

these highly skilled workers to remain in the state for a longer period of time. As one interviewee noted, "My plan is to be here no more than five to seven years and then transition to a state that does not tax my military retirement." Another interviewee stated that they were reluctant to come to Maryland because they taxed military pensions, and would have preferred Pennsylvania. However, while they may have chosen to or had to remain in Maryland for employment reasons, they intend to leave upon civilian retirement. As noted throughout the interview process, this is a common view, and one retiree described the current tax situation as a "competitive disadvantage."

6.2.4 Highlighting Maryland's Quality of Life

In addition to financial incentives and work opportunities, the state can highlight the high quality of life that military retiree families can expect. For example, though there is a net out-migration of young adults and retirees leaving the state, working-age adults are more likely to migrate into the state, and most working-age adults who move to Maryland do so for employment opportunities.⁶⁹ However, the state also needs to work to improve components of quality of life for all citizens, including military retirees. As one interviewee noted, "Maryland is a great place to work...sometimes it's just not enough."

One possible argument for coming to Maryland or staying in Maryland if you retired is because of the superb healthcare industry that we have here in Maryland. The military healthcare, Walter Reed National Military Medical Center, is a first-class operation, and the Tri-care contractor, the U.S. Family Health Plan through John Hopkins Medicine, is another outstanding source of healthcare. To the extent that a retiree would have some medical concerns and would like to stay with his same doctor, that would be somewhat of an incentive to stay, but I don't think it would be the only one.

-Retired military officer

To improve quality of life and reframe the state's high cost of living as a good investment, the state can focus on education and infrastructure. For example, increased focus on education and STEM initiatives encourages families with school-age children (as military retirees are likely to be if they retire in their late 30s and 40s after 20 years of service) to remain or relocate to Maryland, and of preparing the defense industry's future workforce. Infrastructure can play a role as well: quality housing that is relatively affordable, as well as

transportation options that conveniently connect residential areas with places of work, could have a positive effect.⁷⁰

6.3 Additional Recommendations for Strengthening Employment in Maryland's Defense Industry

Maryland's installations are an integral part of the state's economy. Through a series of white papers, the state could highlight the strengths of each military installation in Maryland. Publicizing the unique programs, benefits, and research at each installation would better

⁶⁹ Palma, "A Review of Migration Trends in Maryland," 14.

⁷⁰ Palma, "A Review of Migration Trends in Maryland," 38.

promote their worth and enhance public knowledge. The white papers should be widely disseminated and could be used to lobby against base closures should another BRAC round emerge. These white papers can also highlight the private-sector defense industry to show how Maryland's contributions to the military ecosystem, with regard to technology, research, and development is unique and tied to Maryland in particular.

Additionally, these white papers can serve to educate retired military personnel about the defense ecosystem in the state, further helping to attract military retiree families to live and work in Maryland.

7.0 Conclusion

As noted in the preamble of HB 1542, Maryland's defense industry provides significant economic benefits to the state, encompassing both government facilities and private-sector entities. Many jobs in the industry require a background in STEM fields, particularly computer science and cyber security. These positions often require the ability to work with sensitive information and to understand the military ecosystem.

While the defense industry's needs exceed the current supply of qualified workers at both the entry level and beyond, gaps are particularly pronounced for workers with significant experience and skills. Given these unique circumstances, retired military personnel are particularly qualified to meet the workforce needs of Maryland's defense industry. They have at least 20 years of experience working within the structure and processes of the armed forces and federal government, and typically leave the military with an active security clearance.

However, because they are such attractive job candidates, military retirees often have multiple employment offers as they transition into civilian life and employment. They have flexibility in deciding where to live. Multiple factors can go into these location decisions, including personal preference, family considerations; and overall cost of living. While some factors are outside of the state's control--for example, a military retiree family choosing to locate in a warm climate or near relatives--there are steps Maryland can take to make the state a more attractive location for retiring military personnel:

1. Strengthening STEM educational initiatives, particularly for underrepresented populations, which has the dual benefit of also addressing gaps for entry-level employees in the state's defense industry;
2. Ensuring that recruiting, hiring, and employment practices are aligned with military preference and values;
3. Expanding services and programming that helps members of the military as they transition into civilian life and employment; and
4. Taking steps to make Maryland more affordable for military retirees and their families, while reframing the high quality of life in the state as a good investment.

There's a great deal of patriotism that goes with people who have served in the military particularly for a long period of time. So to them, they feel like they're still serving their country by doing something in the defense realm. I have a lot of people who have retired that tell me that they are putting on a different uniform but they're still fighting for the same country.

-Manager, defense contractor

Particularly in regard to the last point above, the state can make Maryland more attractive for military retirees by fully exempting all military pensions from taxation. Not only does this reduce financial burden on military retiree families, who have dedicated their lives to service and community involvement, it also shows Maryland's commitment to supporting its military residents and thanking them for their continued service and support, improving the defense industry in the state.

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Appendix A—Additional Research in Response to Research Question 7

The DoD has been responsible for completing five BRAC rounds. The last round, in 2005, expanded the diversity of employment opportunities at Maryland installations. In particular, the expansion of the National Security Agency (NSA) and the opening of the U.S. Cyber Command on Fort Meade's campus expanded the state's cybersecurity-related footprint.⁷¹ The Defense Information Systems Agency's (DISA) move to the state during the last BRAC has had many positive long-term effects on the state's economy. The agency's move, along with other cyber-related agencies, made the area a hub for cyber-related activity.

Maryland has benefited in many ways as a result of this concentration of activity. For example, in FY 2013 DISA contracts amounted to \$1.0 billion dollars for Maryland-based businesses.⁷² More recently, the new 175th Cyberspace Operations Squadron Facility broke ground in Maryland and will be the only full spectrum Cyberspace Operations Group in the Air Force.⁷³ The state is poised to continue benefiting from its competitive advantage. The new proposed FY 2020 budget calls for an increase in funding for the cybersecurity budget to \$9.64 billion—an increase of about 10 percent above the FY 2019 spending.⁷⁴

Criteria for BRAC decisions in 2005 gave priority to the military value of each installation.⁷⁵ While the cost of operations was an important component of the decision making, it was also required to consider the impact on warfighting, as well as training and readiness.⁷⁶ In addition, there had to be consideration for the condition of the land, facilities, and airspace, as well as the ability to accommodate future needs.⁷⁷

Other considerations included measuring the economic impact to existing communities and the ability of the existing community to support forces, missions, and personnel.⁷⁸ BRAC activity has been limited since 2005 as the DoD has unsuccessfully attempted to secure another round of BRAC. While the last BRAC round had a net positive effect on employment in the state, there are no guarantees that subsequent rounds will have the same outcome.

Maryland's economy is particularly reliant on economic activity from military installations. In 2016, economic activity related to military installations amounted to 15.4 percent of the state's

⁷¹ "Base Realignment & Closure," State of Maryland, accessed, May 31, 2019, <http://www.brac.maryland.gov>

⁷² "Latest News," Fort Meade Alliance, accessed July 31, 2019, <http://www.ftmeadealliance.org/2015/09/disas-growing-impact-on-maryland/>.

⁷³ Lisa Rhodes "Maryland Welcomes Joint Cybercommand Facility to Fort Meade" Government Technology State & Local Articles - E.Republic, accessed July 31, 2019, <http://www.govtech.com/biz/Maryland-Welcomes-Joint-Cybercommand-Facility-to-Fort-Meade.html>

⁷⁴ Joe Warminsky "Trump's Cybersecurity Budget Emphasizes DOD While Spreading Cuts Elsewhere," FedScoop, accessed July 31, 2019, <http://www.fedscoop.com/cybersecurity-budget-2020-trump-white-house/>.

⁷⁵ U.S. Government Accountability Office, "Military Base Closures: Observations on Preparations for the Upcoming Base Realignment and Closure Round, GAO-04-558T (Washington, DC, 2004), 11, accessed July 9, 2019, <https://www.gao.gov/assets/120/110766.pdf>

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ Ibid.

GDP.⁷⁹ In FY 2016, installations in Maryland directly employed approximately 374,500 individuals.⁸⁰ Maryland's military installations are geographically dispersed throughout the state, including rural and metro locations alike. This factor is particularly important as base closures can have diametrically opposed effects on the local economy.

For any community, the closure of a military installation has significant impacts at the state, local, and regional level. Research studies that sought to discover the impact of base closings found mixed results.⁸¹ While empirical studies have discovered that the long-term effects of base closings are not catastrophic for most communities, the effects—both short- and long-term—on more rural areas tend to be less positive.⁸²

Favorable economic results were the norm in communities that were already economically diverse and had comprehensive plans for the future.⁸³ Economic outcomes were also particularly reliant on the strength or weakness of the national economic climate—a factor over which many communities have no real influence.⁸⁴

Empirical data on job, income, and population growth for communities impacted by base closures between 1961 and 1990 found that “on all measures analyzed, the average non-metro base-closing county fared worse than its metro counterparts.”⁸⁵ Researchers also discovered, “Base closings in communities that have been declining economically for some time, may produce different (and often more severe) impacts.”⁸⁶ Smaller communities were particularly hurt by the closing of a base because of their inability to stimulate recovery and redevelopment.⁸⁷

The loss of any major employer can either be an opportunity or a catastrophe for any community. A 2005 report by the Government Accountability Office (GAO) found that many communities across the United States were still recovering from prior closures.⁸⁸ Aside from the immediate impact from the loss of military and civilian jobs, the decline of local tax

⁷⁹ Daraius Irani, et al, “FY2016 Economic Impact Analysis of Maryland's Military Installations,” RESI of Towson University, 8, accessed June 19, 2019, <http://commerce.maryland.gov/Documents/ResearchDocument/economic-impact-analysis-of-marylands-military-installations-fy-2016.pdf>

⁸⁰ Ibid.

⁸¹ David Sorenson and Peter Stengberg, “The Effect of Military Base Closures on Rural County Economics: An Evaluation of the 1988-1995 Rounds of Cuts,” 168, *International Atlantic Economic Society*, accessed June 18, 2019, <https://link.springer.com/article/10.1007/s11294-015-9519-y>

⁸² Thomas D. Rowley and Peter L. Stengberg, “A Comparison of Military Base Closures: Metro and Nonmetro Counties, 1961-1990,” 3, *Economic Research Service*, accessed June 28, 2019, <https://ageconsearch.umn.edu/record/278693/?ln=en>.

⁸³ Ibid., 13

⁸⁴ Tadlock Cowan, “Military Base Closures: Socioeconomic Impacts, Congressional Research Service,” 2, accessed June 18, 2018, <https://fas.org/sgp/crs/natsec/RS22147.pdf>.

⁸⁵ Rowley and Stengberg, “A Comparison of Military Base Closures: Metro and Nonmetro Counties, 1961-1990,” 13.

⁸⁶ Cowan, “Military Base Closures: Socioeconomic Impacts, Congressional Research Service,” 2.

⁸⁷ Rowley and Stengberg, “A Comparison of Military Base Closures: Metro and Nonmetro Counties, 1961-1990,” 4.

⁸⁸ Cowan, “Military Base Closures: Socioeconomic Impacts, Congressional Research Service,” 4.

revenues can leave many communities unable to provide public services.⁸⁹ The ability for a community to pivot to a new economic reality relies on many factors (some that may be out of their control). No matter the location, having the ability to deal with the immediate impacts of base closing and developing successful plans for the future is an incredibly difficult task.

One example of the complexities of pivoting away from military use is the Fort Ritchie military base in Maryland. This particular army base was closed in 1998 as a result of the 1995 BRAC process.⁹⁰ In the 21 years since the closing of the base there have been a number of redevelopment deals that have not panned out. The county recently gifted developers 63 acres for free to spur development.⁹¹ Most recently 528 acres of the former base went up for sale for 3.5 million dollars—a price cut of nearly half from previous attempts at a sale.⁹² The lack of redevelopment activity on this site highlights the difficulties that rural military bases—even those without any environmental concerns—have when trying to redevelop these areas.

⁸⁹ Cowan, "Military Base Closures: Socioeconomic Impacts, Congressional Research Service," 2.

⁹⁰ Julie E. Greene, "Fort Ritchie Sale Price to Start at \$3.5M," Herald-Mail Media [Hagerstown, MD], March 20, 2019, accessed July 16, 2019, https://www.heraldmillmedia.com/news/local/fort-ritchie-sale-price-to-start-at-m/article_26e1a1dc-ac2c-51d0-adad-0d196be9a7c5.html.

⁹¹ Ibid.

⁹² Ibid.

Appendix B—Detailed Methodology

This section presents detailed methodology by research question.

B.1 Research Question 1

An identification of the types and approximate number of jobs within the defense industry facing a shortage of qualified workers over the next decade

In order to answer the first research question in HB1542, a working definition of what the defense industry consists of was developed as well as a determination of which occupations fall within that industry. To do so, RESI began by downloading award transaction data available at [USASpending.gov](https://www.usaspending.gov) for fiscal years (FY) 2017 and 2018.⁹³ By using all contracts within this data that indicated Maryland as the place of performance, RESI was able to obtain a snapshot of Maryland's defense industry over the past two years. For each fiscal year, RESI estimated the total value of all contracts made to each six-digit North American Industrial Classification System (NAICS) code. RESI restricted its analysis to those industries that received at least \$1.0 billion in total funding in either FY2017 or FY2018. This allowed RESI to focus solely on those industries which represent a significant proportion of Maryland's defense industry.

To convert these industries into a list of defense-related occupations, RESI used crosswalks provided by the Bureau of Labor Statistics (BLS) which detail the occupations employed within each industry at the national level. RESI used these national employment patterns, in concert with state-level Quarterly Census of Employment and Wages (QCEW) data, to estimate the number of defense-reliant jobs by occupation within Maryland.⁹⁴ These estimates of defense-reliant jobs were compared with statewide OES (Occupational Employment Statistics) figures for the number of jobs in each occupation to create an estimated percentage of defense-reliant jobs for that occupation.

For the final list of occupations, RESI restricted its analysis to only those occupations requiring at least a bachelor's degree, based on the assumption that higher education requirements are more likely to result in shortages of qualified workers. Educational requirements were sourced from BLS. The data were further restricted to contain only those jobs with the largest impact on the defense industry. For this purpose, RESI removed any position estimated to be less than 20 percent reliant on Maryland's defense industry. Finally, any occupations which were estimated to have fewer than 100 total defense-reliant positions in the state were also removed.

Following this process, certain occupations were added back to the list to more accurately represent the spectrum of skilled jobs within Maryland's defense industry. These occupations included first-line supervisors of skilled trades, including construction trades, extraction

⁹³ "Award Data Archive", [USASpending.gov](https://www.usaspending.gov), accessed June 10, 2019, https://www.usaspending.gov/#/download_center/award_data_archive.

⁹⁴ "May 2018 National Industry-Specific Occupational Employment and Wage Estimates," Bureau of Labor Statistics, accessed June 10, 2019, <https://www.bls.gov/oes/current/oesrci.htm>.

workers, mechanics, installers, and repairers; as well as mathematicians and general and operations managers.

After identifying the occupations that constitute the defense industry, RESI analyzed the current and potential future labor market structure for each occupation. To understand future employment levels, there are generally six variables to consider for a given occupation:

1. The current employment level,⁹⁵
2. Projected growth of the occupation,⁹⁶
3. The number of workers employed in the occupation who will leave the labor force each year for retirement or other reasons,⁹⁷
4. The number of workers employed in the occupation who will change jobs for another separate occupation (in other words, transfers out of an occupation),⁹⁸
5. The number of workers employed in another occupation who will change jobs and work in the occupation of interest (in other words, transfers into an occupation),⁹⁹ and
6. The number of new graduates eligible to work in the occupation.¹⁰⁰

The current employment level represents the number of workers employed in a particular occupation as of 2016. For example, in 2016 there were 171,539 people working in Management Occupations. Between 2016 and 2026 (the most recent ten year forecast available), the Maryland Department of Labor projects an additional 10,466 Management positions will be created in Maryland. However, a number of workers will be leaving the occupation as well. Workers will separate from their occupations for a variety of reasons, but can be categorized into two groups: those who exit completely from the labor force (e.g., retire) and those who transfer out of a particular occupation but remain employed (e.g., moving from a management analyst position to an accountant).

These variables all form the demand side of the labor market. The supply side of the market includes workers flowing into a particular occupation. This could be due to those transferring in from another occupation or those newly minted graduates who are applying for a position for the first time. For example, a position as an accountant may be filled by someone who transfers in from another occupation (i.e., management analyst) or by someone who just completed their bachelor's degree in accounting. By putting all these variables together, RESI is able to paint a clear picture of the demand and supply structure at the occupational level. If demand exceeds supply for a particular occupation, a shortage is observed; whereas if supply exceeds demand, a surplus is observed.

⁹⁵ "Maryland Occupational Projections - 2016-2026 - Workforce Information and Performance," Maryland Occupational Projections - Office of Workforce Information and Performance (OWIP), accessed June 17, 2019, <https://www.dlfr.state.md.us/Imi/iandoproj/maryland.shtml>.

⁹⁶ Ibid.

⁹⁷ Ibid.

⁹⁸ Ibid.

⁹⁹ "Occupational Summary," Maryland Workforce Exchange, accessed June 17, 2019, <https://mwejobs.maryland.gov/vosnet/Imi/default.aspx?pu=1&plang=E>.

¹⁰⁰ "Integrated Postsecondary Education Data System," National Center for Education Statistics, accessed June 17, 2019, <https://nces.ed.gov/ipeds/use-the-data>.

It is worth noting that not all job openings are created equal; a company looking to replace a retiree often requires more skilled and experienced candidates than when the same company looks to fill a brand new position. Therefore, RESI chose to measure employment levels for both skilled workers and entry-level workers for each occupation. Skilled workers are those with more experience, while entry-level workers are generally workers who have just graduated.

After analyzing the labor market structure for occupations within the defense industry, significant gaps—or shortages—emerged across the economy. To measure these shortages, RESI calculated occupational gaps for both skilled and entry-level workers—termed the “skilled gap” and the “entry-level gap,” respectively. The skilled gap reflects the shortage as it relates to exits from an occupation that are not filled by transfers into that particular occupation. The entry-level gap, on the other hand, measures the number of newly created positions that exceed Maryland’s current supply of graduates. Note that when this number is less than zero, this does not imply that the graduates will be unemployed; rather, this likely reflects a skills/experience mismatch. An overview of the gap analysis definitions is presented below:

$$\begin{aligned} \text{Total Gap} &= \text{Skilled Gap} + \text{Entry Level Gap} \\ \text{Skilled Gap} &= \text{Exits} + (\text{Transfers Out} - \text{Transfers In}) \\ \text{Entry Level Gap} &= \text{Growth in New Positions} - \text{Graduates} \end{aligned}$$

To estimate the entry-level gap, RESI used data from the Maryland Department of Labor’s most current ten year forecast period of 2016 to 2026; total occupational demand for estimating the this gap was calculated as the annualized sum of the jobs generated through new growth.¹⁰¹ Data from the National Center for Education Statistics (NCES) were subsequently used to determine the total supply of graduates produced by Maryland.¹⁰² The latest year of fully available data was used to estimate the annual number of graduates produced at the Classification of Instructional Programs (CIP) code level, which corresponds with educational majors.

Once the total supply (number of graduates) and total demand (number of new positions) numbers were configured, the two datasets were merged. This was completed using a SOC-to-CIP code crosswalk available through NCES.^{103,104} Finally, to calculate the entry-level gap, the number of graduates was subtracted from the number of new positions created for each occupation.

¹⁰¹ “Maryland Occupational Projections - 2016-2026 - Workforce Information and Performance,” Maryland Occupational Projections - Office of Workforce Information and Performance (OWIP).

¹⁰² “Integrated Postsecondary Education Data System,” National Center for Education Statistics.

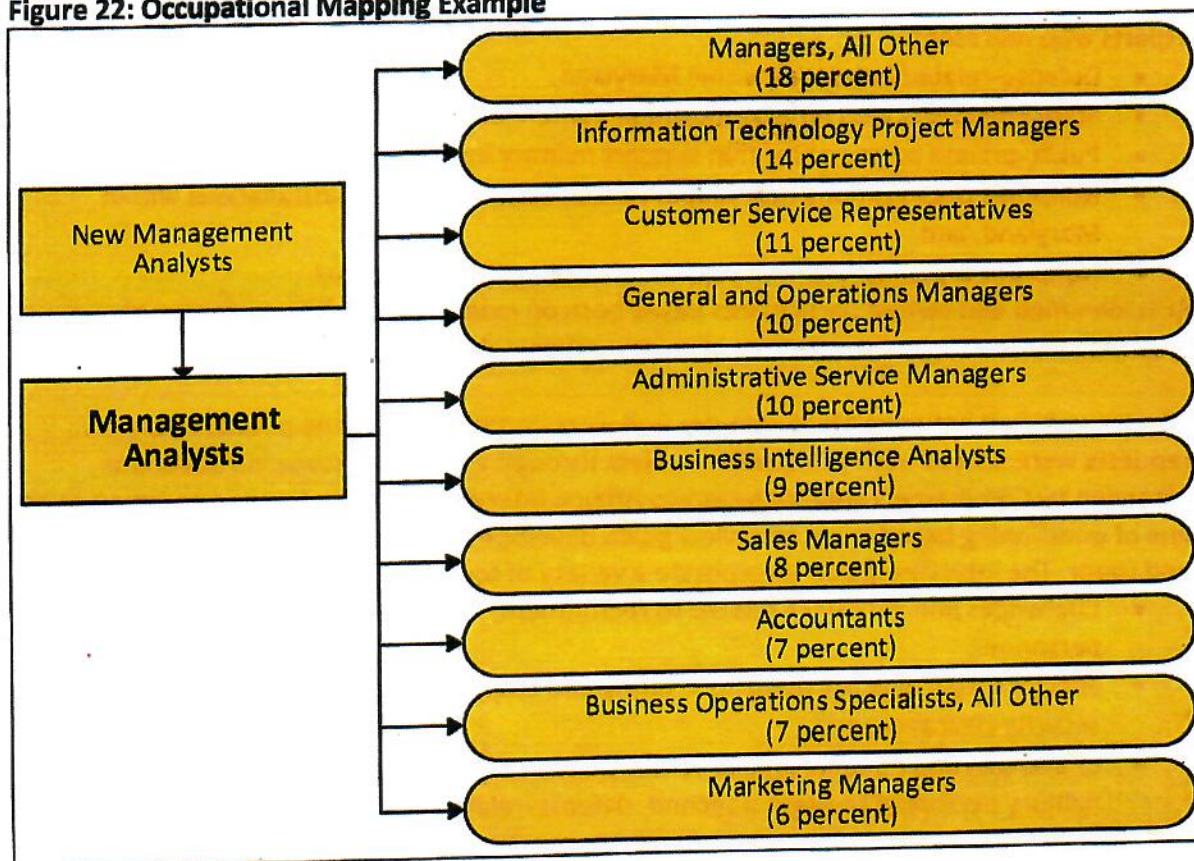
¹⁰³ CIP User Site, National Center for Education Statistics, accessed June 17, 2019, <https://nces.ed.gov/ipeds/cipcode/resources.aspx?y=55>.

¹⁰⁴ Because of the one-to-many nature of the crosswalk (i.e., one occupation can map to many different CIP codes), an algorithm was developed to distribute the number of jobs/graduates based on projected occupational demand. The algorithm weighs jobs with the most projected job openings as most likely to attract new graduates, assuming employers will need to compete to attract workers.

Next, to estimate the skilled gap, the annualized number of occupational exits and transfers was used from the Maryland Department of Labor projections data. Since the Maryland Department of Labor data only reflect transfers out of a particular occupation, OES data on job-to-job transfers were used to estimate the net transfers for each occupation. Net transfers are defined as transfers out minus the transfers in. The Maryland Department of Labor provides data on transfers out, while the Maryland Workforce Exchange (MWE) provides data on transfers in.

For example, as shown in the flow chart below, if an individual is a Management Analyst, then the most common occupations for their next jobs would be Managers, All Other and Information Technology Project Managers; at 18 percent and 14 percent, respectively. This percent is then applied to the number of transfers out of the old occupations as detailed by the Maryland Department of Labor projections data to estimate the number of transfers into the new occupations. The net transfers are then the transfers out minus the transfers in.

Figure 22: Occupational Mapping Example



Sources: MWE, RESI

To further illustrate this process, suppose—hypothetically—that 100 individuals are forecasted to transfer out of the Management Analyst occupation. Using MWE data, RESI can estimate that six of those individuals will be promoted to Marketing Managers, seven will become

Accountants, and so on. Thus, by using both datasets, a complete network of transfers out and transfers in can be drawn.

The estimated number of net transfers—or transfers out minus transfers in—is added to the number of labor force exits to get the skilled gap. Finally, the total gap is calculated as the sum of the skilled gap and the entry-level gap.

B.2 Research Questions 2 and 4

A discussion of factors affecting the availability of qualified employees for employment in Maryland's defense industry; identify and report any recommendations to facilitate the recruitment of retired military personnel for positions in the state's defense industry

Many factors affect the availability of qualified workers for Maryland's defense industry. While the literature provides context regarding these factors, primary research methods provide more specific insight to the specific realities that are specific to the state. To gain diverse perspectives from a variety of stakeholders, interviews were conducted with subject matter experts who represent:

- Defense-related industries within Maryland,
- State employers who employ individuals where an active security clearance is required,
- Public-private partnerships that support military installations within Maryland,
- Nonprofit organizations that support the missions of military installations within Maryland, and
- Nonprofit organizations that support retired military personnel.

RESI identified and invited participants based both on research as well as professional recommendations from Commerce, Labor, and other stakeholders.

Interviews lasted between 15-45 minutes and were conducted over the phone. Interview requests were sent to each prospective subject through email, with some introductions extended by Commerce, Labor, or Veterans Affairs. Interviews followed a general structure and line of questioning based on an interview guide developed by RESI and approved by Commerce and Labor. The interview guide incorporate a variety of topics, including:

- Challenges and successes related to recruitment, hiring, and retention of retired military personnel;
- Specifics regarding the demand in hiring and employing retired military with an active security clearance; and
- Challenges and benefits unique to Maryland in regard to being a place for retired military personnel to begin a second, defense-related career.¹⁰⁵

To view the interview guide in its entirety, please see Appendix C.1. Findings from the interviews have been summarized, anonymized, and integrated into the full report.

¹⁰⁵ Note that the respondents recruited for the interviews will be asked about topics spanning multiple Research Questions.

In addition to identifying factors affecting the availability of qualified employees, data collected from the interviews, and informed by the literature, formed the basis of recommendations to facilitate the recruitment of retired military personnel for positions in the state's defense industry, contained in Section 6.

B.3 Research Question 3

An estimation of the number of retired military personnel in Maryland who are eligible for employment in Maryland's defense industry, including personnel who hold, have held, or are qualified to hold security clearances

To estimate the number of retired military personnel in Maryland, RESI used the number of military retirees in the state as listed in the Department of Defense (DoD) Office of the Actuary Statistical Report on the Military Retirement System for Fiscal Year 2018.¹⁰⁶ RESI then estimated the number of personnel eligible for employment by using age-weighted labor force participation rates from the BLS.¹⁰⁷

To apply the age-weighted participation rates, RESI approximated the number of military retirees in each age group by using the national breakdown of military retirees receiving retired pay, by age.¹⁰⁸ Since the age breakdown of military retirees nationally differs from the breakdown of military retirees in Maryland, the approximation was weighted to match the number of military retirees in Maryland aged 65 or older.¹⁰⁹

The number of personnel who hold or are qualified for security clearances was based on information gained from interviews with subject-matter experts, in addition to publically available data.

B.4 Research Question 5

A review of the effects of Maryland's tax structure on the employment decisions of Maryland's retired military personnel

Two methodological approaches have been used to review the effects of Maryland's tax structure on employment decisions of military retirees. First, a literature and secondary data review provides context on military retirement in Maryland and the factors that can go into employment and relocation decisions of military retirees. It also provides an overview of pension tax policies among Maryland, neighboring states, and other states with military research and development ecosystems. In addition, information gathered from stakeholder interviews has been integrated into answering this research question.

¹⁰⁶ U.S. Department of Defense Office of the Actuary, "Statistical Report on the Military Retirement System," 24, accessed June 10, 2019, https://media.defense.gov/2019/May/14/2002131753/-1/-1/0/MRS_STATRPT_2018%20V5.PDF.

¹⁰⁷ U.S. Bureau of Labor Statistics, "2019 Labor Force Participation Rates," accessed June 10, 2019, <https://www.bls.gov/cps/cpsaat03.htm>.

¹⁰⁸ U.S. Department of Defense Office of the Actuary, "Statistical Report on the Military Retirement System," 52.

¹⁰⁹ Ibid, 27.

In addition to the qualitative analysis, an IMPLAN analysis quantified the economic and fiscal impact of a military retiree household residing in the state of Maryland. This analysis considers the impacts associated with household spending (for example, groceries and mortgage or rent payments) but does not account for employment that the retiree or any family members may hold. IMPLAN is an input/output model that estimates the secondary effects of a dollar spent in the economy. For this analysis, the IMPLAN model estimated the impacts associated with household spending, which include:

- Additional employment supported in the state,
- Additional gross state product,
- Additional employee compensation, and
- Tax revenues at the state and local levels.

When considered together, these impacts represent the economic activity associated with a household residing in Maryland as opposed to another state.

To develop the inputs for this analysis, RESI used the median household income for the state of Maryland as a baseline income level, sourced from the U.S. Census Bureau American Community Survey Five-Year Estimate for 2017. This was used as a conservative measure of household income, as military retiree households tend to have higher household income levels than the median.¹¹⁰

This was also a conservative estimate in light of median household income by age of householder. Median household income for a household with householder aged 45-64 years (where military retirees of traditional working age are likely to fall) was \$95,503 in 2017, \$16,587 higher than overall median household income.¹¹¹ On the other hand, median household income for a household over age 65 was \$54,844, lower than the overall median.

Given that Maryland has an outsize proportion of military retirees under age 65 residing in the state, the income level for the "typical" military retiree household in the state is likely more in line with the \$95,503 figure. However, to not overstate the impact, the statewide median household income figure was used.

Figure 23: 2017 Maryland Median Household Income by Age of Householder

Age Bracket	Median Household Income
15 to 24 years	\$37,845
25 to 44 years	\$82,040
45 to 64 years	\$95,503
65 years and over	\$54,844

Source: U.S. Census Bureau

¹¹⁰ Pace, "Analysis of Military Retirees in Utah: Impacts, Demographics, and Tax Policy," 11.

¹¹¹ "\$1903: Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars)," U.S. Census Bureau, accessed August 28, 2019, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_5YR_S1903&prodType=table.

The average annual pension paid to a military retiree in Maryland was added to this baseline income level, based on the statistical report provided by the DoD Office of the Actuary. Figure 24 shows the breakdown of how inputs were developed for the IMPLAN modeling process. These figures represent the typical household in Maryland, using the overall median household income in the state and the average annual military pension payment in Maryland for all ages.

Figure 24: Input Development for the Economic and Fiscal Analysis

Median Household Income	Average Annual Military Pension Payment	Total Income
\$78,916	\$30,682	\$109,598

Sources: U.S. Census Bureau, DoD Office of the Actuary, RESI

The total income figure presented above forms the basis of the economic and fiscal analysis; the IMPLAN model then calculates additional economic activity and the associated state and local tax revenues, based on standardized household spending patterns for households matching this income level.

B.5 Research Question 6

An estimation of the number of jobs in Maryland that require a security clearance, and the number of retired military personnel who work in defense industry jobs requiring a security clearance

RESI used two distinct methodologies to set bounds on the estimated number of jobs in Maryland that require a security clearance. Both methodologies estimate the total jobs requiring a security clearance as the sum of the number of currently filled jobs in Maryland as well as those jobs that are currently unfilled:

$$\text{Total Jobs} = \text{Filled Positions} + \text{Unfilled Positions}$$

Under both methodologies, the unfilled positions are estimated from ClearanceJobs.¹¹² As of July 10, 2019, there were 5,573 advertised positions that require a security clearance in Maryland.

For the first methodology, the following steps were undertaken to estimate the number of filled positions:

1. The Maryland Workforce Exchange estimates that there were a total of 112,063 positions open in Maryland (also taken as of July 10, 2019).¹¹³
2. This implies that the 5,573 security clearance jobs make up about 5 percent of the currently advertised positions.

¹¹² Clearancejobs.com, accessed July 10, 2019, <https://www.clearancejobs.com>.

¹¹³ "Maryland Workforce Exchange – Labor Market Information," Maryland Department of Labor, accessed July 10, 2019, <https://mwejobs.maryland.gov>.

3. Applying this ratio to the current total number of non-farm jobs in Maryland (2,762,100)¹¹⁴ yields a total of 138,105 filled positions that are estimated to require a security clearance.
4. Adding these filled positions (138,105) to the unfilled positions (5,573) yields the total jobs estimate of 143,678.

A similar approach is used for the second methodology to estimate the number of positions requiring a security clearance:

1. RESI used data from USASpending to estimate the percent of Department of Defense contracts that Maryland holds relative to the rest of the US.¹¹⁵ For 2019, RESI estimated that Maryland receives almost 2.8 percent of the current total value of awarded Department of Defense contracts in the US.
2. Under perfect matching, this 2.8 percent is applied to the estimated 3.4 million security clearance jobs for the US as a whole (also from ClearanceJobs), bringing the filled jobs total to 95,200.
3. Adding in the unfilled positions from ClearanceJobs (5,573), this yields an estimated total of 100,773 jobs that require security clearances in Maryland.

The number of retired military personnel in the state was obtained from the DoD Office of the Actuary statistical report. Using a similar methodology to Research Question 3, RESI estimated the number of current military retirees working in Maryland. However, instead of using labor force participation rates, employment rates for each age group were used to capture those who are currently employed.

B.6 Research Question 7

A discussion of the implications on employment at military installations that have been or may be under threat to close during a future round of BRAC (Base Realignment and Closure).

The implications of the closure of military installations includes a literature review. The analysis focused on finding empirical studies related to the short-term as well as long-term impacts of military base closures. In addition, information gathered from the interviews contributed to research regarding this question.

¹¹⁴ "Table 3. Employees on Nonfarm Payrolls by State and Selected Industry Sector, Seasonally Adjusted," U.S. Bureau of Labor Statistics, May 17, 2019, accessed June 17, 2019, <https://www.bls.gov/news.release/laus.t03.htm>.

¹¹⁵ "Award Data Archive", USASpending.gov, accessed July 10, 2019, https://www.usaspending.gov/#/download_center/award_data_archive.

Appendix C—Additional Research Materials

This appendix contains additional research materials that provide more detail regarding RESI's approach to this project.

C.1 Interview Guide

The text below served as a guide during the interview process. Please note that not all respondents answered every question and that some participants provided information that does not align with specific questions.

Hello. Thank you again for agreeing to speak with me today. My name is <<Interviewer Name>> and I work for Towson University's Regional Economic Studies Institute, or RESI. We are conducting a research project on behalf of the Maryland Department of Commerce and Department of Labor (Labor), examining the existing and potential workforce of military retirees in Maryland, as well as how this workforce is affected by the state's tax structure and the need for security clearances. As part of this research, we are very interested in hearing about your experiences and opinions in regards to these issues.

Your responses in this interview will be shared with RESI research team members, and any information included in our final report to the Maryland Department of Commerce and Labor will NOT identify you by your name.

Do you have any questions about what I have just explained?

Do I have your permission to continue the interview while tape-recording your responses?

Human Resources (Military Installations and Contractors)

1. *Please tell me a little about your company and the work you do with the defense industry in Maryland.*
2. *What is the single greatest challenge you face related to hiring at your company/installation?*
3. *Are there enough qualified employees in Maryland to fill your available positions?*
 - a. *(IF NO) In what way are your current candidates unqualified?*
 - b. *Is there anything the state of Maryland can do to better help you fill your positions?*
4. *Do you have any employees with a security clearance that work at your company/installation?*
 - a. *What proportion of your total employees would you say have a security clearance?*
 - b. *What proportion of total jobs at your company require a security clearance?*
 - i. *Do you think this proportion is typical for other businesses like yours?*
5. *Do you have any retired military personnel that work for your company/installation?*
 - a. *Do you try to specifically attract retired military personnel to work for your company/installation?*

4. *Do you see a shortage of qualified employees for positions in the defense industry in general?*
 - a. *If yes, what have you done thus far to address this shortage?*
 - b. *What do you think the root cause of this shortage is?*
 - c. *Is there anything the state of Maryland could do to improve this situation?*
5. *In your estimation, how frequently is a security clearance required for work within the defense industry?*
 - a. *In your experience, do you think that possessing a security clearance makes a military retiree a more attractive candidate? Why or why not?*
 - b. *For retired military personnel who do not have security clearances, do you think it is easier for them to receive security clearances?*
6. *If [your installation] were to close as a result of a future round of BRAC, what would be the impact to the surrounding area?*
 - a. *Employment?*
 - b. *General economy?*

Retired Military Personnel

1. *How long were you in the military?*
 - a. *Could you tell me a little about your service? What did you do / skills?*
 - b. *How long ago did you retire?*
2. *What is your current career?*
 - a. *What was your first job out of the military? Is this the same career?*
 - b. *Is this what you expected to do?*
 - c. *How did your skills from the military translate into civilian work?*
3. *Do you live in MD? Work in MD?*
 - a. *Why did you choose to live/work in MD?*
 - b. *Did you consider any other locations? Why?*
4. *Do you have a security clearance?*
 - a. *Do you use the clearance in your current position?*
 - b. *Did you obtain the clearance while in the military?*
 - c. *How valuable was the clearance for obtaining civilian work?*

C.2 Interview Participants List

Figure 25 below contains information regarding the individuals who participated in interviews for this study, including their organization affiliation and their role within the organization.

Figure 25: List of Interview Participants

Name	Organization	Position/Title
Bruce England	Susquehanna Workforce Network	Executive Director
Ivan Caplan	Maritime Technology Alliance	President
Tom Albro	Army Alliance	President
Doreen E. Harwood	Fort Meade Alliance	President
Henry "Hank" Abromson	Fort Detrick Alliance	President
Denise Bourdeaux	Military Corps Career Connect	Program Manager
Bruce Spector	Baltimore Cyber Range	Chairman
LeRoy Thomas	Labor	Veterans Program Manager
Tim O'Ferrall	Fort Meade Alliance	General Manager
Hugh McClean	The Bob Parsons Veterans Advocacy Clinic	Director
David Tohn	BTS Software Solutions	CEO
Patrick Mullin	Contractor at APG	Program Manager
Annie Brock	MOAA	Past President
Dr. Tony Hernandez	N/A	Recent military retiree
Gary Kessler	Kessler Integrated Systems Solutions LLC; Southern Maryland Navy Alliance	Owner; Vice President; Recent military retiree
Harry Quinn	N/A	Recent military retiree
Jennifer Rios	Pinnacle Software Consulting	CEO
Robert Norton	Maryland Military Officers Association of America	1st Vice President
Arthur Cooper	Maryland Military Coalition	Co-Chair
Joselyn Uribe-Huitron	SFL-TAP at APG	Director of Military Personnel
David Peterson	Maryland MOAA, Montgomery County Chapter	President
Harvey Kaplan	Maryland Military Officers Association of America	Immediate Past President / Legislative Liason
Tamera Rush	Tenax Technologies	CEO
Jack Gumbert	Vice President / Army CSISR Business Area Manager	Leidos

Source: RESI

C.3 Full Occupations Lists

While Figure 4 contained the top ten occupations in terms of the number of defense reliant jobs, Figure 26 contains the number of defense-reliant jobs for all occupations considered in the analysis.

Figure 26: Number of Defense-Reliant Jobs for Occupations in the Defense Industry

Detailed Occupation Code	Occupation Title	Defense-Reliant Jobs
15-1132	Software Developers, Applications	13,947
15-1121	Computer Systems Analysts	8,288
13-1111	Management Analysts	8,044
11-1021	General and Operations Managers	7,865
15-1133	Software Developers, Systems Software	7,080
17-2051	Civil Engineers	5,488
13-1199	Business Operations Specialists, All Other	4,833
11-3021	Computer and Information Systems Managers	4,628
15-1199	Computer Occupations, All Other	4,281
15-1131	Computer Programmers	3,941
15-1142	Network and Computer Systems Administrators	3,486
17-2141	Mechanical Engineers	3,348
17-2071	Electrical Engineers	3,038
11-9041	Architectural and Engineering Managers	2,716
17-1011	Architects, Except Landscape and Naval	2,628
19-1042	Medical Scientists, Except Epidemiologists	2,249
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	2,179
15-1143	Computer Network Architects	1,983
17-2112	Industrial Engineers	1,886
11-9021	Construction Managers	1,791
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,675
15-1122	Information Security Analysts	1,529
17-2199	Engineers, All Other	1,506
11-2022	Sales Managers	1,459
17-2072	Electronics Engineers, Except Computer	1,331
19-4021	Biological Technicians	1,286
29-1131	Veterinarians	1,176
17-2061	Computer Hardware Engineers	1,139
13-1081	Logisticians	1,112
11-9121	Natural Sciences Managers	1,062
19-2041	Environmental Scientists and Specialists, Including Health	1,050
17-2011	Aerospace Engineers	1,026
17-1022	Surveyors	1,006
15-1141	Database Administrators	957
15-2031	Operations Research Analysts	952
19-2031	Chemists	945

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Detailed Occupation Code	Occupation Title	Defense-Reliant Jobs
19-1021	Biochemists and Biophysicists	884
11-1011	Chief Executives	872
17-2081	Environmental Engineers	837
13-2053	Insurance Underwriters	712
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	712
27-3042	Technical Writers	709
27-3031	Public Relations Specialists	696
11-3121	Human Resources Managers	632
41-9031	Sales Engineers	618
11-3051	Industrial Production Managers	541
15-2041	Statisticians	539
27-3091	Interpreters and Translators	455
29-9011	Occupational Health and Safety Specialists	439
19-2042	Geoscientists, Except Hydrologists and Geographers	405
17-1012	Landscape Architects	362
17-2161	Nuclear Engineers	309
17-2041	Chemical Engineers	290
17-2131	Materials Engineers	260
15-2011	Actuaries	236
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	234
17-2031	Biomedical Engineers	231
19-3022	Survey Researchers	224
43-3061	Procurement Clerks	155
27-1021	Commercial and Industrial Designers	147
19-2032	Materials Scientists	126
17-1021	Cartographers and Photogrammetrists	121
19-2021	Atmospheric and Space Scientists	120
17-2121	Marine Engineers and Naval Architects	109
43-9111	Statistical Assistants	89
15-2021	Mathematicians	30
15-2090	Miscellaneous Mathematical Science Occupations	14

Sources: BLS, Labor, NCES, RESI, USASpending

Figure 5 contained the top ten occupations in terms of average monthly job openings noted on Maryland Workforce Exchange during the second quarter of 2019. Figure 27 contains the number of average job openings for each occupation included in the analysis.

Figure 27: Number of Monthly Job Openings for Occupations in the Defense Industry, Q2 2019

Detailed Occupation Code	Occupation Title	Monthly Job Openings
15-1131	Computer Programmers	3,175
15-1142	Network and Computer Systems Administrators	2,220
15-1132	Software Developers, Applications	1,554
17-2199	Engineers, All Other	1,428
15-1133	Software Developers, Systems Software	1,331
15-1121	Computer Systems Analysts	1,253
11-1021	General and Operations Managers	1,160
11-2022	Sales Managers	1,110
13-1111	Management Analysts	1,095
13-1199	Business Operations Specialists, All Other	985
15-1122	Information Security Analysts	733
15-1143	Computer Network Architects	703
15-1141	Database Administrators	607
17-2071	Electrical Engineers	485
27-3042	Technical Writers	467
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	355
17-2141	Mechanical Engineers	339
11-9021	Construction Managers	316
15-1199	Computer Occupations, All Other	304
17-2051	Civil Engineers	297
11-3021	Computer and Information Systems Managers	286
11-1011	Chief Executives	283
11-9041	Architectural and Engineering Managers	283
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	270
15-2031	Operations Research Analysts	240
27-3091	Interpreters and Translators	193
19-1021	Biochemists and Biophysicists	184
27-3031	Public Relations Specialists	177
13-1081	Logisticians	169
11-3121	Human Resources Managers	151
29-1131	Veterinarians	141
19-1042	Medical Scientists, Except Epidemiologists	131
17-2061	Computer Hardware Engineers	126
19-2041	Environmental Scientists and Specialists, Including Health	116
17-2112	Industrial Engineers	111
17-2011	Aerospace Engineers	92
15-2041	Statisticians	85
17-2072	Electronics Engineers, Except Computer	78
19-4021	Biological Technicians	77

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Detailed Occupation Code	Occupation Title	Monthly Job Openings
19-2031	Chemists	67
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	58
11-9121	Natural Sciences Managers	58
43-3061	Procurement Clerks	57
41-9031	Sales Engineers	51
27-1021	Commercial and Industrial Designers	45
17-2031	Biomedical Engineers	43
29-9011	Occupational Health and Safety Specialists	41
13-2053	Insurance Underwriters	38
11-3051	Industrial Production Managers	26
17-1012	Landscape Architects	25
17-1022	Surveyors	24
17-2081	Environmental Engineers	23
17-1011	Architects, Except Landscape and Naval	21
15-2011	Actuaries	18
17-2041	Chemical Engineers	16
19-3022	Survey Researchers	14
19-2021	Atmospheric and Space Scientists	13
17-2131	Materials Engineers	9
19-2042	Geoscientists, Except Hydrologists and Geographers	9
15-2021	Mathematicians	7
17-2161	Nuclear Engineers	3
43-9111	Statistical Assistants	2
19-2032	Materials Scientists	1
17-1021	Cartographers and Photogrammetrists	1
Total		23,779

Source: Maryland Workforce Exchange

C.4 Detailed IMPLAN Impacts

The figures below present the industry-level impacts of a hypothetical military retiree household's spending. These impacts are associated solely with household spending (for example, groceries and mortgage or rent payments) and do not include economic activity associated with any employment that the retiree or any family members may hold in Maryland's economy.

Figure 28: Detailed Employment Impacts Associated with Household Spending of a Military Retiree Household

	Direct	Indirect	Induced	Total
Agriculture	0.00	0.00	0.00	0.00
Mining	0.00	0.00	0.00	0.00
Utilities	0.00	0.00	0.00	0.00
Construction	0.00	0.00	0.01	0.01
Manufacturing	0.00	0.00	0.00	0.00
Wholesale Trade	0.00	0.00	0.02	0.02
Retail Trade	0.00	0.00	0.11	0.11
Transportation and Warehousing	0.00	0.00	0.02	0.02
Information	0.00	0.00	0.01	0.01
Finance and Insurance	0.00	0.00	0.05	0.05
Real Estate and Rental and Leasing	0.00	0.00	0.04	0.04
Professional, Scientific and Technical Services	0.00	0.00	0.03	0.03
Management of Companies and Enterprises	0.00	0.00	0.00	0.00
Administrative and Support and Waste Management and Remediation Services	0.00	0.00	0.04	0.04
Educational Services	0.00	0.00	0.03	0.03
Health Care and Social Services	0.00	0.00	0.16	0.16
Arts, Entertainment and Recreation	0.00	0.00	0.02	0.02
Accommodation and Food Services	0.00	0.00	0.09	0.09
Other Services	0.00	0.00	0.08	0.08
Government	0.00	0.00	0.01	0.01
Total	0.00	0.00	0.73	0.73

Sources: DoD Department of the Actuary, IMPLAN, RESI, U.S. Census Bureau

Figure 29: Detailed Output Impacts Associated with Household Spending of a Military Retiree Household

	Direct	Indirect	Induced	Total
Agriculture	\$0	\$0	\$104	\$104
Mining	\$0	\$0	\$41	\$41
Utilities	\$0	\$0	\$3,061	\$3,061
Construction	\$0	\$0	\$1,425	\$1,425
Manufacturing	\$0	\$0	\$2,062	\$2,062
Wholesale Trade	\$0	\$0	\$4,110	\$4,110
Retail Trade	\$0	\$0	\$10,144	\$10,144
Transportation and Warehousing	\$0	\$0	\$2,782	\$2,782
Information	\$0	\$0	\$6,543	\$6,543
Finance and Insurance	\$0	\$0	\$13,851	\$13,851
Real Estate and Rental and Leasing	\$0	\$0	\$26,732	\$26,732
Professional, Scientific and Technical Services	\$0	\$0	\$4,678	\$4,678
Management of Companies and Enterprises	\$0	\$0	\$1,109	\$1,109
Administrative and Support and Waste Management and Remediation Services	\$0	\$0	\$3,365	\$3,365
Educational Services	\$0	\$0	\$2,241	\$2,241
Health Care and Social Services	\$0	\$0	\$18,063	\$18,063
Arts, Entertainment and Recreation	\$0	\$0	\$2,360	\$2,360
Accommodation and Food Services	\$0	\$0	\$6,126	\$6,126
Other Services	\$0	\$0	\$5,138	\$5,138
Government	\$0	\$0	\$984	\$984
Total	\$0	\$0	\$114,918	\$114,918

Sources: DoD Department of the Actuary, IMPLAN, RESI, U.S. Census Bureau

Figure 30: Detailed Employee Compensation Impacts Associated with Household Spending of a Military Retiree Household

	Direct	Indirect	Induced	Total
Agriculture	\$0	\$0	\$16	\$16
Mining	\$0	\$0	\$4	\$4
Utilities	\$0	\$0	\$351	\$351
Construction	\$0	\$0	\$422	\$422
Manufacturing	\$0	\$0	\$277	\$277
Wholesale Trade	\$0	\$0	\$1,395	\$1,395
Retail Trade	\$0	\$0	\$3,466	\$3,466
Transportation and Warehousing	\$0	\$0	\$922	\$922
Information	\$0	\$0	\$811	\$811
Finance and Insurance	\$0	\$0	\$3,886	\$3,886
Real Estate and Rental and Leasing	\$0	\$0	\$635	\$635
Professional, Scientific and Technical Services	\$0	\$0	\$2,009	\$2,009
Management of Companies and Enterprises	\$0	\$0	\$575	\$575
Administrative and Support and Waste Management and Remediation Services	\$0	\$0	\$1,564	\$1,564
Educational Services	\$0	\$0	\$1,429	\$1,429
Health Care and Social Services	\$0	\$0	\$9,204	\$9,204
Arts, Entertainment and Recreation	\$0	\$0	\$602	\$602
Accommodation and Food Services	\$0	\$0	\$2,149	\$2,149
Other Services	\$0	\$0	\$2,725	\$2,725
Government	\$0	\$0	\$546	\$546
Total	\$0	\$0	\$32,986	\$32,986

Sources: DoD Department of the Actuary, IMPLAN, RESI, U.S. Census Bureau

C.5 Copy of HB 1542

A copy of HB 1542 is found on the following pages.

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Chapter 795

(House Bill 1542)

AN ACT concerning

**Department of Commerce - Employment in the State's Defense Industry - ~~Army~~
Alliance Study**

FOR the purpose of requiring, subject to the receipt of certain funding, the Department of Commerce, in conjunction with the Department of Veterans Affairs and the Department of Labor, Licensing, and Regulation, to conduct a study on employment in the State's defense industry; specifying the minimum requirements of the study; requiring the Department of Commerce to consult with certain entities; requiring the Department of Commerce to report, on or before a certain date, to the General Assembly on the findings of the study; providing for the termination of this Act; and generally relating to a study on employment in the State's defense industry.

Preamble

WHEREAS, The State is home to 12 major military installations and 20 military facilities; and

WHEREAS, The State is also home to a number of defense industry organizations that, as major employers, provide substantial economic benefit to the State, accounting for almost one-fifth of the Maryland economy; and

WHEREAS, The workforce required to support these organizations, both public and private, is highly specialized and often requires a security clearance; and

WHEREAS, The personal income tax structure of the State may affect the availability of qualified employees for the State's defense industry, including employees with experience in cybersecurity matters; now, therefore,

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That:

(a) ~~The~~ Subject to the receipt of funding from a grant provided by the Office of Economic Adjustment within the United States Department of Defense or from any other source, the Department of Commerce, in conjunction with the Department of Veterans Affairs and the Department of Labor, Licensing, and Regulation, shall conduct a study of employment in the State's defense industry.

(b) The study required under subsection (a) of this section shall, at a minimum:

(1) identify the types, and estimate the approximate number, of jobs in the State's defense industry facing shortages of qualified employees for employment in the next decade at the qualification requirement for each broad occupational category;

(2) determine the factors affecting the availability of qualified employees for employment in the State's defense industry;

(3) calculate the approximate number of retired military personnel in the State who are eligible for employment in the State's defense industry, including those retired military personnel who hold, have held, or are qualified to hold security clearances;

(4) identify and report any recommendations to facilitate the recruitment of retired military personnel for positions in the State's defense industry;

(5) identify, assess, and quantify the effects, if any, of the State's personal income tax structure on the employment decisions of retired military personnel to:

(i) reside in the State for employment in the State's defense industry;

(ii) not relocate to the State for employment in the State's defense industry; and

(iii) leave the State for employment in another state's defense industry; ~~and~~

(6) examine the following issues related to the accessibility of positions in the State's defense industry:

(i) the number of jobs in the State that require a security clearance; and

(ii) the number of retired military personnel who are employed in State defense industry jobs that require a security clearance; ~~and~~

(7) consider implications on employment at military installations and military facilities in the State that have been, or may be, under threat to close in a future Base Realignment and Closure (BRAC) process.

(c) In conducting the study required under subsection (a) of this section, the Department of Commerce shall consult with:

(1) the State's defense industry;

(2) State employers who employ individuals in positions where a security clearance is required;

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(3) public-private partnerships that serve to support military installations in the State;

(4) nonprofit organizations that exist to support the mission of military installations in the State; and

(5) nonprofit associations that serve to support retired military personnel.

(d) On or before ~~December 31, 2018~~ June 30, 2019, the Department of Commerce shall report to the General Assembly, in accordance with § 2-1246 of the State Government Article, the findings of the study required under subsection (a) of this section.

SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect July 1, 2018. It shall remain effective for a period of 1 year and, at the end of June 30, 2019, this Act, with no further action required by the General Assembly, shall be abrogated and of no further force and effect.

Approved by the Governor, May 15, 2018.

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