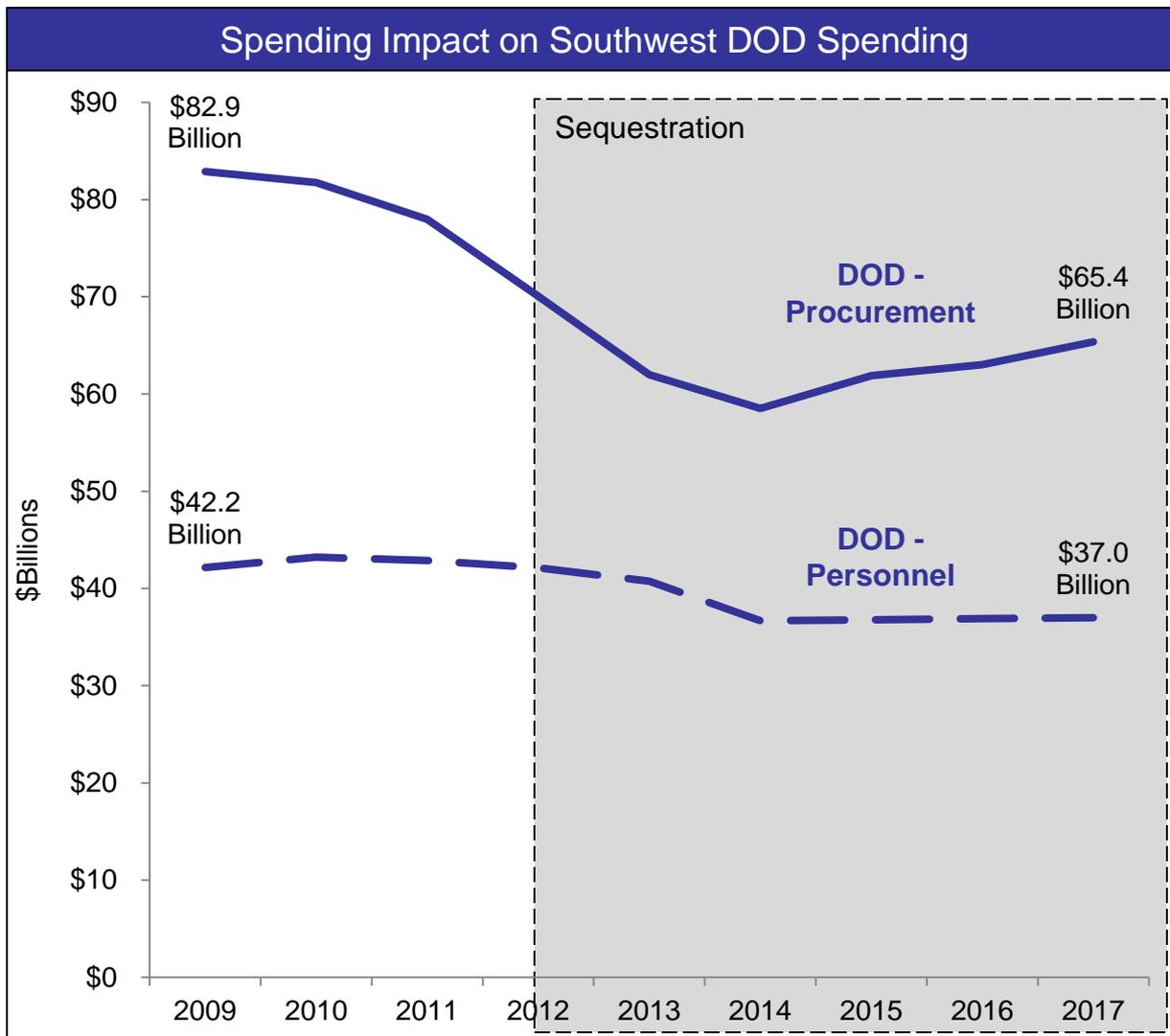
National Defense Spending Projections



Key Observations

- For each department, we used the most recent available information on state-by-state spending to base our projections
- DOD data on personnel and procurement was only most recently available for the FY 2009
- We used projections developed by government sources and a nationally-respected public policy organization
- To determine the total state impact, we apply the share of each state's impacts based upon the most recent data and break out annual spending on a strictly proportional basis
- Our findings are based on current sequestration statistics and could be subject to change contingent upon Congressional action

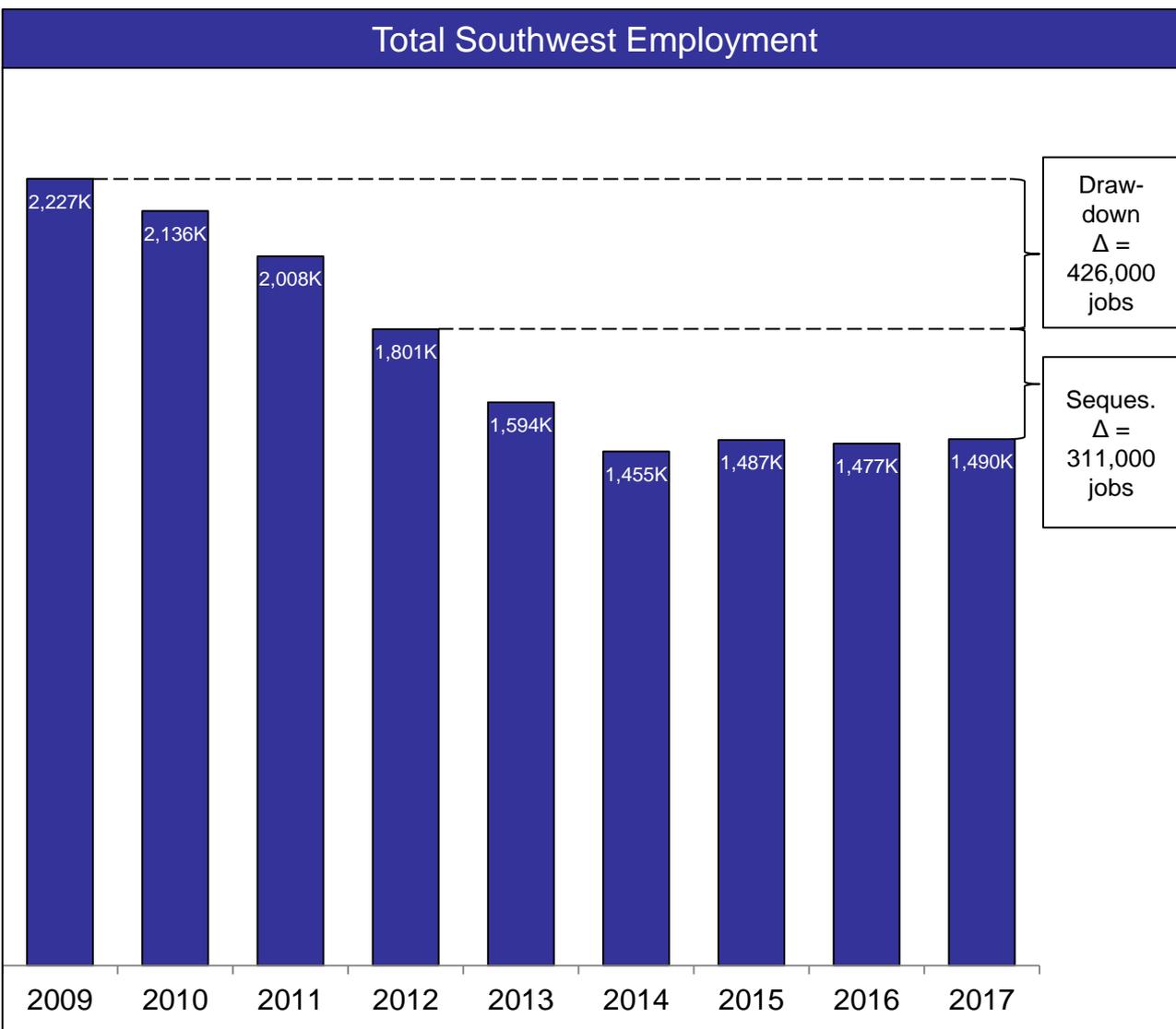
If the Southwest region bears a proportionate share of the projected spending decreases, spending will decrease by \$22.7 billion between 2009 and 2017



Key Observations

- Projected decreases in procurement spending are what will make up the largest impact to the Southwest region's economy
- Spending on procurement will fall by \$30.7 billion between 2009 and 2017, or the equivalent of a 21.1% decrease
- Personnel spending will decrease over that period by approximately 12.2%, amounting to \$19.8 billion
- Personnel spending will moderately decrease and stabilize after 2013 as it will be largely shielded from sequestration cuts

The economic impacts from the projected and proportional spending decrease will be adverse, with a decrease of 737,000 supported jobs between 2009 and 2017

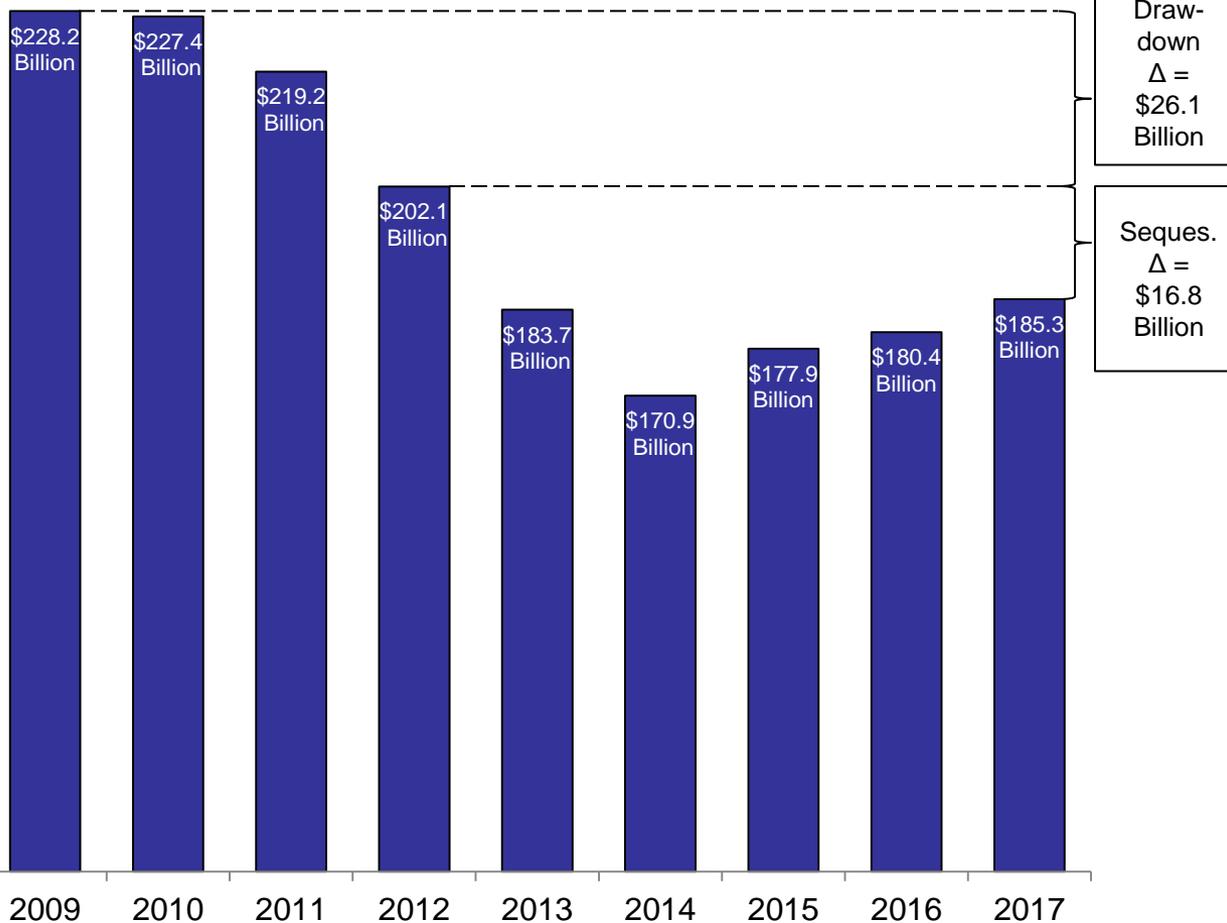


Key Observations

- Total supported employment in 2009 was 2.6 million, or 7.7% of total employment in the Southwest region
- However, in 2017 total supported employment will fall by 737,000 due to reduced DOD spending across the region
- The decrease in employment due to the drawdown accounts for 426,000 fewer jobs
- Sequestration cuts will account for 311,000 fewer jobs

Between 2009 and 2017, total output across the region will decrease by \$42.9 billion based on the projected and proportional decrease

Total Southwest Output

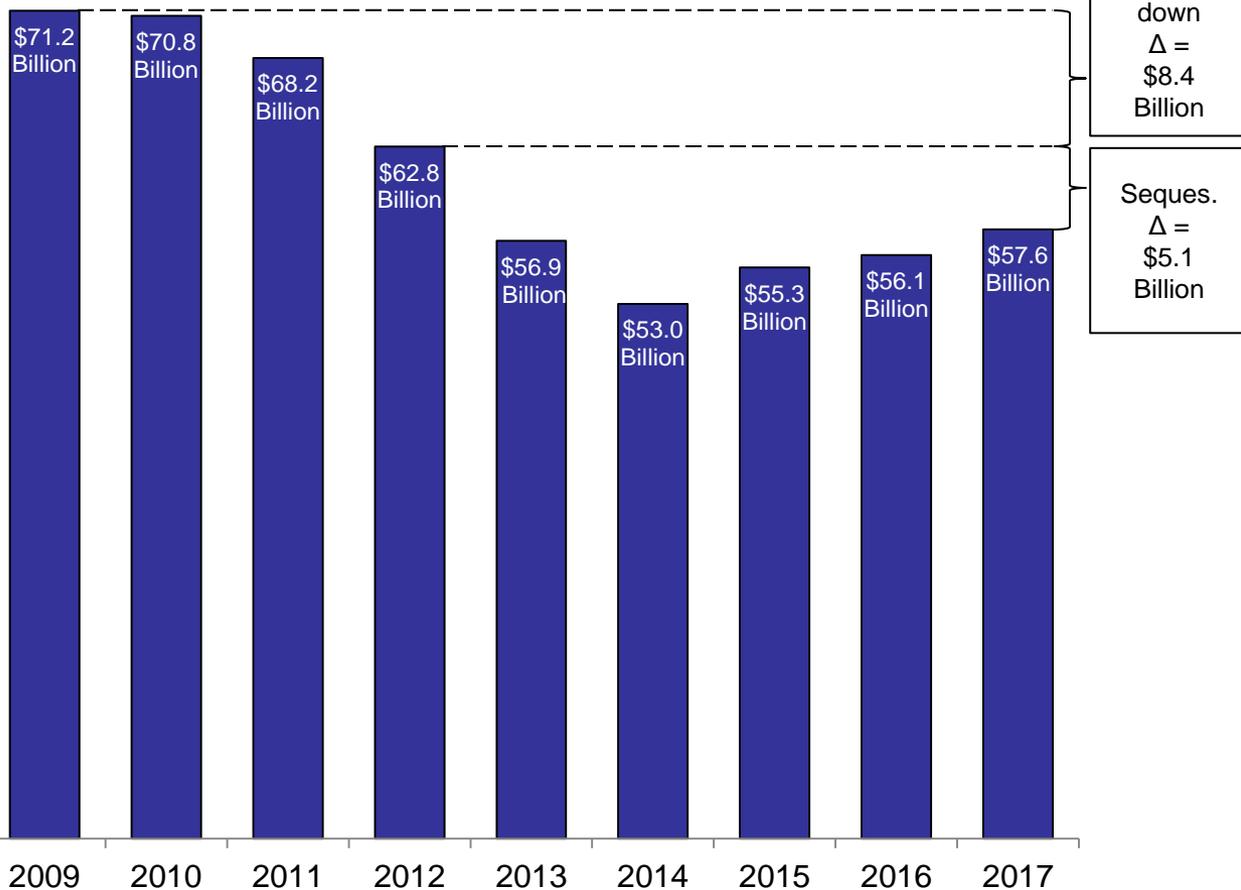


Key Observations

- The decline of output resulting from reduced DOD spending will be \$42.9 billion over the 2009 to 2017 period
- Annually, the region's output will decline by \$4.8 billion, or more than 1% of 2011 regional output
- The drawdown in defense spending accounts for \$26.1 billion in decreased output
- Sequestration will account for \$16.8 billion in reduced output across the region

Earnings across the region will decrease by 19% by 2017, or \$13.5 billion, with a projected and proportional decrease in national defense spending

Total Southwest Earnings



Key Observations

- DOD budget sequestration will decrease earnings in the Southwest region by \$13.5 billion between 2009 and 2017
- The drawdown in defense spending accounts for \$8.4 billion in decreased earnings
- Sequestration will account for \$5.1 billion in reduced earnings across the region



Selected Major Facilities



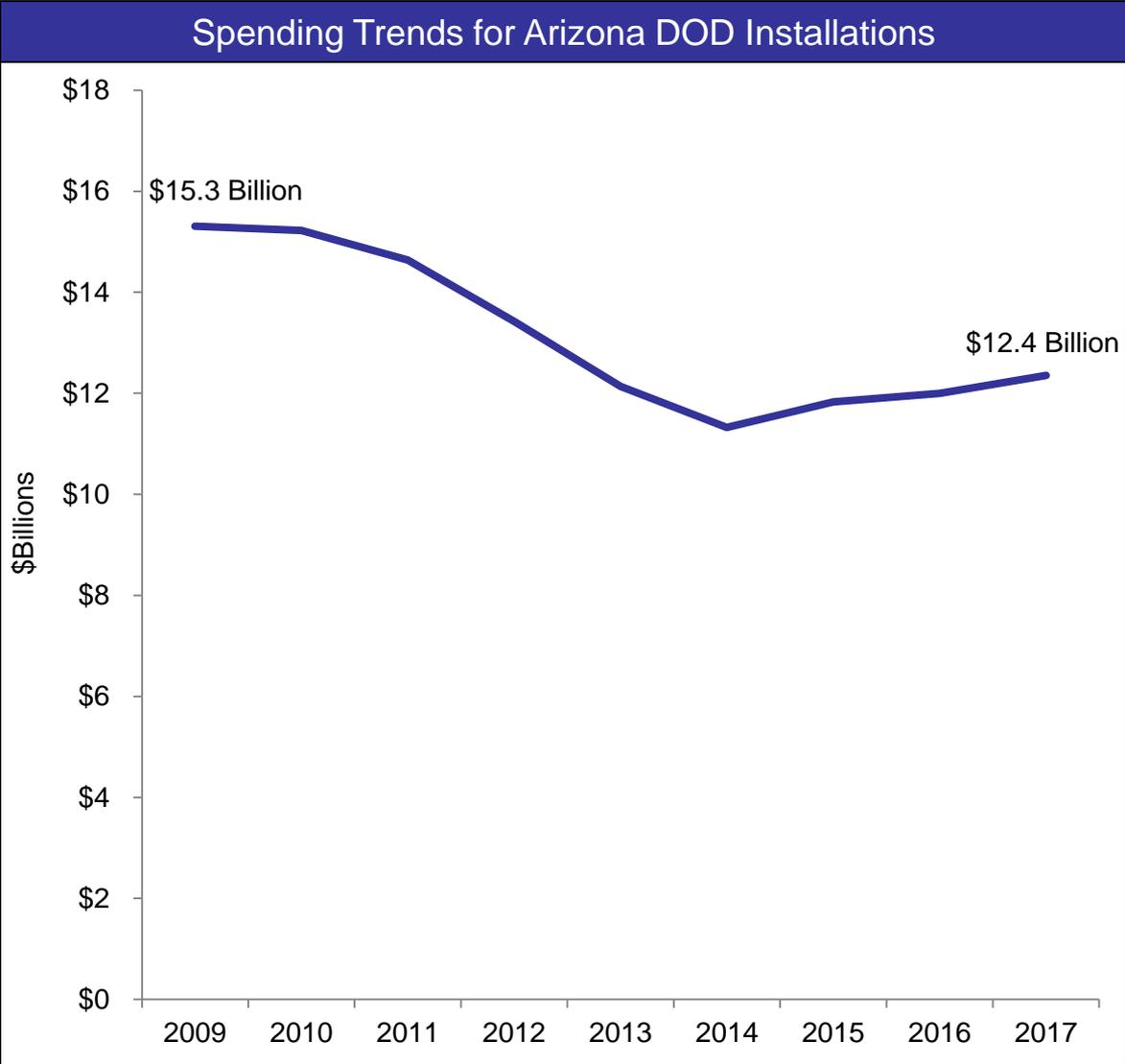
- Davis-Monthan Air Force Base: The mission of Arizona's largest installation is to provide attack airpower, expeditionary combat support, and medical forces ready for worldwide deployment to combatant commanders
- Fort Huachuca: Fort Huachuca is the home of the U.S. Army Intelligence Center and the U.S. Army Network Enterprise Technology Command (NETCOM)/9th Army Signal Command
- Luke Air Force Base: Luke Air Force Base is the largest and only active-duty F-16 Fighting Falcon training base in the world with more than 200 F-16s assigned
- 162nd Fighter Wing: Tucson International Airport is home to the Air National Guard's (ANG) premier F-16 fighter pilot training unit, the 162nd Fighter Wing

Key Findings

- Between 2005 and 2009, spending increased at a rate of 6.4% annually
- However, between 2009 and 2017 DOD spending in Arizona will decrease at a rate of 19.3%, or \$3.0 billion total
- Total lost employment by 2017 will be 99,000 jobs, equating to more than the current total employment base of Flagstaff
- The decrease would be the equivalent of a 3.1% decrease in employment across the state
- Output from national defense will decrease by \$5.4 billion in 2017, a reduction of 2.6% of the state economy
- Additionally, the BRAC commission has realigned or closed these facilities since 1988:
 - Williams Air Force Base



Based on a projected and proportional distribution, defense spending in Arizona will decrease at a rate of 19.3% annually



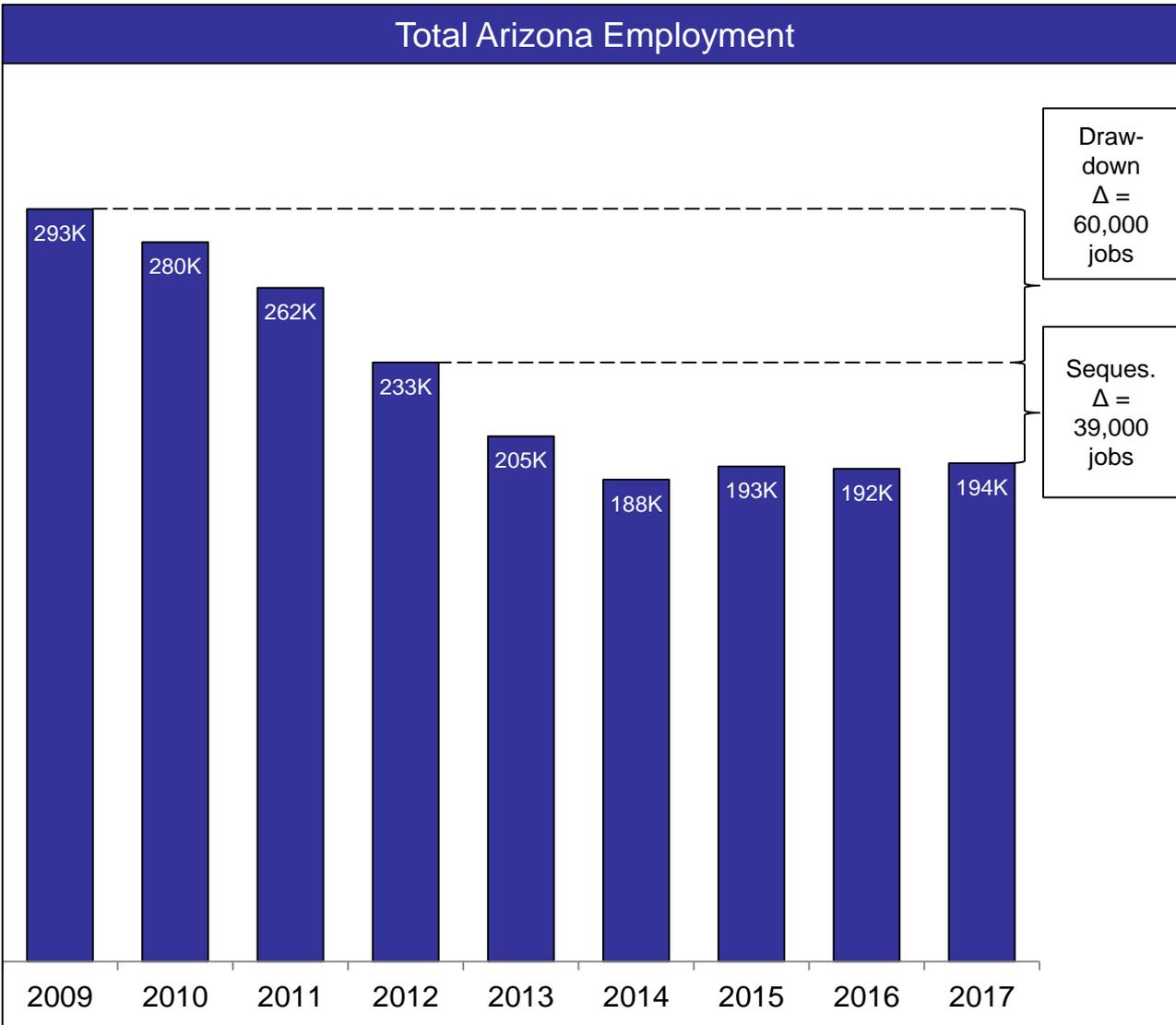
Key Observations

- Arizona will account for 11.2% of all defense-related spending across the region in 2017
- DOD will see a large decrease in spending after 2009, decreasing by \$3.0 billion in the state

SOURCES: Office of the Under Secretary of Defense, Comptroller, "National Defense Budget Estimates for FY 2013," U.S. Department of Defense, March 2012. Hourihan, Matt, "Brief: Federal R&D and Sequestration In The First Five Years," American Academy of Arts and Sciences, September 27, 2012.



Decreased spending on national defense spending will reduce 99,000 supported jobs between 2009 and 2017



Key Observations

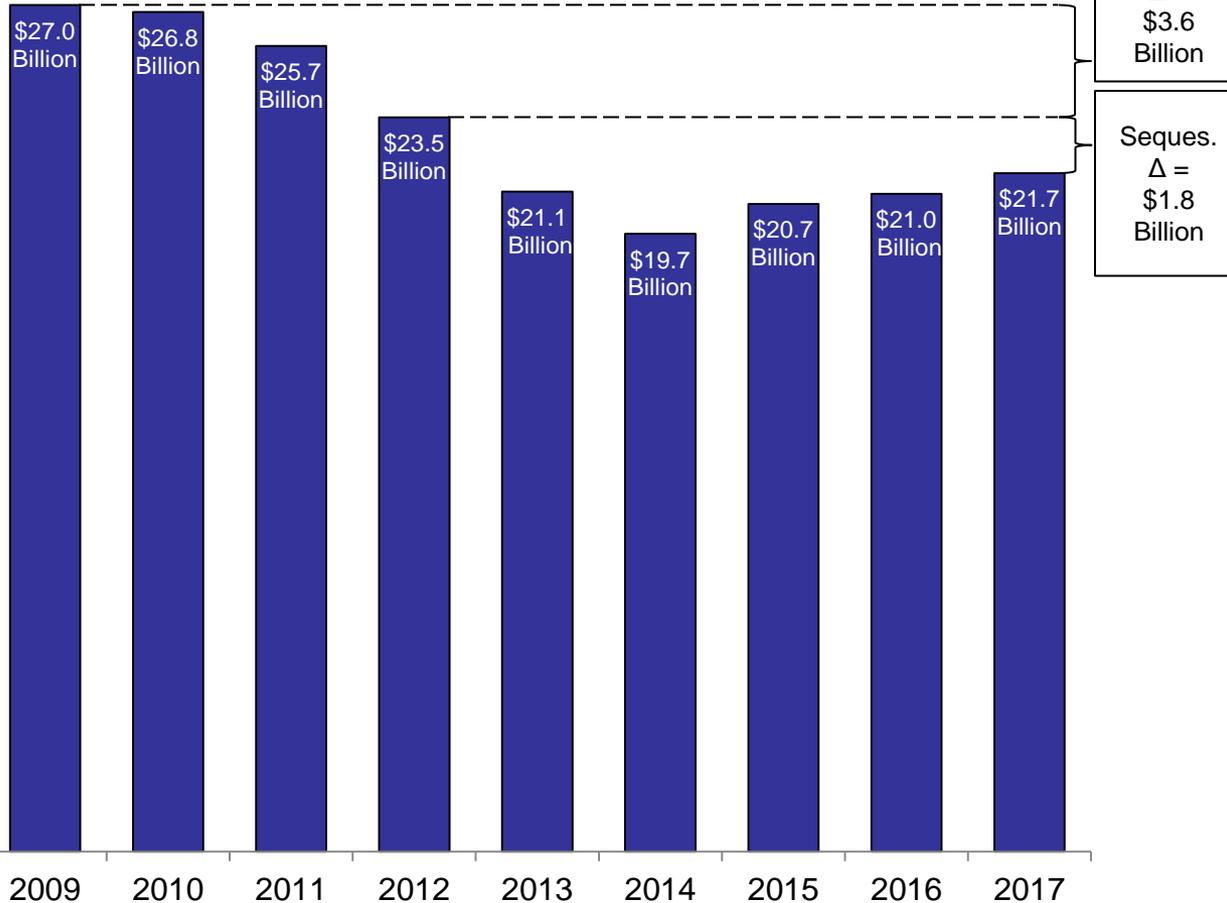
- In 2009, defense supported 325,000 jobs in Arizona, or 10.1% of total employment in the state
- DOD's drawdown and sequestration will be responsible for a 33.8% reduction in supported employment between 2009 and 2017, or 99,000 employees
- The decrease in employment due to the drawdown accounts for 60,000 fewer jobs
- Sequestration cuts will account for 39,000 fewer jobs

SOURCE: Calculated from total regional expenditures using RIMS II multipliers for Arizona from the U.S. Bureau of Economic Analysis



Through 2017, total output across the region will decrease by \$5.4 billion

Total Arizona Output



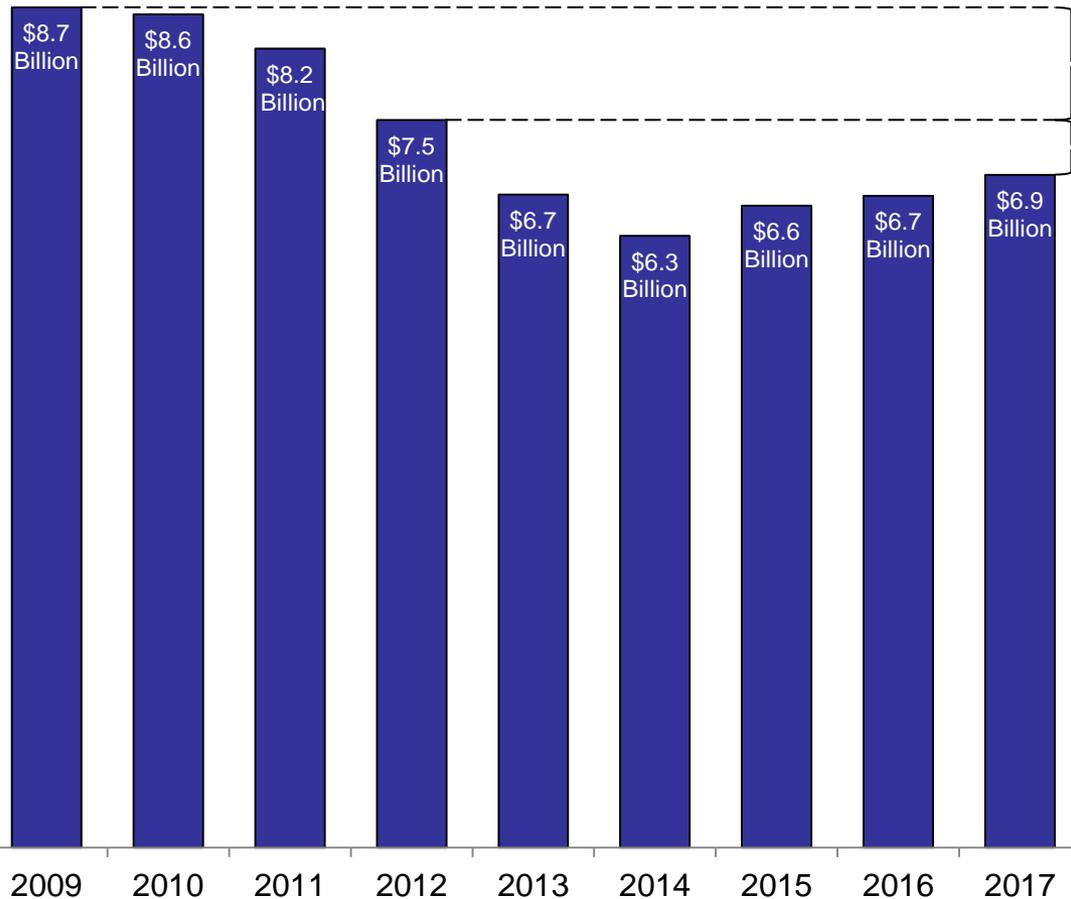
Key Observations

- In 2009, defense was responsible for 12.5% of Arizona's total state output, or \$30.6 billion
- DOD's drawdown and sequestration will be responsible for a 19.8% lower output between 2009 and 2017, or \$5.4 billion
- The drawdown in defense spending accounts for \$3.6 billion in decreased output
- Sequestration will account for \$1.8 billion in reduced output across the region



Earnings across the region will decrease by 19.9% by 2017, or \$1.7 billion

Total Arizona Earnings



Draw-down
 $\Delta =$
 \$1.2
 Billion

Seques.
 $\Delta =$
 \$0.6
 Billion

Key Observations

- DOD's drawdown and sequestration will be responsible for a 19.9% reduction in earnings between 2009 and 2017, or \$1.7 billion
- The drawdown in defense spending accounts for \$1.2 billion in decreased output
- Sequestration will account for \$0.6 billion in reduced output across the region



Selected Major Facilities



- Camp Pendleton: The Marine Corps' largest West Coast expeditionary training facility and is home to the I Marine Expeditionary Force, 1st Marine Division, 1st Marine Logistics Group and many tenant units
- Naval Base San Diego: As the Navy's premier Pacific Fleet surface force installation, Naval Base San Diego provides comprehensive fleet support for 59 home ported ships and more than 120 tenant commands
- Travis Air Force Base: Includes host unit 60th Air Mobility Wing, the largest air mobility organization in the Air Force that handles more cargo and passengers than any other military air terminal in the United States
- Lawrence Berkeley National Laboratory: Berkeley Lab is a member of the national laboratory system managed by the University of California
- Lawrence Livermore National Laboratory: Lawrence Livermore Lab is tasked with the safety and security of the nation through applied science and technology

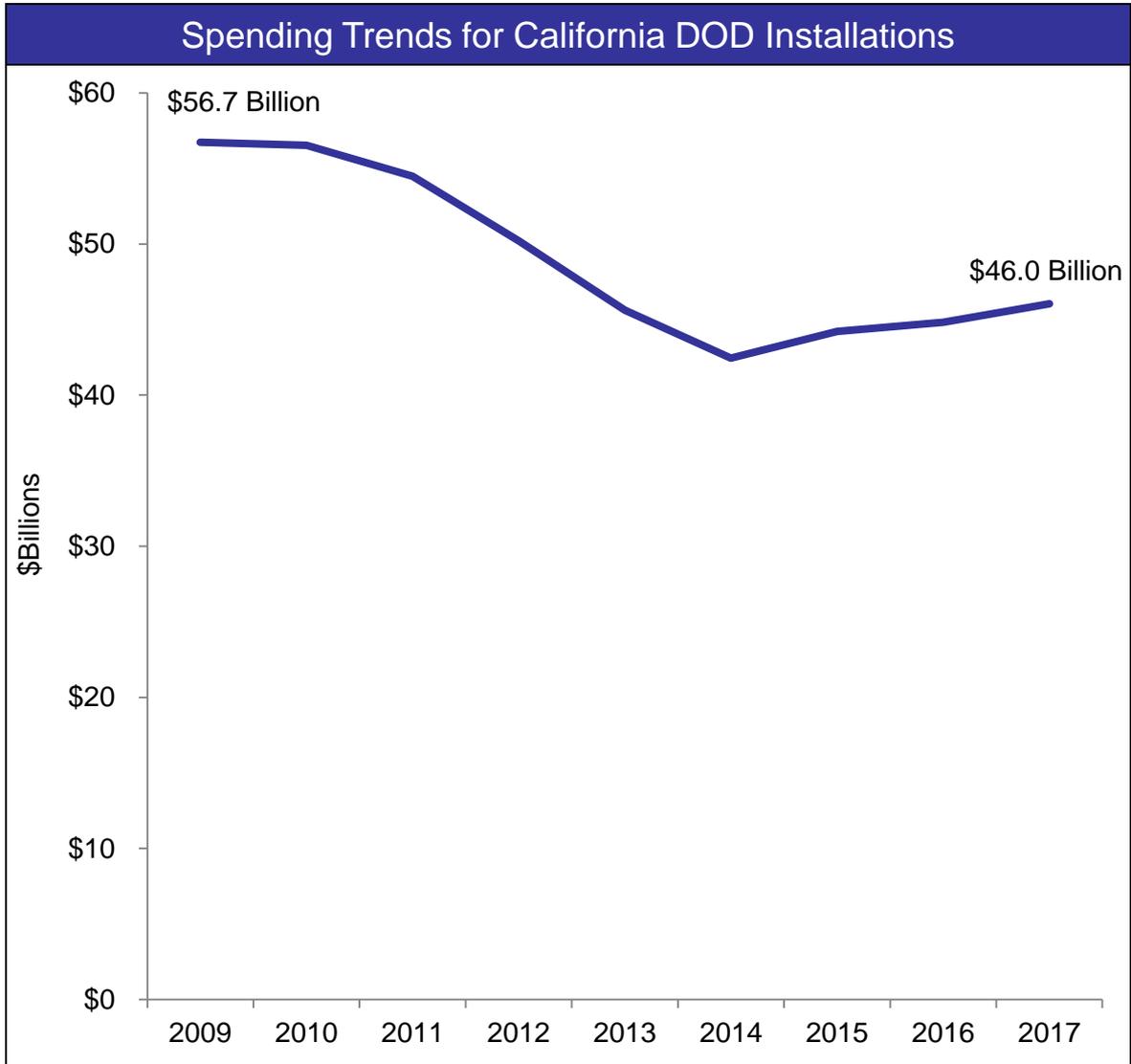
Key Findings

- Between 2005 and 2009, spending increased at a rate of 5.3% annually
- However, between 2009 and 2017 DOD spending in California will decrease at a rate of 18.8%, or \$10.7 billion total
- Total lost employment by 2017 will be 336,000 jobs, equating to greater than the total current employment base of the greater Fresno area
- The decrease would be the equivalent of a 1.7% decrease in employment across the state
- Output from national defense will decrease by \$21.4 billion in 2017, a reduction of 1.5% of the state economy
- Additionally, the BRAC commission has realigned or closed these facilities since 1988:

<ul style="list-style-type: none"> - Castle Air Force Base - Fort Ord - George Air Force Base - Hamilton Air Force Base - Long Beach Naval Shipyard - March Air Force Base - Mare Island Naval Shipyard - Marine Corps Air Station El Toro - Marine Corps Air Station Tustin - Mather Air Force Base - McClellan Air Force Base - Moffett Field - Naval Air Rework Facility 	<ul style="list-style-type: none"> - Naval Air Station Alameda - Naval Aviation Depot Alameda - Naval Hospital Oakland - Naval Station Treasure Island - Naval Supply Center Oakland - Naval Training Center San Diego - Norton Air Force Base - Oakland Army Base - Ontario Air Guard Station - Presidio of Monterey - Presidio of San Francisco - Sacramento Army Depot
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Based on a projected and proportional distribution, spending in California will decrease at a rate of 18.8% annually



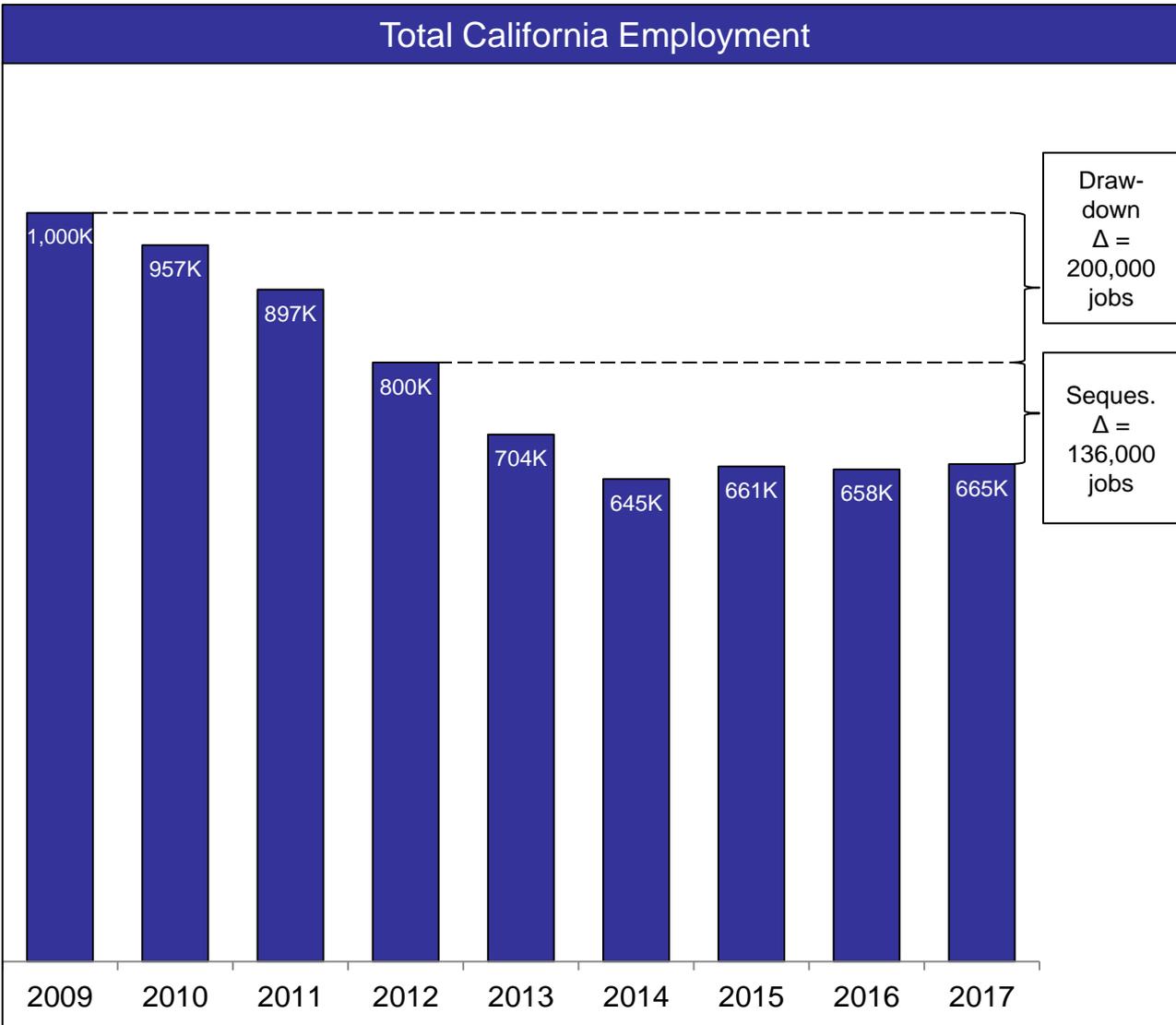
Key Observations

- California will account for 42.5% of all defense-related spending across the region in 2017
- DOD will see a large decrease in spending after 2009, decreasing by \$10.7 billion in the state

SOURCES: Office of the Under Secretary of Defense, Comptroller, "National Defense Budget Estimates for FY 2013," U.S. Department of Defense, March 2012.
Hourihan, Matt, "Brief: Federal R&D and Sequestration In The First Five Years," American Academy of Arts and Sciences, September 27, 2012.



The decreased spending on national defense will reduce employment in California by 336,000 supported jobs between 2009 and 2017



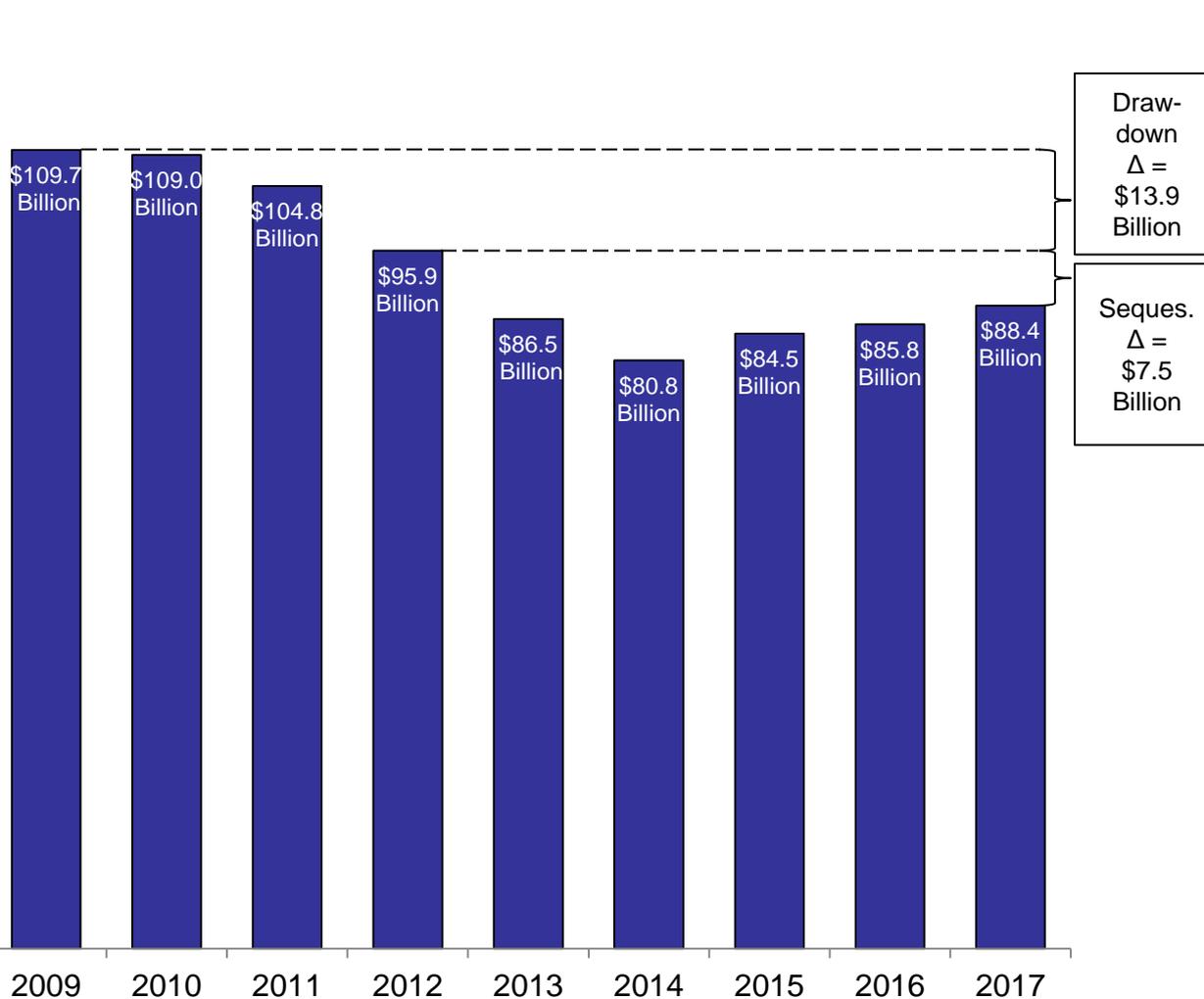
Key Observations

- In 2009, defense supported 1.1 million jobs in California, or 5.7% of total employment in the state
- DOD's drawdown and sequestration will be responsible for a 33.5% reduction in supported employment between 2009 and 2017, or 336,000 employees
- The decrease in employment due to the drawdown accounts for 200,000 fewer jobs
- Sequestration cuts will account for 136,000 fewer jobs



Total output across the region will decrease by \$21.4 billion through 2017

Total California Output



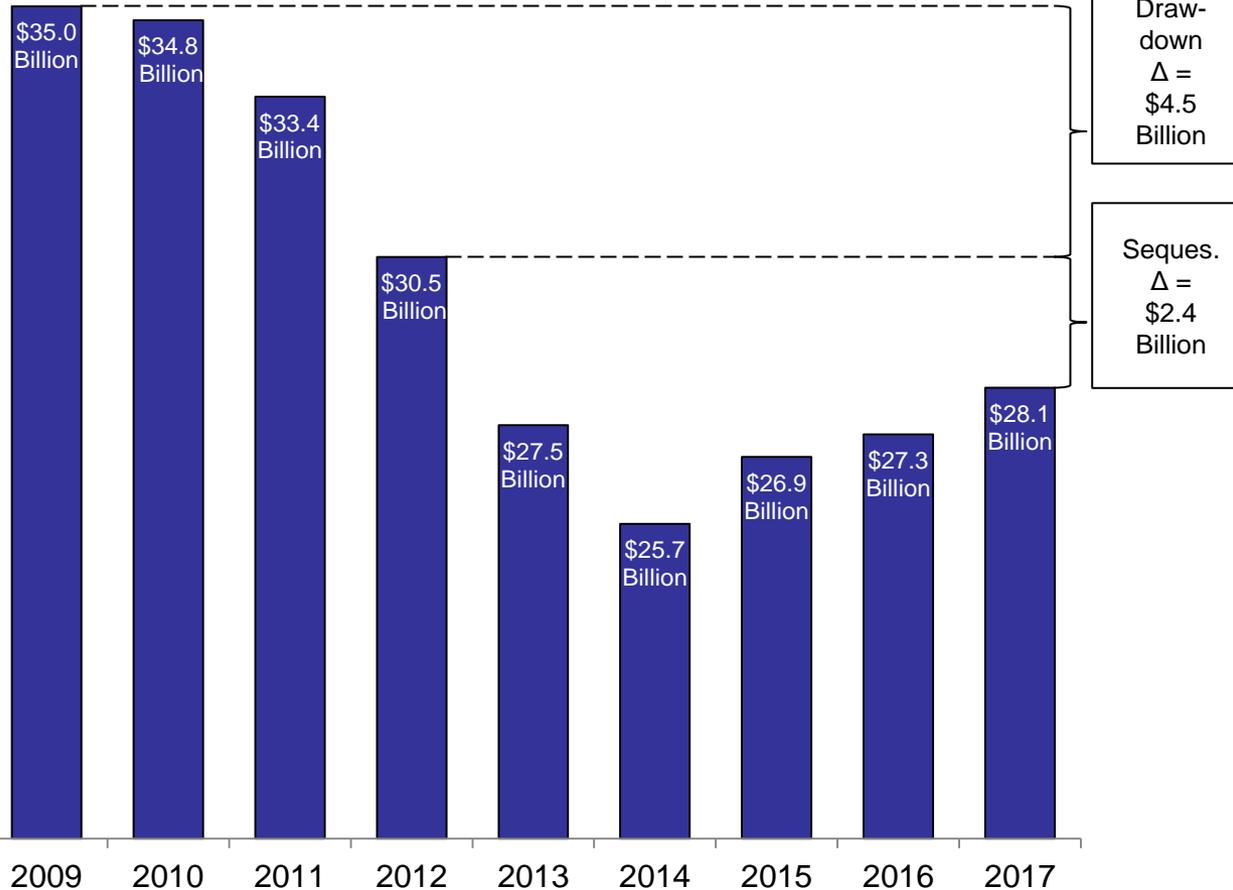
Key Observations

- In 2009, defense was responsible for 7% of California's total state output, or \$127.3 billion
- DOD's drawdown and sequestration will be responsible for a 19.5% lower output between 2009 and 2017, or \$21.4 billion
- The drawdown in defense spending accounts for \$13.9 billion in decreased output
- Sequestration will account for \$7.5 billion in reduced output across the region



Earnings across the region will decrease by \$6.9 billion by 2017

Total California Earnings

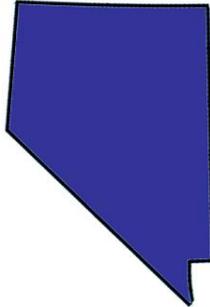


Key Observations

- DOD's drawdown and sequestration will be responsible for a 19.7% reduction in earnings between 2009 and 2017, or \$6.9 billion
- The drawdown in defense spending accounts for \$4.5 billion in decreased output
- Sequestration will account for \$2.4 billion in reduced output across the region



Selected Major Facilities



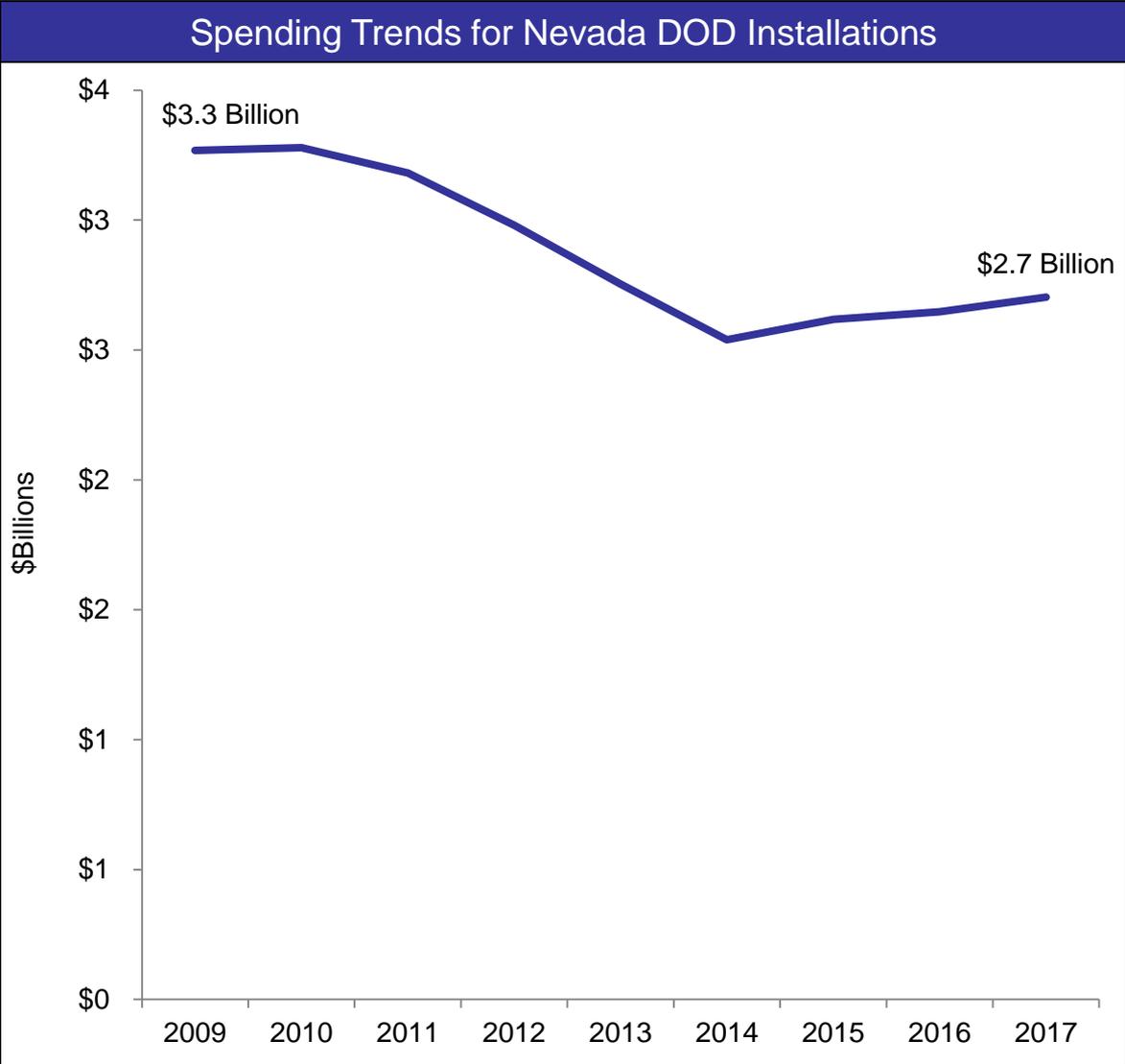
- **Nellis Air Force Base:** The "Home of the Fighter Pilot," the base is home to the U.S. Air Force Warfare Center, the largest and most demanding advanced air combat training mission in the world
- **Creech Air Force Base:** The base is home to the 432d Wing/432d Air Expeditionary Wing, Airmen who fly the MQ-1B Predator and MQ-9 Reaper unmanned aerial vehicles in support of United States and Coalition warfighters
- **Naval Air Station Fallon:** Since 1996, it has been home to the Naval Fighter Weapons School (TOPGUN), and the surrounding area contains 84,000 acres of bombing and electronic warfare ranges
- **Nevada National Security Site:** Formerly known as the Nevada Proving Grounds, the site was established for the testing of nuclear devices and is composed of approximately 1,360 square miles of desert and mountainous terrain

Key Findings

- Between 2005 and 2009, spending increased at a rate of 13.0% annually
- However, between 2009 and 2017 DOD spending in Nevada will decrease at a rate of 17.3%, or \$0.6 billion total
- Total lost employment by 2017 will be 17,000 jobs, equating to half of the total current employment base of Carson City
- The decrease would be the equivalent of a 1.1% decrease in employment across the state
- Output from national defense will decrease by \$0.9 billion in 2017, a reduction of 0.8% of the state economy



Based on a projected and proportional distribution, spending in Nevada will decrease at a rate of 17.3% annually



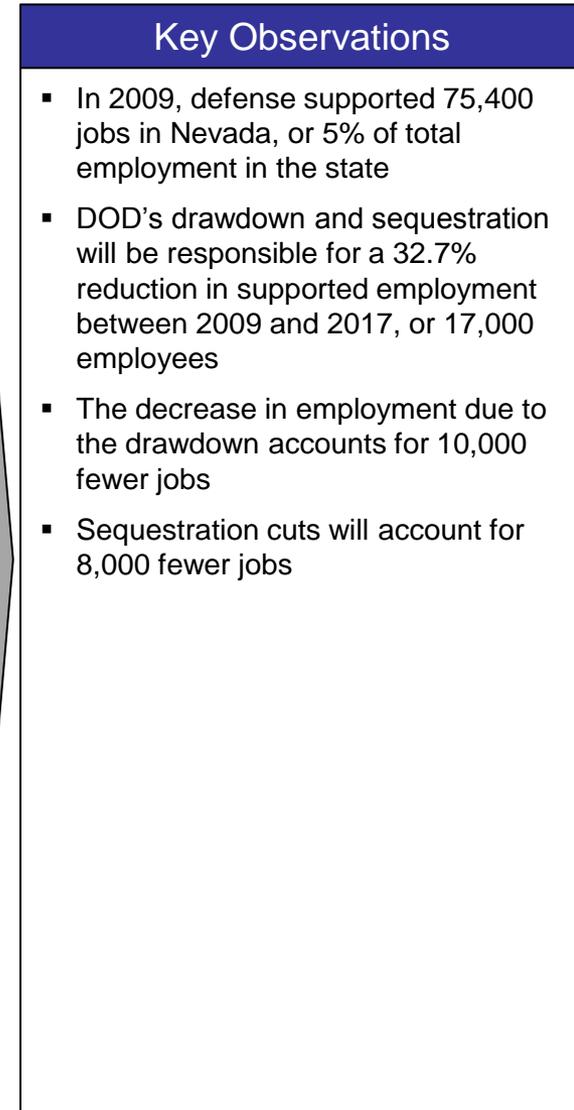
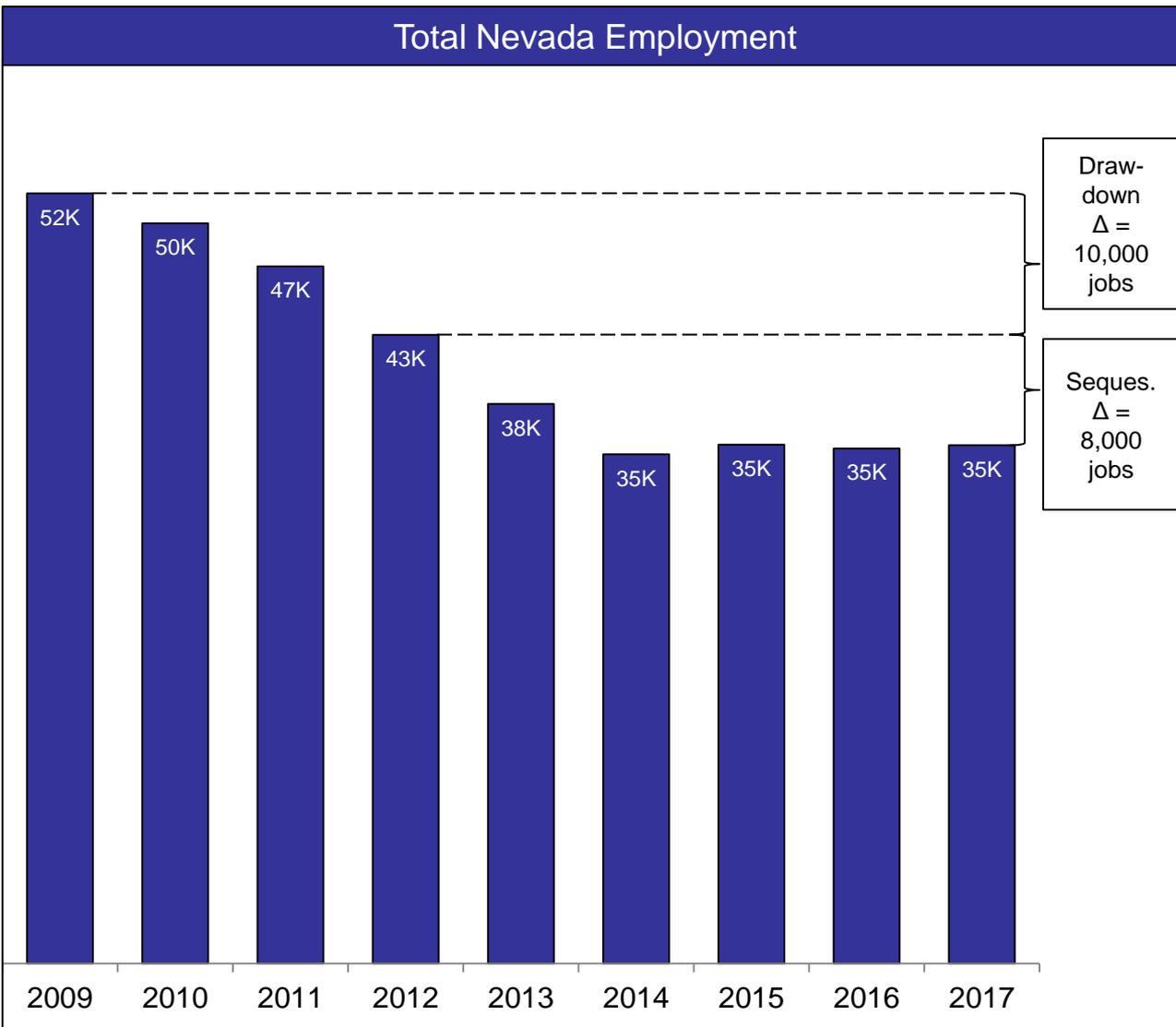
Key Observations

- Nevada will account for 3.4% of all defense-related spending across the region in 2017
- DOD will see a large decrease in spending after 2009, decreasing by \$0.6 billion in the state

SOURCES: Office of the Under Secretary of Defense, Comptroller, "National Defense Budget Estimates for FY 2013," U.S. Department of Defense, March 2012. Hourihan, Matt, "Brief: Federal R&D and Sequestration In The First Five Years," American Academy of Arts and Sciences, September 27, 2012.



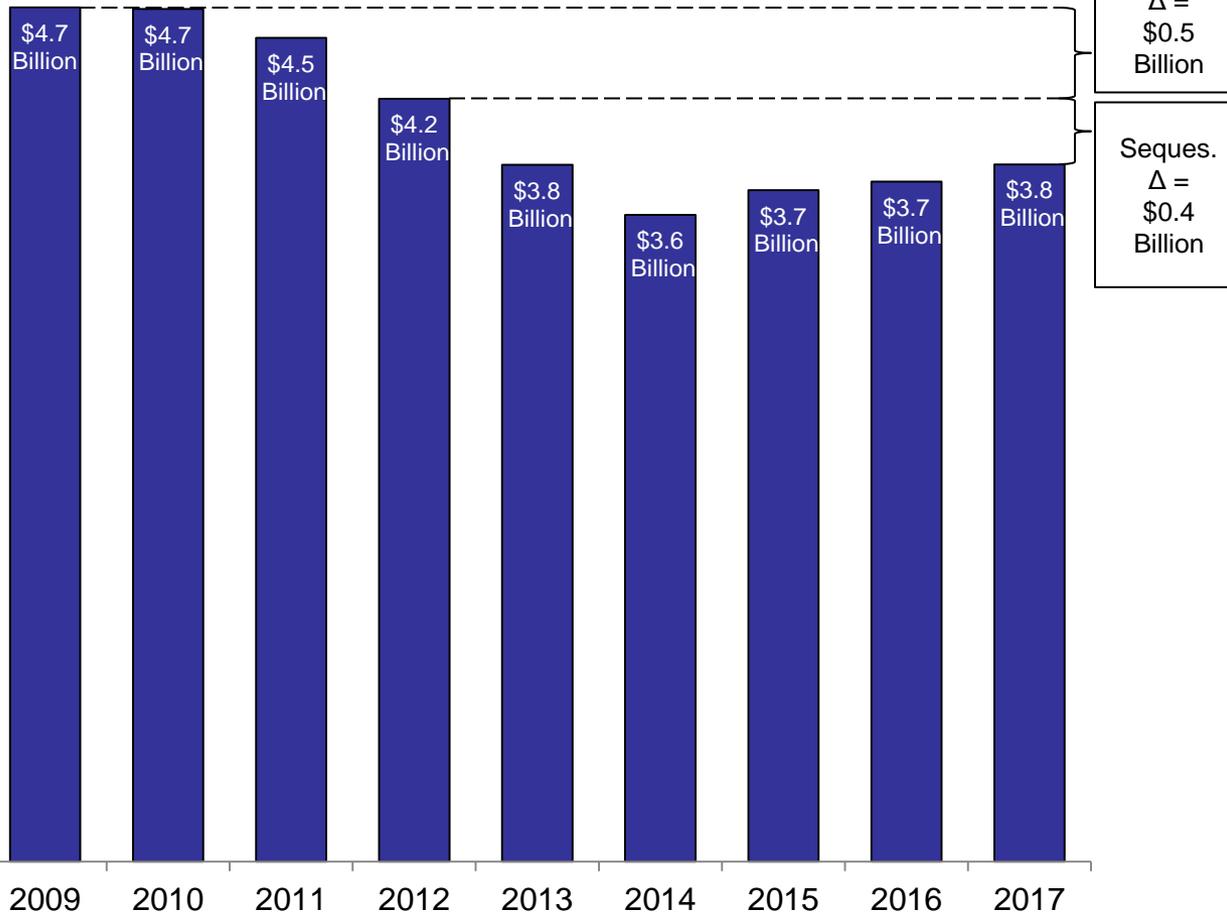
Nevada will face some economic losses from DOD spending decreases between 2009 and 2017, including 17,000 in lost employment





Total output across the region will decrease by \$0.9 billion

Total Nevada Output



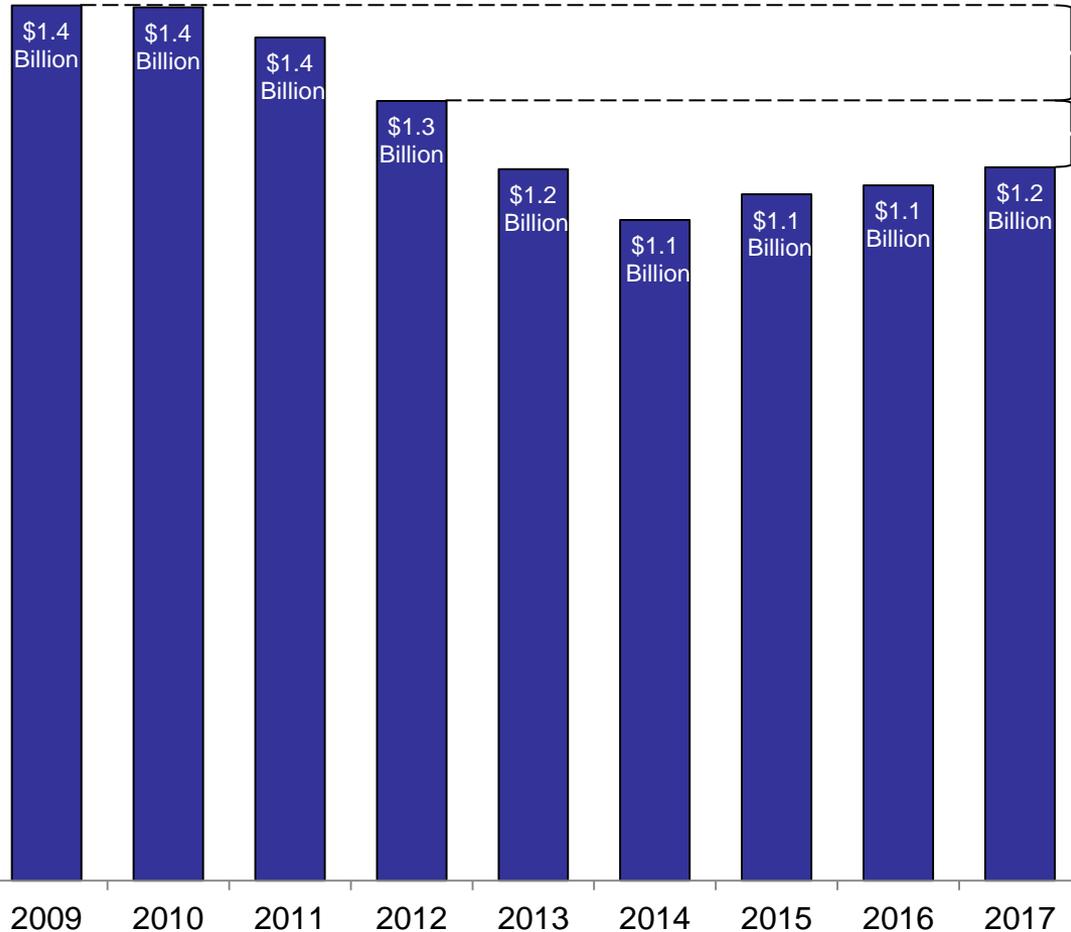
Key Observations

- In 2009, defense was responsible for 5.9% of Nevada's total state output, or \$7.3 billion
- DOD's drawdown and sequestration will be responsible for a 18.4% lower output between 2009 and 2017, or \$0.9 billion
- The drawdown in defense spending accounts for \$0.5 billion in decreased output
- Sequestration will account for \$0.4 billion in reduced output across the region



Earnings across the region will decrease by \$0.3 billion by 2017

Total Nevada Earnings



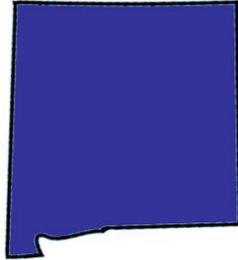
Draw-down
 $\Delta =$
 \$0.2
 Billion

Seques.
 $\Delta =$
 \$0.1
 Billion

Key Observations

- DOD's drawdown and sequestration will be responsible for a 18.5% reduction in earnings between 2009 and 2017, or \$0.3 billion
- The drawdown in defense spending accounts for \$0.2 billion in decreased output
- Sequestration will account for \$0.1 billion in reduced output across the region

Selected Major Facilities



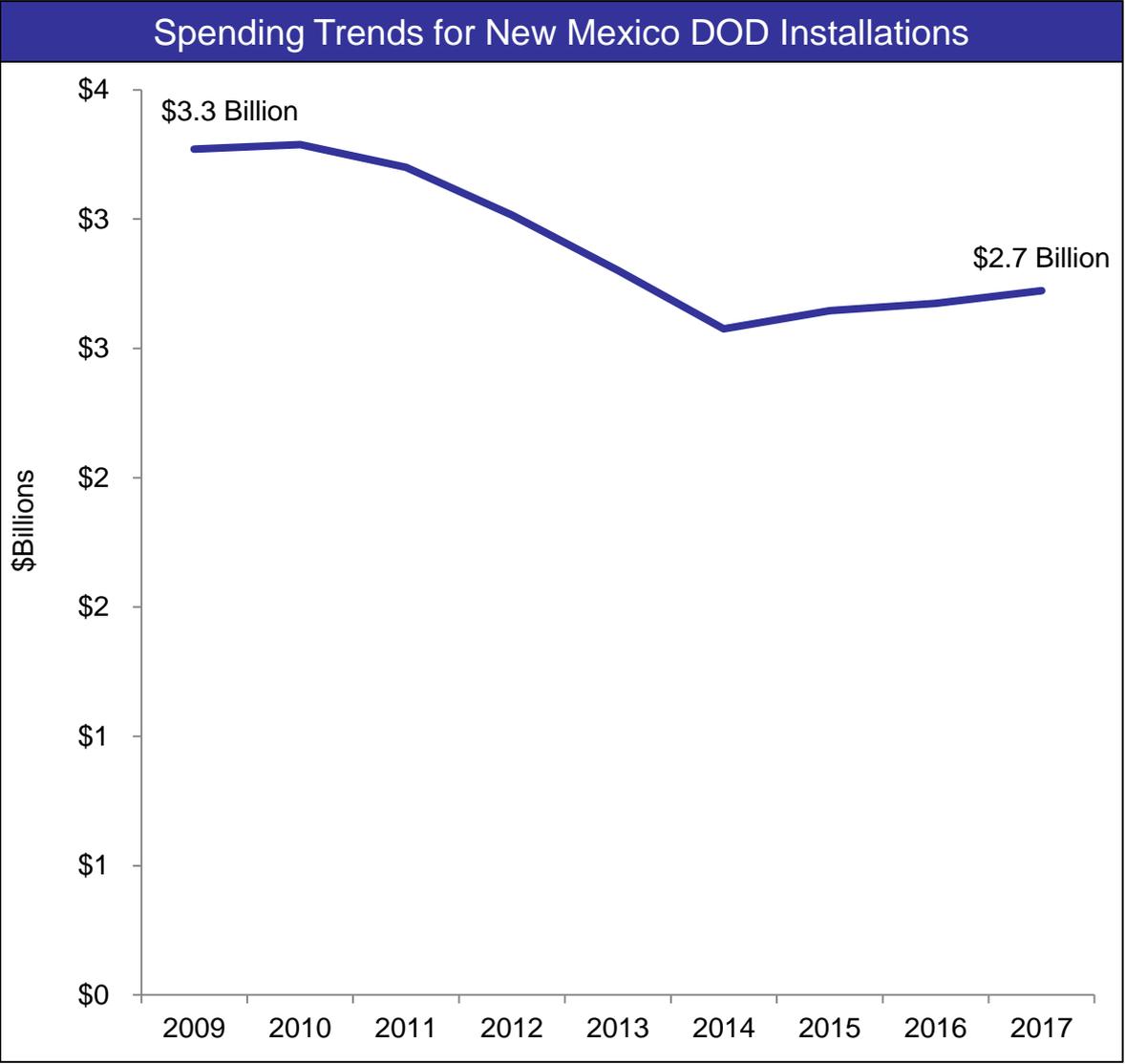
- Sandia National Laboratories: Sandia's mission is to maintain the reliability and surety of nuclear weapon systems and conduct research and development in arms control and nonproliferation technologies
- Los Alamos National Laboratory: LANL is the largest institution and the largest employer in northern New Mexico with approximately direct 9,000 employees and around 650 contractor personnel
- Kirtland Air Force Base: Kirtland is the home of Nuclear Weapons Center, the center of expertise for nuclear weapon systems
- Holloman Air Force Base: Host to the 49th Wing, supporting national security objectives with mission-ready F-22 Raptors, Air Transportable Medical Clinic and Bare Base assets
- Cannon Air Force Base: Cannon is the home of the 27th Special Operations Wing
- White Sands Missile Range: A rocket range of almost 3,200 square miles in parts of five counties in southern New Mexico and the largest military installation in the United States

Key Findings

- Between 2005 and 2009, spending increased at a rate of 3.3% annually
- However, between 2009 and 2017 DOD spending in New Mexico will decrease at a rate of 16.7%, or \$0.5 billion total
- Total lost employment by 2017 will be 16,000 jobs, equating to a quarter of the total current employment base of Santa Fe
- The decrease would be the equivalent of a 1.5% decrease in employment across the state
- Output from national defense will decrease by \$0.8 billion in 2017, a reduction of 1.4% of the state economy
- Additionally, the BRAC commission has realigned or closed these facilities since 1988:
 - Fort Wingate



Based on a projected and proportional distribution, New Mexico defense-related spending trends will decrease at a rate of 16.7% through 2017



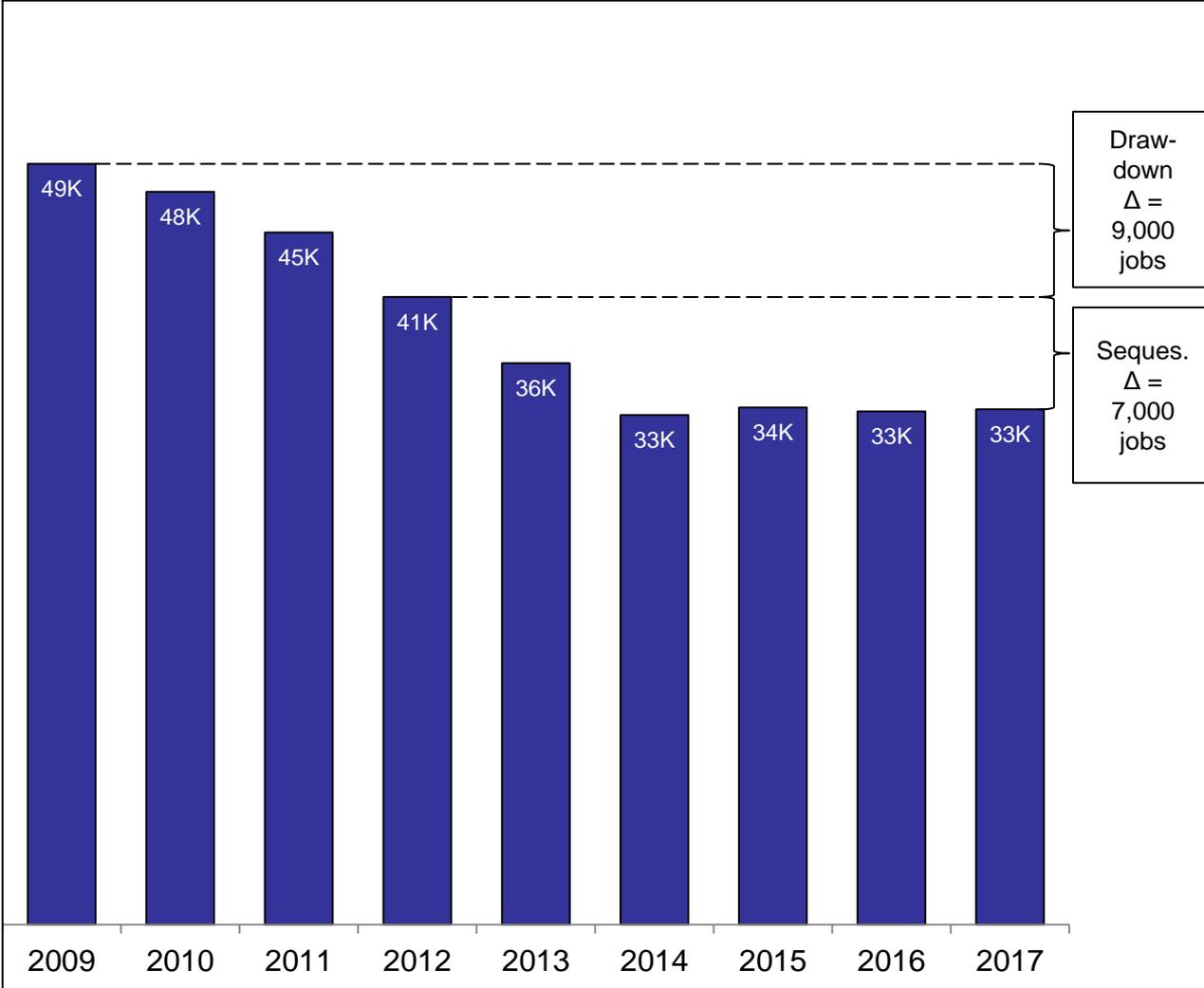
- ### Key Observations
- New Mexico will account for 5.6% of all defense-related spending across the region in 2017
 - DOD will see a large decrease in spending after 2009, decreasing by \$0.5 billion in the state

SOURCES: Office of the Under Secretary of Defense, Comptroller, "National Defense Budget Estimates for FY 2013," U.S. Department of Defense, March 2012. Hourihan, Matt, "Brief: Federal R&D and Sequestration In The First Five Years," American Academy of Arts and Sciences, September 27, 2012.



The decreased spending on national defense will reduce employment in New Mexico by 16,000 supported jobs between 2009 and 2017

Total New Mexico Employment



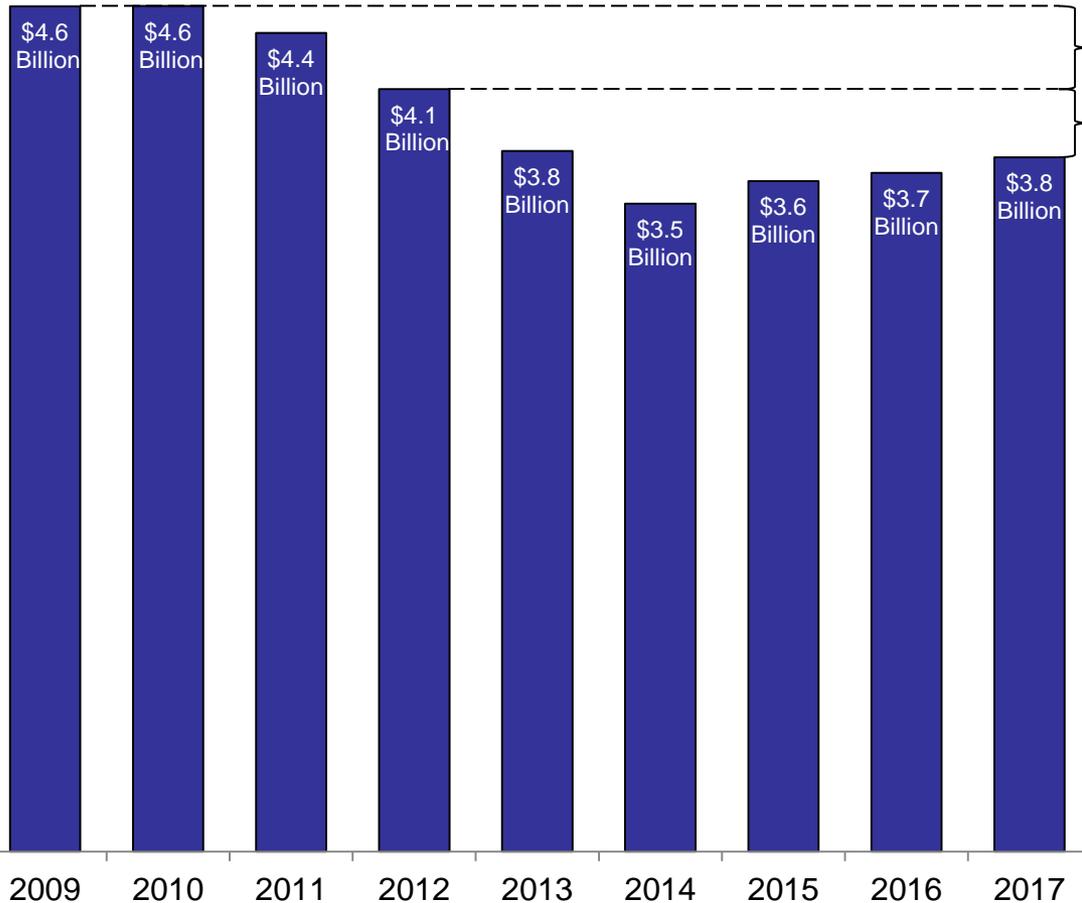
Key Observations

- In 2009, defense supported 118,500 jobs in New Mexico, or 11.1% of total employment in the state
- DOD's drawdown and sequestration will be responsible for a 32.3% reduction in supported employment between 2009 and 2017, or 16,000 employees
- The decrease in employment due to the drawdown accounts for 9,000 fewer jobs
- Sequestration cuts will account for 7,000 fewer jobs



Through 2017, total output across the region will decrease by \$0.8 billion

Total New Mexico Output



Seques.
 $\Delta =$
 \$0.4
 Billion

Draw-down
 $\Delta =$
 \$0.4
 Billion

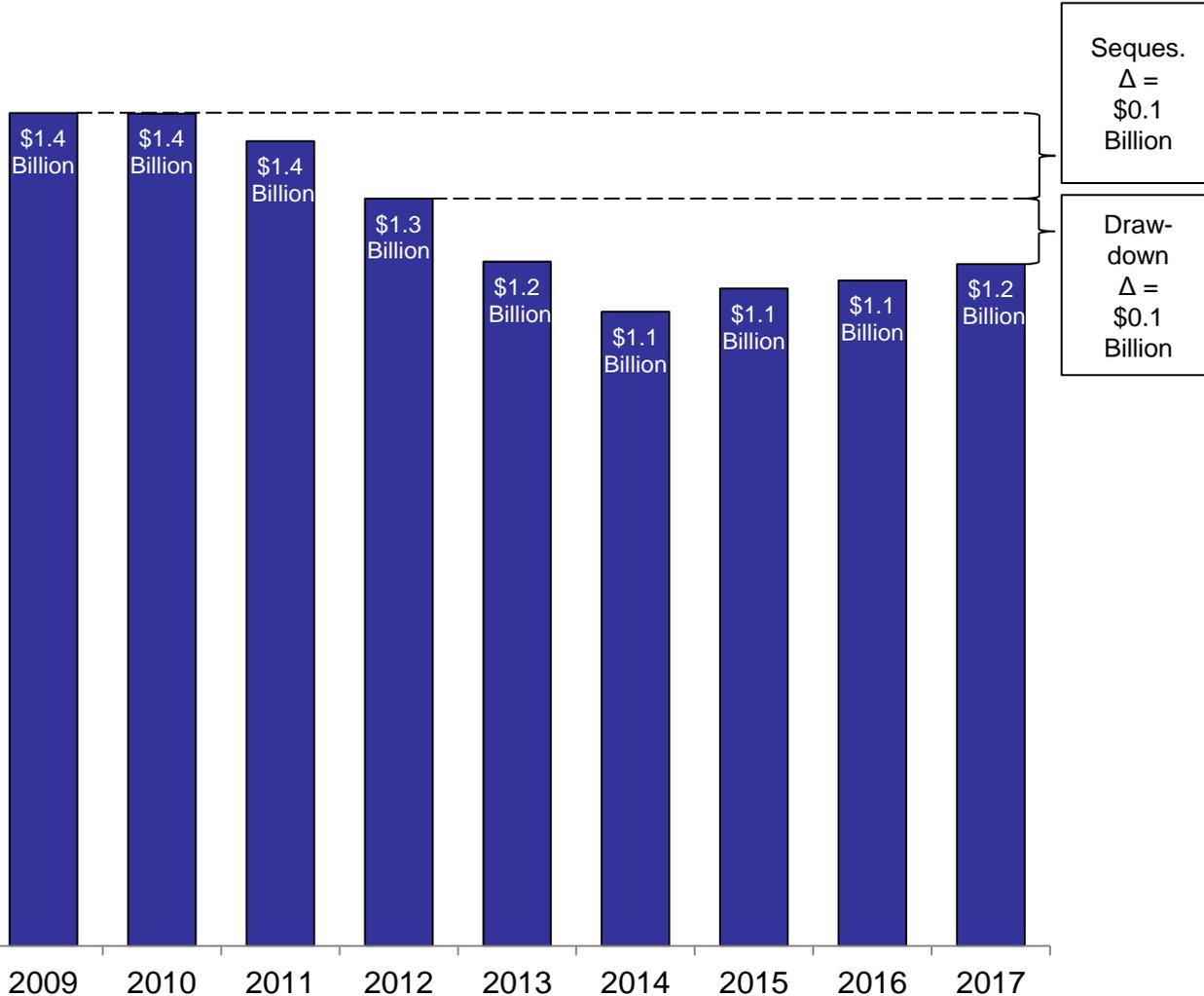
Key Observations

- In 2009, defense was responsible for 17% of New Mexico's total state output, or \$12.7 billion
- DOD's drawdown and sequestration will be responsible for a 17.8% lower output between 2009 and 2017, or \$0.8 billion
- The drawdown in defense spending accounts for \$0.4 billion in decreased output
- Sequestration will account for \$0.4 billion in reduced output across the region



Earnings across the region will decrease by \$0.3 billion by 2017

Total New Mexico Earnings



Key Observations

- DOD's drawdown and sequestration will be responsible for a 18.1% reduction in earnings between 2009 and 2017, or \$0.3 billion
- The drawdown in defense spending accounts for \$0.1 billion in decreased output
- Sequestration will account for \$0.1 billion in reduced output across the region



Selected Major Facilities



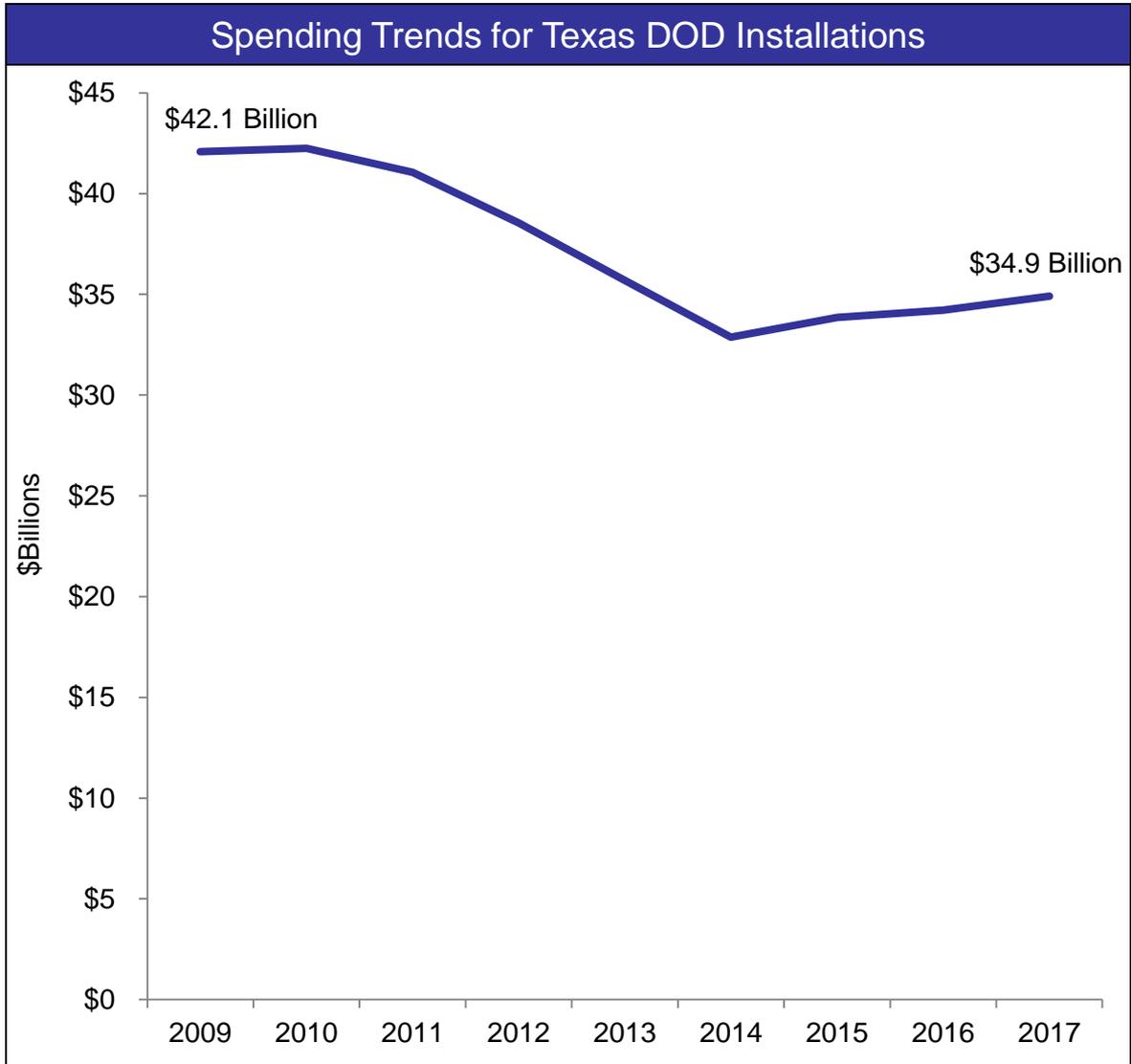
- Fort Hood: Fort Hood is the largest active duty armored post by population in the United States Armed Services
- Fort Bliss: Comprised of approximately 1.12 million acres of land in Texas and New Mexico, it is the Army's second-largest installation behind the adjacent White Sands Missile Range
- Joint Base San Antonio: Formerly Fort Sam Houston, Randolph Air Force Base, and Lackland Air Force Base, it is the largest joint base in the DOD, services more DOD students than any other installation, more active runways than any other installation, houses the DOD's largest hospital and only level one trauma center, and supports more than 250,000 personnel, including 425 retired general officers
- Laughlin Air Force Base: The 47th Flying Training Wing, located at the base, conducts specialized undergraduate pilot training for the United States Air Force, Air Force Reserve, Air National Guard and allied nation air forces

Key Findings

- Between 2005 and 2009, spending increased at a rate of 7.6% annually
- However, between 2009 and 2017 DOD spending in Texas will decrease at a rate of 17.1%, or \$7.2 billion total
- Total lost employment by 2017 will be 247,000 jobs, equating to greater than the total current employment base of Corpus Christi
- The decrease would be the equivalent of a 1.7% decrease in employment across the state
- Output from national defense will decrease by \$13.1 billion in 2017, a reduction of 1.9% of the state economy
- Additionally, the BRAC commission has realigned or closed these facilities since 1988:
 - Bergstrom Air Force Base
 - Carswell Air Force Base
 - Kelly Air Force Base
 - Naval Air Station Chase Field
 - Naval Air Station Dallas
 - Naval Station Galveston
 - Naval Station Ingleside
 - Reese Air Force Base



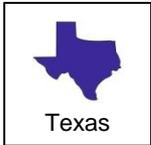
Based on a projected and proportional distribution, defense spending in Texas will decrease by 17.1% annually through 2017



Key Observations

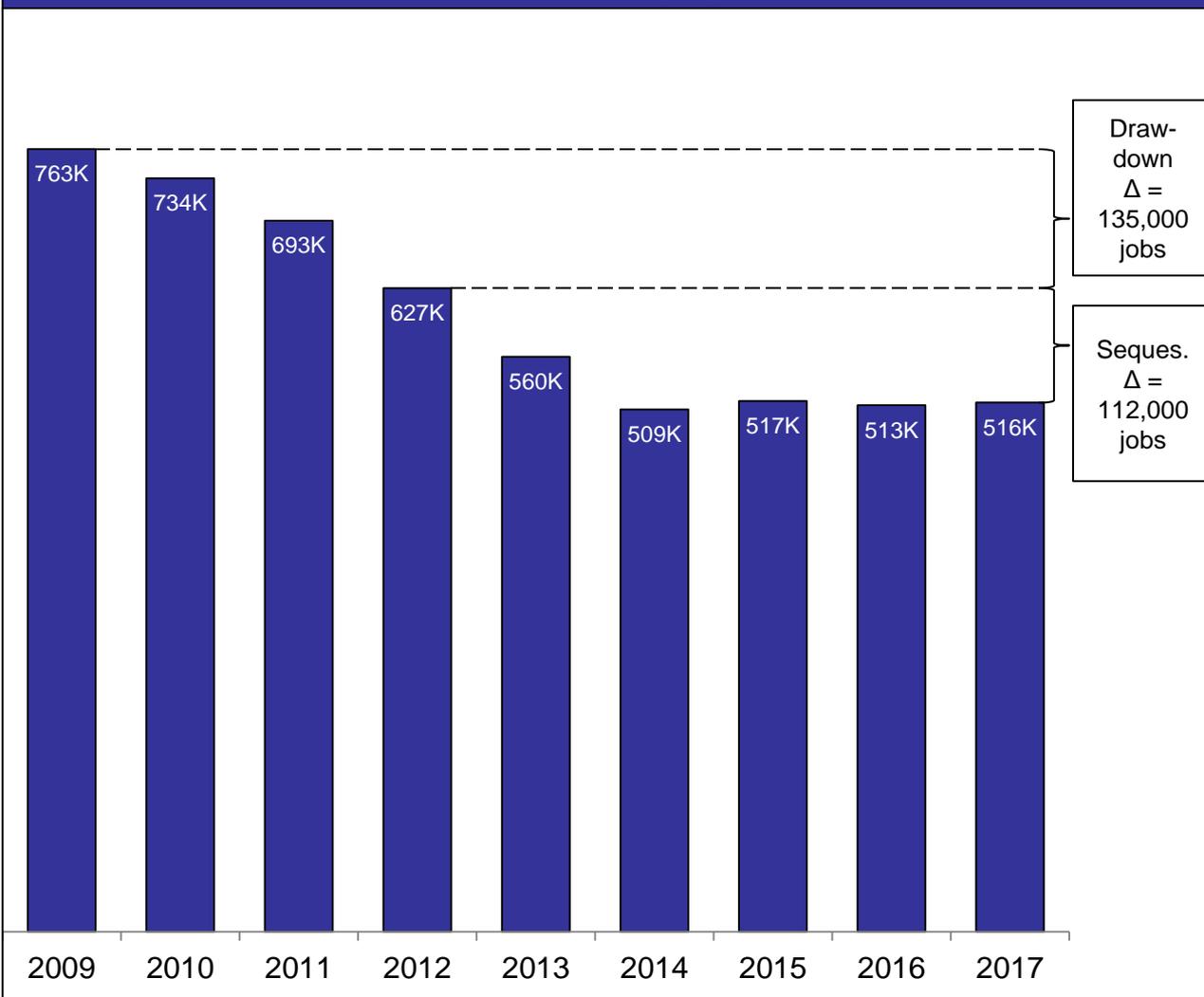
- Texas will account for 34.0% of all defense-related spending across the region in 2017
- DOD will see a large decrease in spending after 2009, decreasing by \$7.2 billion in the state

SOURCES: Office of the Under Secretary of Defense, Comptroller, "National Defense Budget Estimates for FY 2013," U.S. Department of Defense, March 2012. Hourihan, Matt, "Brief: Federal R&D and Sequestration In The First Five Years," American Academy of Arts and Sciences, September 27, 2012.



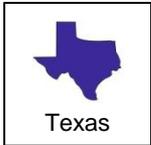
The decreased spending on national defense will reduce employment in Texas by 247,000 supported jobs between 2009 and 2017

Total Texas Employment



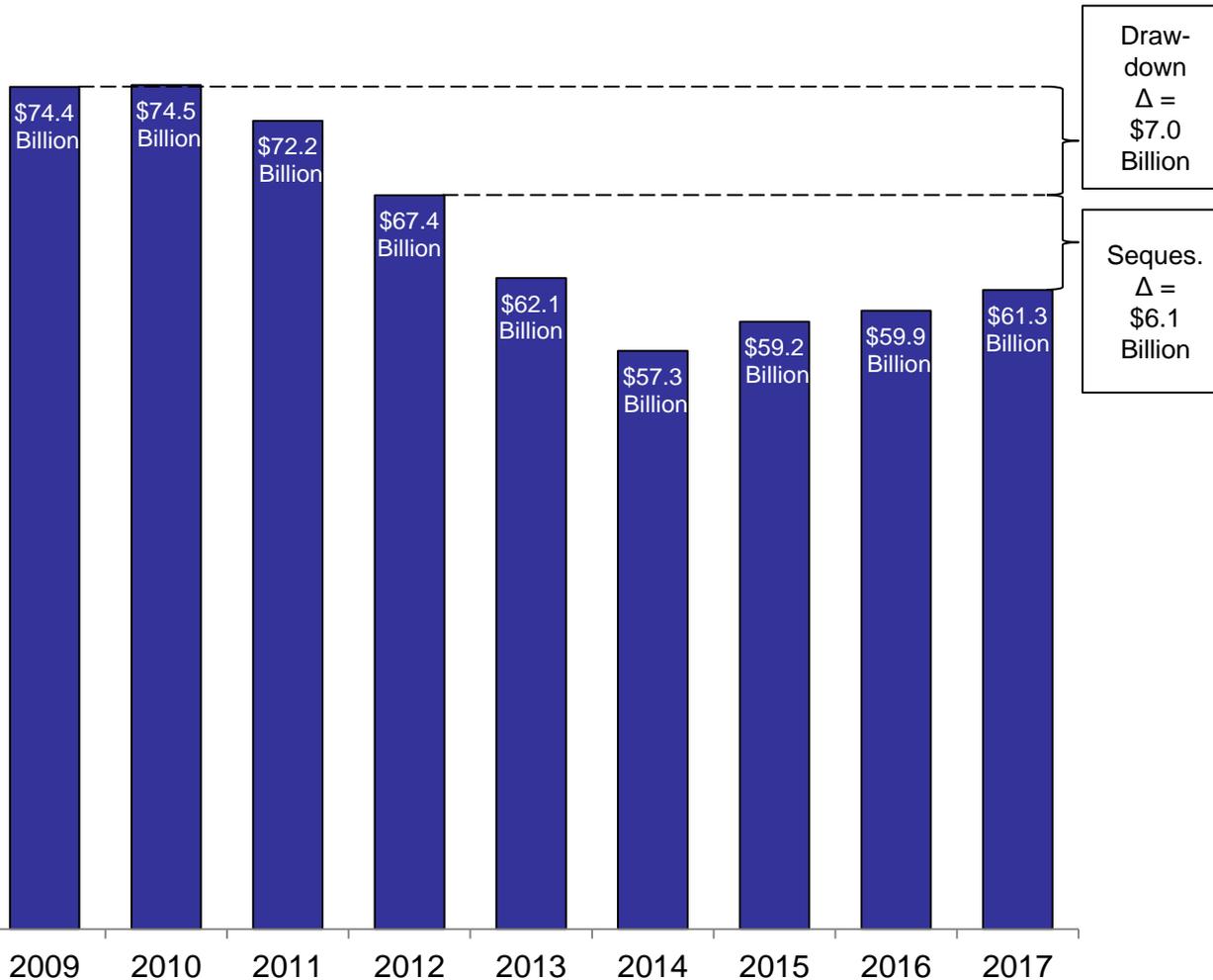
Key Observations

- In 2009, defense supported 892,800 jobs in Texas, or 6.3% of total employment in the state
- DOD's drawdown and sequestration will be responsible for a 32.4% reduction in supported employment between 2009 and 2017, or 247,000 employees
- The decrease in employment due to the drawdown accounts for 135,000 fewer jobs
- Sequestration cuts will account for 112,000 fewer jobs



Total output across the state will decrease by \$13.1 billion

Total Texas Output



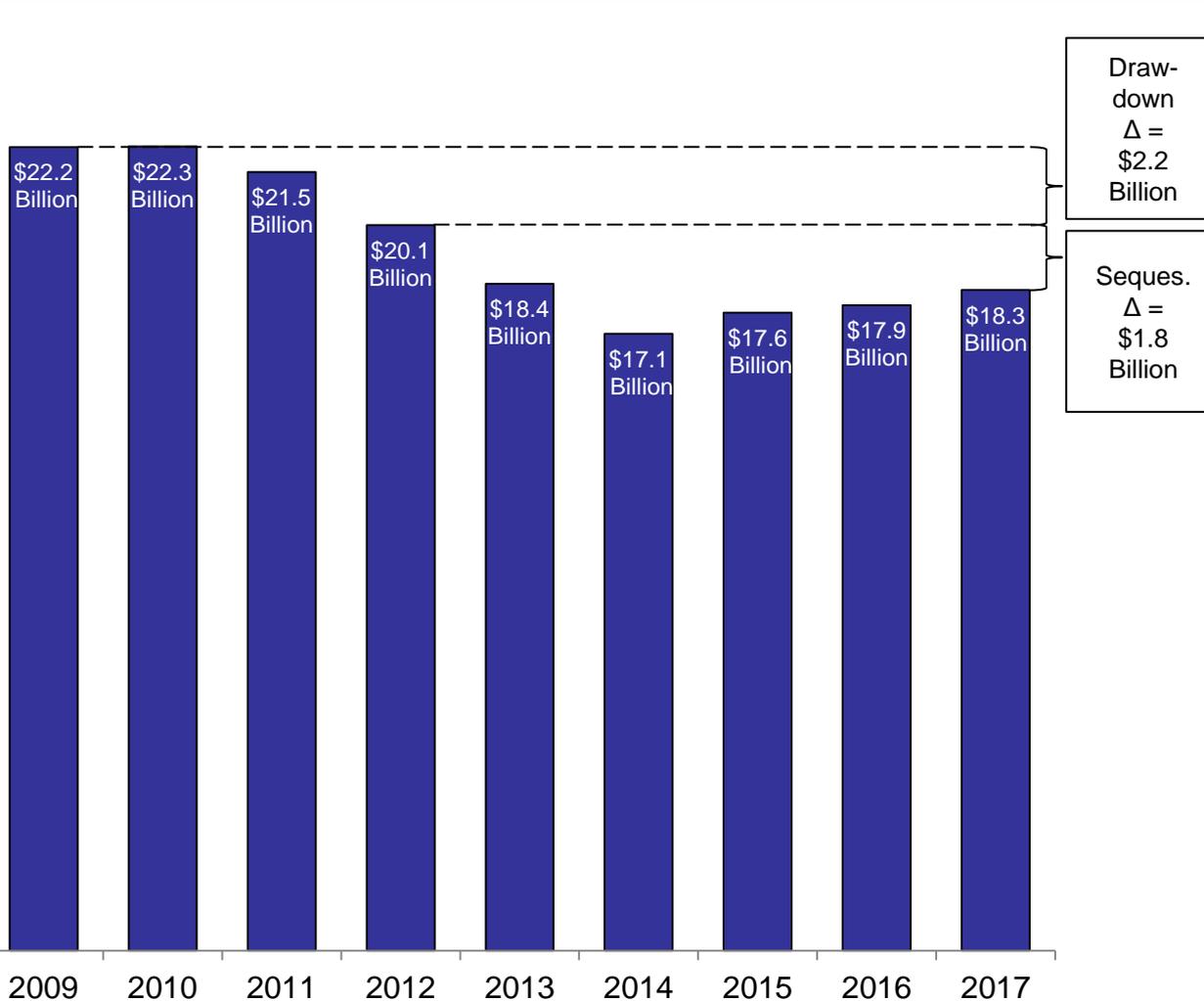
Key Observations

- In 2009, defense was responsible for 8% of Texas's total state output, or \$90.2 billion
- DOD's drawdown and sequestration will be responsible for a 17.6% lower output between 2009 and 2017, or \$13.1 billion
- The drawdown in defense spending accounts for \$7.0 billion in decreased output
- Sequestration will account for \$6.1 billion in reduced output across the region



Earnings across the region will decrease by \$4.0 billion by 2017

Total Texas Earnings

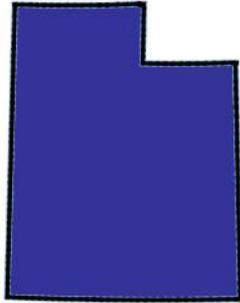


Key Observations

- DOD's drawdown and sequestration will be responsible for a 17.8% reduction in earnings between 2009 and 2017, or \$4.0 billion
- The drawdown in defense spending accounts for \$2.2 billion in decreased output
- Sequestration will account for \$1.8 billion in reduced output across the region



Selected Major Facilities



- Hill Air Force Base: Hill AFB provides worldwide engineering and logistics management for the F-16 Fighting Falcon, A-10 Thunderbolt II, Minuteman III intercontinental ballistic missile
- Ogden Air Logistics Center: The Ogden Air Logistics Center is garrisoned at Hill AFB and performs depot maintenance on a number of US Air Force weapon systems
- Tooele Army Depot: Tooele is a Tier 1 active joint ammunition storage site and is responsible for shipping, storing, receiving, inspecting, demilitarization, and maintaining training and war reserve conventional ammunition
- Dugway Proving Ground: It's mission is to test US and Allied biological and chemical weapon defense systems in a secure and isolated environment

Key Findings

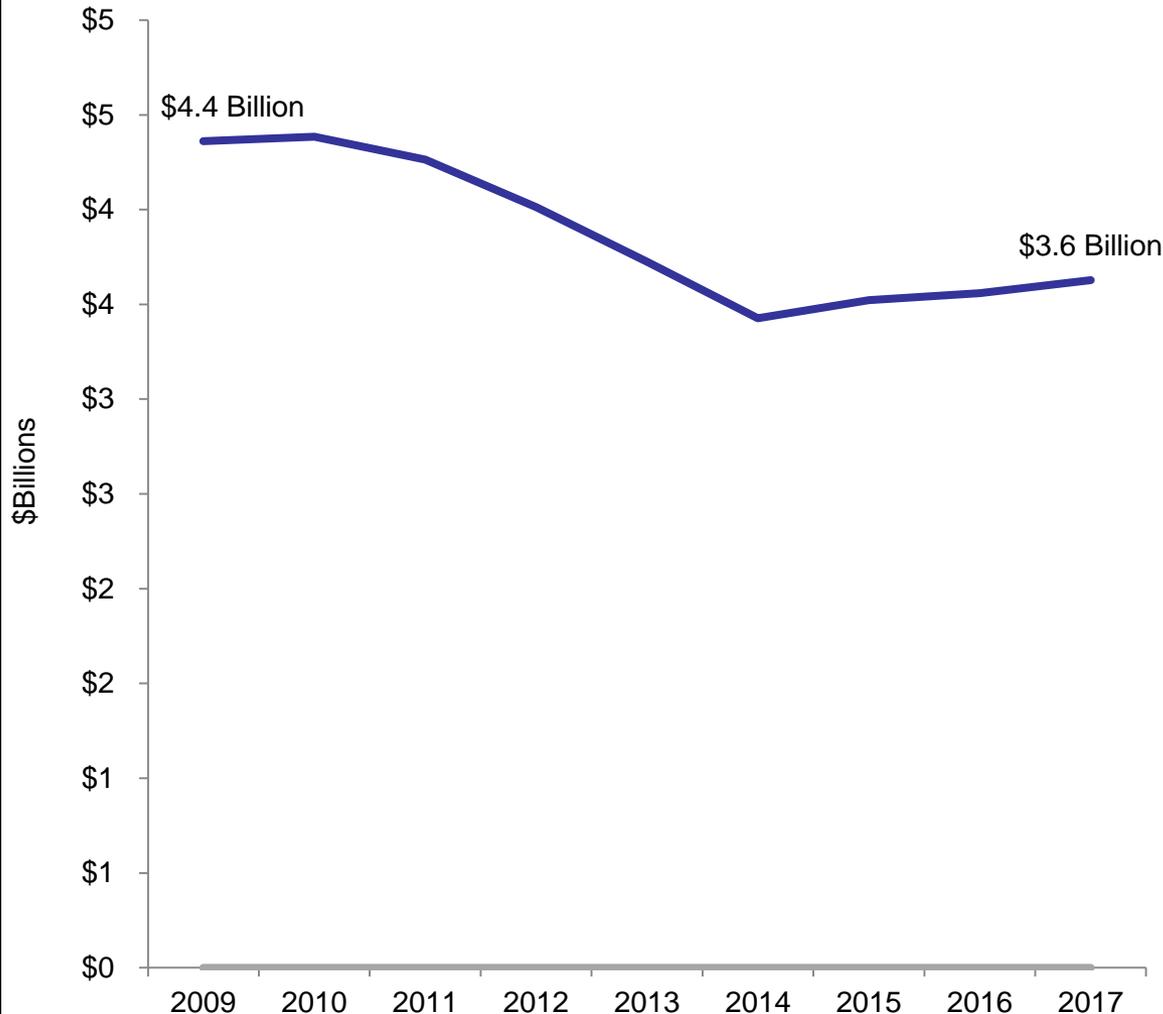
- Between 2005 and 2009, spending increased at a rate of 3.5% annually
- However, between 2009 and 2017 DOD spending in Utah will decrease at a rate of 16.8%, or \$0.7 billion total
- Total lost employment by 2017 will be 22,000 jobs, equating to half of the total current employment base of Logan
- The decrease would be the equivalent of a 1.4% decrease in employment across the state
- Output from national defense will decrease by \$1.4 billion in 2017, a reduction of 1.8% of the state economy
- Additionally, the BRAC commission has realigned or closed these facilities since 1988:
 - Fort Douglas



Utah

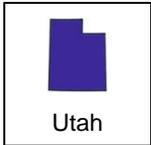
Based on a projected and proportional distribution, defense spending in Utah will decrease at a rate of 16.8% annually from 2009 to 2017

Spending Trends for Utah DOD Installations

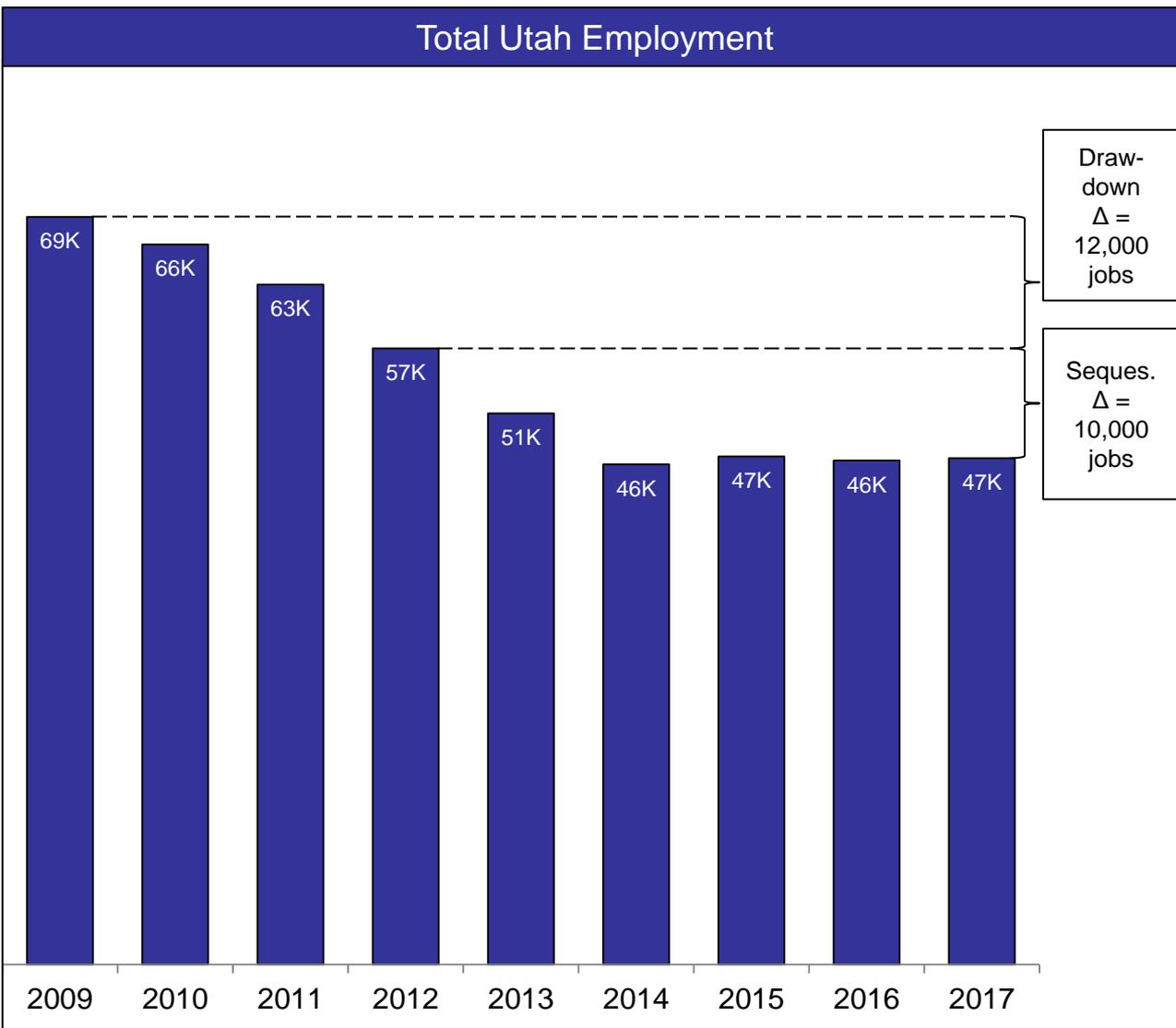


Key Observations

- Utah will account for 3.3% of all defense-related spending across the region in 2017
- DOD will see a large decrease in spending after 2009, decreasing by \$0.7 billion in the state



The decreased spending on national defense will reduce employment in Utah by 22,000 supported jobs between 2009 and 2017



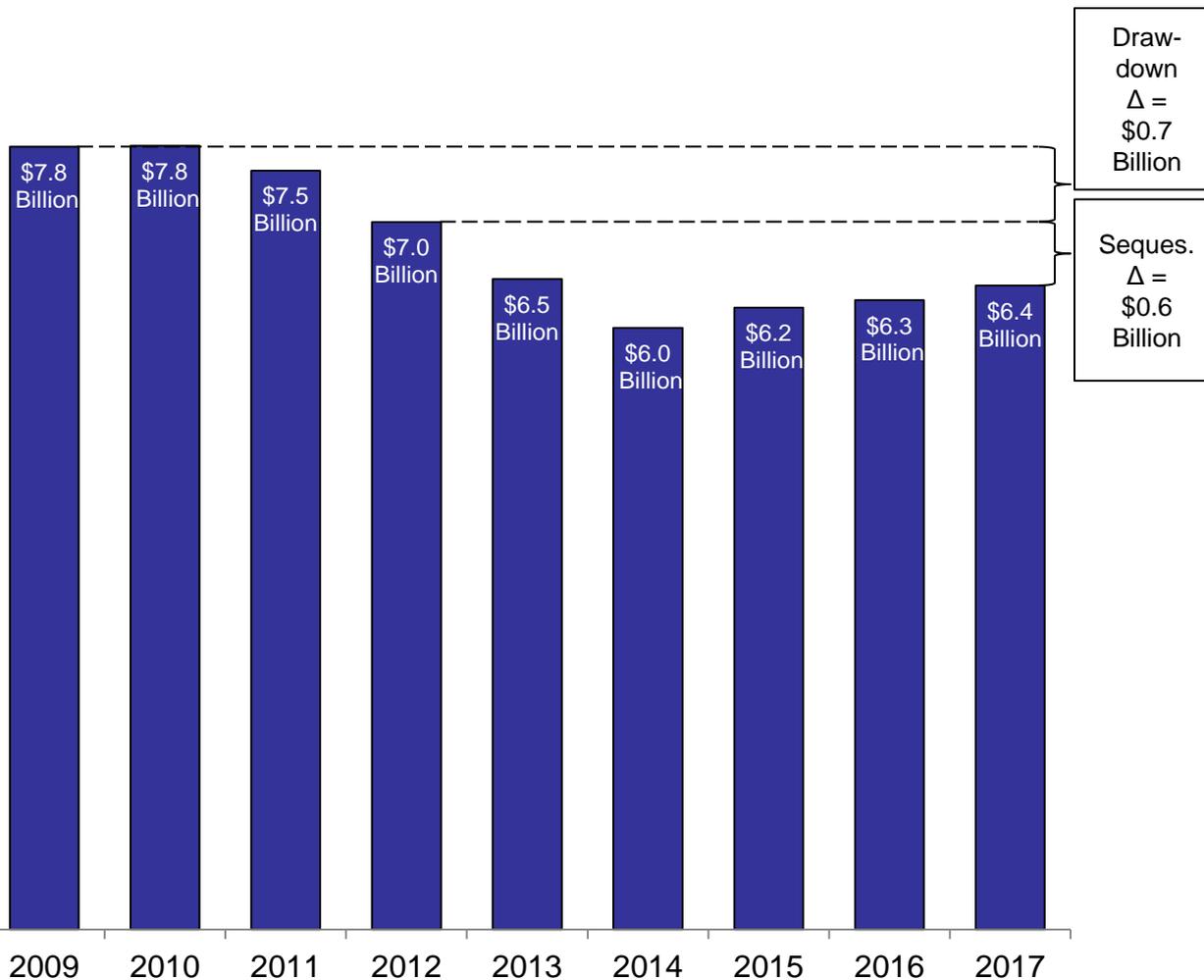
Key Observations

- In 2009, defense supported 77,600 jobs in Utah, or 4.7% of total employment in the state
- DOD's drawdown and sequestration will be responsible for a 32.3% reduction in supported employment between 2009 and 2017, or 22,000 employees
- The decrease in employment due to the drawdown accounts for 12,000 fewer jobs
- Sequestration cuts will account for 10,000 fewer jobs



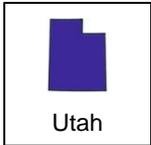
Through 2017, total output across the region will decrease by \$1.4 billion

Total Utah Output



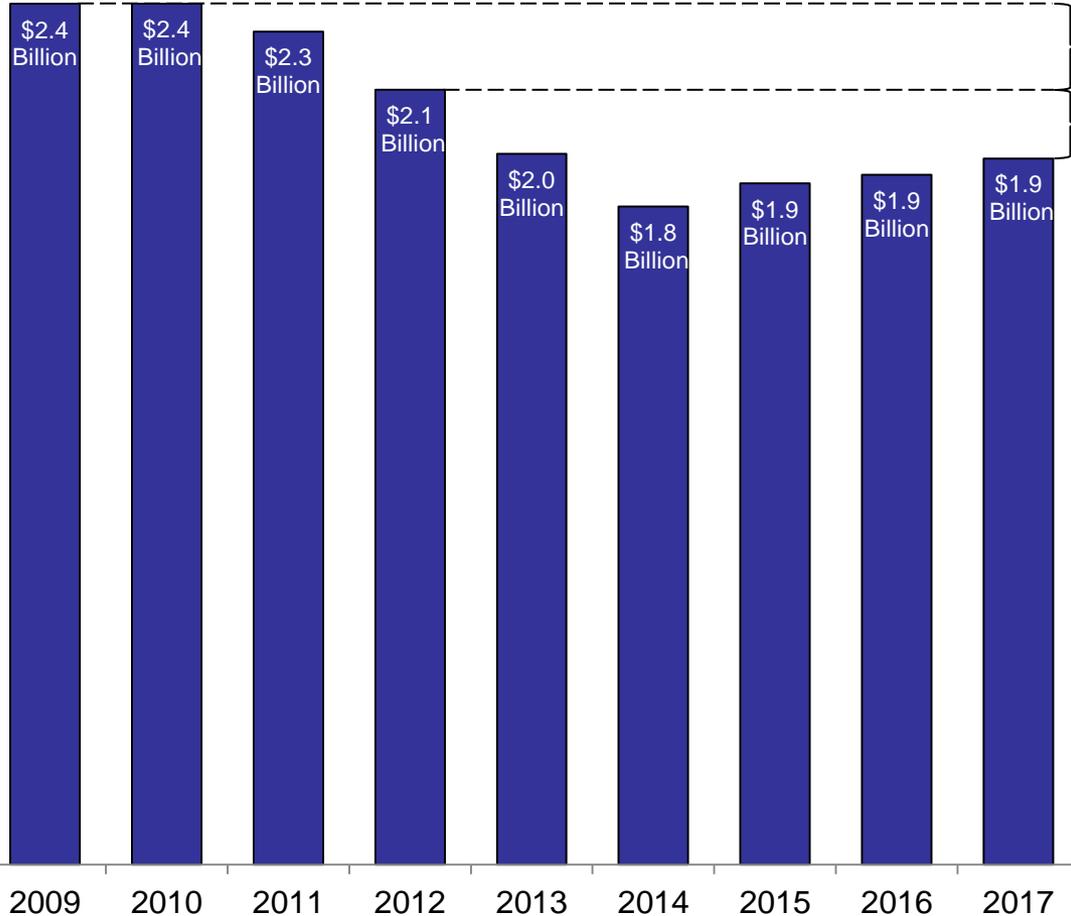
Key Observations

- In 2009, defense was responsible for 7.9% of Utah's total state output, or \$8.9 billion
- DOD's drawdown and sequestration will be responsible for a 17.8% lower output between 2009 and 2017, or \$1.4 billion
- The drawdown in defense spending accounts for \$0.7 billion in decreased output
- Sequestration will account for \$0.6 billion in reduced output across the region



Earnings across the region will decrease by \$0.4 billion by 2017

Total Utah Earnings



Draw-down
 $\Delta =$
 \$0.2
 Billion

Seques.
 $\Delta =$
 \$0.2
 Billion

Key Observations

- DOD's drawdown and sequestration will be responsible for a 18.0% reduction in earnings between 2009 and 2017, or \$0.4 billion
- The drawdown in defense spending accounts for \$0.2 billion in decreased output
- Sequestration will account for \$0.2 billion in reduced output across the region

APPENDIX

- Appendix A: Sequestration Curves
- Appendix B: State Summaries
- Appendix C: Literature Review
- Appendix D: Bibliography

Appendix A: Sequestration Curves

(% Based on Most Recent Data)	2009	2010	2011	2012	2013	2014	2015	2016	2017
Department of Defense Sequestration – Personnel	100%	102.5%	101.7%	99.9%	96.7%	87.0%	87.2%	87.5%	87.8%
Department of Defense Sequestration – Procurement	100%	98.6%	94.1%	84.5%	74.8%	70.6%	74.7%	76.0%	78.9%

Appendix B: State Summaries – Arizona (1 of 6)

(all figures in \$Thousands & jobs)	2009	2010	2011	2012	2013	2014	2015	2016	2017
DOD Expenditures	\$15,308,486	\$15,221,381	\$14,639,290	\$13,422,928	\$12,135,220	\$11,324,230	\$11,827,537	\$12,000,299	\$12,352,684
DOD Output	\$27,031,520	\$26,815,391	\$25,727,264	\$23,453,250	\$21,074,722	\$19,731,742	\$20,682,804	\$21,004,188	\$21,668,737
DOD Earnings	\$8,651,639	\$8,578,908	\$8,227,202	\$7,492,183	\$6,724,939	\$6,300,193	\$6,608,146	\$6,711,939	\$6,927,049
DOD Employment	293,248	280,278	262,494	233,400	204,642	187,740	192,930	191,969	194,221

Appendix B: State Summaries – California (2 of 6)

(all figures in \$Thousands & jobs)	2009	2010	2011	2012	2013	2014	2015	2016	2017
DOD Expenditures	\$56,742,620	\$56,533,128	\$54,485,209	\$50,206,171	\$45,623,636	\$42,455,594	\$44,207,766	\$44,818,432	\$46,047,610
DOD Output	\$109,741,268	\$109,031,782	\$104,776,700	\$95,884,798	\$86,510,748	\$80,818,588	\$84,511,694	\$85,772,444	\$88,356,322
DOD Earnings	\$35,024,475	\$34,771,253	\$33,387,312	\$30,495,182	\$27,458,399	\$25,679,997	\$26,885,461	\$27,294,852	\$28,137,696
DOD Employment	1,000,242	957,122	897,493	800,374	703,945	644,703	661,315	657,713	664,682

Appendix B: State Summaries – Nevada (3 of 6)

(all figures in \$Thousands & jobs)	2009	2010	2011	2012	2013	2014	2015	2016	2017
DOD Expenditures	\$3,268,456	\$3,278,591	\$3,182,104	\$2,980,577	\$2,753,922	\$2,539,710	\$2,618,432	\$2,647,792	\$2,703,520
DOD Output	\$4,704,936	\$4,697,486	\$4,537,275	\$4,202,556	\$3,839,255	\$3,562,392	\$3,697,755	\$3,745,791	\$3,840,975
DOD Earnings	\$1,441,822	\$1,438,754	\$1,388,897	\$1,284,733	\$1,172,080	\$1,088,358	\$1,130,626	\$1,145,552	\$1,175,254
DOD Employment	52,271	50,242	47,332	42,680	37,974	34,560	35,209	34,956	35,178

Appendix B: State Summaries – New Mexico (4 of 6)

(all figures in \$Thousands & jobs)	2009	2010	2011	2012	2013	2014	2015	2016	2017
DOD Expenditures	\$3,270,536	\$3,288,817	\$3,200,141	\$3,014,965	\$2,801,841	\$2,575,863	\$2,646,494	\$2,673,741	\$2,723,978
DOD Output	\$4,575,918	\$4,578,983	\$4,433,138	\$4,128,474	\$3,792,460	\$3,508,455	\$3,629,794	\$3,673,812	\$3,759,385
DOD Earnings	\$1,432,736	\$1,431,923	\$1,384,543	\$1,285,562	\$1,177,376	\$1,090,987	\$1,130,752	\$1,144,998	\$1,172,995
DOD Employment	49,393	47,585	44,937	40,749	36,464	33,083	33,589	33,318	33,458

Appendix B: State Summaries – Texas (5 of 6)

(all figures in \$Thousands & jobs)	2009	2010	2011	2012	2013	2014	2015	2016	2017
DOD Expenditures	\$42,082,905	\$42,255,267	\$41,053,444	\$38,543,469	\$35,695,522	\$32,877,620	\$33,849,328	\$34,216,384	\$34,905,481
DOD Output	\$74,398,341	\$74,518,399	\$72,215,078	\$67,403,814	\$62,058,654	\$57,340,773	\$59,243,346	\$59,940,631	\$61,284,263
DOD Earnings	\$22,231,622	\$22,250,614	\$21,546,008	\$20,074,127	\$18,448,525	\$17,062,860	\$17,648,271	\$17,861,055	\$18,274,021
DOD Employment	762,703	734,275	692,912	627,275	560,363	508,868	517,187	513,152	515,636

Appendix B: State Summaries – Utah (6 of 6)

(all figures in \$Thousands & jobs)	2009	2010	2011	2012	2013	2014	2015	2016	2017
DOD Expenditures	\$4,361,476	\$4,383,809	\$4,263,574	\$4,012,489	\$3,724,836	\$3,426,402	\$3,522,641	\$3,559,512	\$3,627,895
DOD Output	\$7,776,514	\$7,784,902	\$7,540,121	\$7,028,796	\$6,463,100	\$5,975,908	\$6,178,937	\$6,252,911	\$6,396,180
DOD Earnings	\$2,370,923	\$2,371,233	\$2,294,430	\$2,133,986	\$1,957,739	\$1,812,414	\$1,876,562	\$1,899,704	\$1,944,910
DOD Employment	68,800	66,267	62,565	56,703	50,714	46,024	46,744	46,371	46,575

Appendix C: Literature Review (1 of 2)

Study	Summary	Key Findings
Harrison, Todd, "Analysis of the FY 2013 Defense Budget and Sequestration," August 2012	2012 report that analyzes the effects sequestration will have on the Department of Defense's FY 2013 budget	<ul style="list-style-type: none"> ▪ Sequestration would impact nearly every aspect of DoD's planning by forcing a uniform reduction in budget authority of roughly 10.3% across all accounts other than military personnel ▪ With military personnel being exempt from sequestration, contractors and non-military personnel will be hit the hardest ▪ The delayed effect between budget authority and outlays means that defense contractors would not feel the full effect of sequestration immediately ▪ Sequestration would, however, force layoffs of DoD civilian employees soon after it takes effect.
Fuller S., Stephen, "The Economic Impact of the Budget Control Act of 2011 on DOD & non-DOD Agencies," July 2012	An economic impact assessment on all discretionary spending subject to cutbacks under the BCA of 2011 (both the effects of statutory limits and automatic reductions) for DOD and non-DOD agencies	<ul style="list-style-type: none"> ▪ As currently formulated, the automatic spending cuts affecting DOD and non-DOD agencies' discretionary spending authorities beginning January 2, 2013 will: <ul style="list-style-type: none"> - Reduce the nation's GDP by \$215 billion; - Decrease personal earnings of the workforce by \$109.4 billion - Cost the U.S. economy 2.14 million jobs
The American Association for the Advancement of Science, Hourihan, Matt, "Federal R&D and Sequestration In The First Five Years," September 2012	An analysis on the effects of sequestration on research and development cuts over a five year period from 2013-2017	<ul style="list-style-type: none"> ▪ Through 2017, sequestration could reduce federal R&D expenditures by \$57.5 billion or 8.4%. The reduction would average \$11.5 billion per year ▪ Defense R&D could be reduced by a total of \$35.6 billion, or 9.1%, averaging \$7.1 billion per year ▪ Nondefense R&D could be cut by a total of \$21.9 billion over five years, or 7.6% per agency resulting in many agencies being at their lowest point in a decade or more ▪ Under a nondefense-only scenario, nondefense R&D could be cut by \$50.8 billion, or 17.2%, averaging \$10.2 billion per year total

Appendix C: Literature Review (2 of 2)

Study	Summary	Key Findings
Professional Service Council, "Estimated Impact of Sequestration on DoD Available Budget Resources," August 2012	Brief summary chart of PSC's estimate of the effect of sequestration on Department of Defense accounts based on the FY 2012 enacted budget levels	<ul style="list-style-type: none"> ▪ Total FY13 budget resources of \$713 Billion would decline to \$658 Billion ▪ Excluding exempted MilPers accounts, FY13 discretionary funds subject to reductions is approximately \$571 Billion ▪ With the exception of military personnel accounts, all accounts would decline by 9.6%
Fuller S., Stephen, "The U.S. Economic Impact of Approved and Projected DOD Spending Reductions on Equipment in 2013," October 2011	Report estimating the economic effects of reduced spending for military equipment. This analysis was restricted to the procurement of military equipment and R&D spending	<ul style="list-style-type: none"> ▪ The effects of a combined \$45.1 billion reduction in the purchase of military equipment and in Research and Development funding (BCA I and II) by the Department of Defense would: <ul style="list-style-type: none"> – Reduce GDP by \$86.5 billion – Equate to a loss of 1,006,320 direct, indirect and induced jobs across all sectors of the U.S. economy – Personal income (salaries and wages) decline of \$59.4 billion
Center for a New American Security, Sharp, Travis, "Defense Guidance, 2013 Defense Budget and the Risks of Sequestration," February 2012	Policy brief outlining the risks of sequestration and why Congress should repeal it as soon as possible	<ul style="list-style-type: none"> ▪ The large amount of cuts will make it difficult for the U.S. military to pursue its longstanding and generally successful strategy of global engagement ▪ The sudden and inflexible process for implementing cuts under sequestration will unnecessarily damage U.S. defense capabilities ▪ Third, sequestration already has failed to achieve its sole purpose, which was to encourage the "super committee" to compromise

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Applying best-in-class research and analyses with unique insights, Andrew Chang & Company works hand-in-hand with our clients to achieve tangible results in the areas of public policy and government operations. Using advanced economic, statistical and business administration techniques, we provide strategy and operations consulting to Fortune 1000 firms and provide policy, economic, fiscal and operations consulting for public sector agencies and non-profit organizations to improve operations.

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