

MILITARY ECONOMIC IMPACT ANALYSIS FOR EAST TENNESSEE | MAY 2017



### EAST TENNESSEE MILITARY AFFAIRS COUNCIL (ETMAC)

ETMAC is a non-profit organization that was founded in 1990 to recognize, encourage, support and advocate on behalf of military activities in East Tennessee. In cooperation with the Knoxville Chamber, ETMAC:

- Informs community, business, education, and government leaders about East Tennessee military units, their missions, and their contribution to the local economy.
- Serves as a liaison between military units, military-related organizations, and the public.
- Helps the community avoid "loss by default" of military offices, detachments, and installations.
- Helps military people and their families understand that East Tennessee values them as members of the community.
- Promotes and supports military events and functions.
- Supports area military recruiters.
- Promotes the Employer Support of the Guard and Reserve (ESGR) Program.
- Supports charitable, scientific, and educational programs and events.

ETMAC sponsors and supports several military-related activities including:

- Annual Knoxville Veteran's Day Luncheon
- Colonel Jack K. Westbrook (USAF, Ret.) Army and Air Force ROTC Scholarships, University of Tennessee
- Veteran's Day Parade
- HonorAir Knoxville
- Pearl Harbor Day Remembrance Ceremony
- Mountain Man Memorial March
- Military Units' Family Days and Special Events
- Smoky Mountain Air Show

ETMAC membership is open to any individual, business, or organization. Visit the ETMAC website at <a href="https://www.ETMAC.org">www.ETMAC.org</a> or contact the Knoxville Chamber at 865-637-4550 and ask for the "ETMAC representative."

#### **EXECUTIVE SUMMARY**

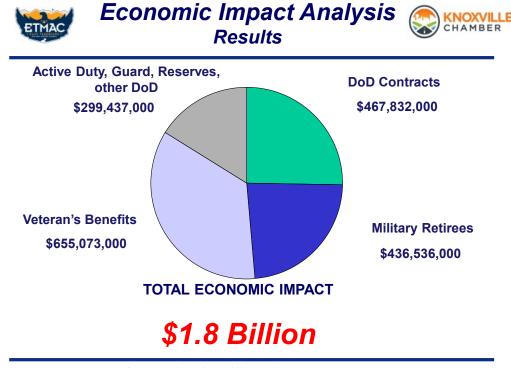
This Military Economic Impact Analysis is an update of the last analysis completed in early 2014. Like previous analyses, the purpose is to provide business and civic leaders, and the public at large, a complete picture of the very significant contribution that the military and defense programs make to the economy of East Tennessee.

<u>Methodology</u>: The analysis follows standard Department of Defense methodology for determining the cumulative economic impact within fifty miles of Knoxville. The following factors are included:

- Annual payroll of Active Duty, Guard and Reserve, and civilian personnel.
- Expenditure for construction, supplies, services, contracts, and materials.
- Indirect jobs resulting from the personnel and their salaries.
- Military contracts to private businesses.
- Other military expenditures, including pay to military retirees, veterans' benefits, etc.

We included Active Duty, National Guard, and Reserve components of the Air Force, Army, Navy, and Marine Corps, and other Department of Defense related expenditures such as retiree benefits, assistance to veterans, and DoD contracts. The Department of Energy activities at Oak Ridge that support the Department of Defense were not included as their impact is well publicized elsewhere.

The total impact of the military activity in East Tennessee is estimated to be more than \$1.8 Billion for 2016.



The economic impact has increased steadily since we completed the first analysis almost fifteen years ago, and for several reasons, the amount is almost double the impact in 2013. First, there has been a significant increase in the number and amount of Department of Defense Contracts awarded to firms in the Knoxville area. Second, the number of military retirees living in East Tennessee continues to increase. There has also been a significant increase in the benefits our veterans are receiving, both in terms of medical care as well as educational assistance. There has been a steady growth in the number of Army personnel due in part to a realignment of forces across the state and mission conversion of the Blackhawk Helicopter Battalion at the airport. Finally, there is a continued increase in military and civilian salaries, including the salaries of the indirect jobs created by the military activity.

The military continues to be one of the major drivers of the economic activity in our area. As such, business and civic leaders should consider policies and actions that attract and retain this valuable resource to East Tennessee.

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#### PURPOSE OF THE ANALYSIS

This Military Economic Impact Analysis is an update of the last ETMAC analysis completed in early 2014. Its purpose is to estimate the economic effect the military bases, installations, and other related military activities have on the local community. It can provide business and civic leaders, and the public at large, a complete picture of the very significant contribution that the military and defense programs make to the economy of East Tennessee.

Unlike some areas that have a very large Active Duty military installation, the military presence in East Tennessee is characterized by a number of small- to medium-sized military units. The largest units are part of the Guard or Reserve components of their respective services. As such, the scope of their activities and number of personnel assigned may not be apparent on a daily basis since many of the personnel serve "part time." There are relatively few Active Duty military personnel in the area. While there are a number of small contractors who perform DoD work, there is no large-scale defense contractor in the region. (The Department of Energy facility at Oak Ridge does support the Department of Defense; the DOE facility financial impact is included in other reports and therefore excluded here.).

Given the unique situation described above, one of ETMAC's goals is to collect the various military and military-related economic data into a single document and then explain the cumulative effect. It is hoped that this analysis will raise the awareness of the importance of the military units to the economy of East Tennessee and also increase the appreciation of the public at large for the critical national defense missions these units perform.

#### METHODOLOGY AND SCOPE

This economic analysis uses the standard methodology and parameters of the DoD Economic Impact Analysis (EIA) Model. The total economic impact is computed by summing the payroll of all personnel, annual base/installation/activity expenditures for services, supplies, construction, maintenance, etc., and the estimated annual dollar value of indirect jobs created. As in the DoD model, the impact area is assumed to be within fifty miles of Knoxville. Appendix 1 contains additional details on the DoD EIA model.

We included Active Duty, National Guard, and Reserve components of the Air Force, Army, Navy, and Marine Corps as applicable, plus DoD contracts, various veterans' benefits, and military retiree pay. Data was provided by the individual units and organizations over the past several months and we have tried to obtain the most accurate, up-to-date information available.

Detailed data sheets for each unit included in the analysis can be found in Appendix 2. The Department of Energy activities at Oak Ridge that support the DoD was not included, as their impact is well publicized elsewhere.

The following units, organizations, and activities in Table 1 were included in the analysis:

Table 1 Units, Organizations and Activities Included

Service	Unit	Location	Mission
US Army			
Active Duty	Army ROTC – Rocky Top Battalion	University of Tennessee - Knoxville	Officer training and commissioning
	US Army Recruiters	Throughout the Area	Recruit officer & enlisted members for the Army
National Guard	278 Armored Cavalry Regiment, 1-230 <sup>th</sup> Assault Helicopter Battalion	Knoxville – Sutherland Ave and McGhee Tyson ANGB	Reconnaissance, surveillance, and security
Reserves	489 <sup>th</sup> Civil Affairs Battalion	Army Reserve Center – Middlebrook Pike	Assist other military units – Create, restore, and maintain public order
	844 <sup>th</sup> Engineer Combat Battalion	Army Reserve Center – Middlebrook Pike	Heavy construction
	1 <sup>st</sup> Battalion, 100 <sup>th</sup> Regiment, 3 <sup>rd</sup> Brigade, 100 <sup>th</sup> Division	Army Reserve Center – Middlebrook Pike	Engineer training
	AMSA 148	Army Reserve Center – Middlebrook Pike	Heavy vehicle maintenance
Other	Army High School Junior ROTC	Gibbs, Jefferson County, Campbell County, Grainger County, and South Doyle HS	Educate and train HS cadets in citizenship, promote community service, instill responsibility, character, and self-discipline

# Units, Organizations and Activities Included (con't)

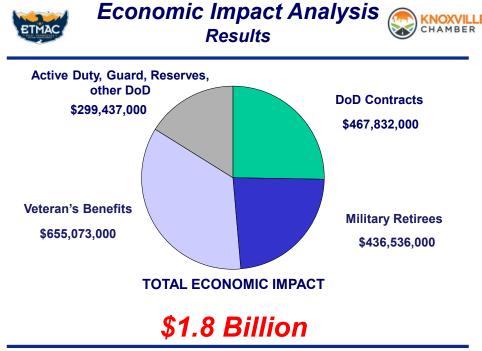
Service	Unit	Location	Mission
US Navy			
Active Duty	USN Recruiters	Throughout the Area	Recruit officer & enlisted members for the Navy
Reserves	Naval Operations Support Center	Alcoa Highway – Reserve Center	Training, logistical, & administrative support to the fleet
Other	Sea Cadets	Throughout the Area	Promote interest in seamanship and skills, encourage good citizenship and public service
<b>US Marine Corps</b>			
Active Duty	USMC Recruiters	Throughout the Area	Recruit officer & enlisted members for the Marine Corps
Reserves	Company D, 4 <sup>th</sup> Combat Engineer Battalion (includes some A/D)	Alcoa Highway – Reserve Center	Combat engineer support
	Detachment, Surgical Company A, 4 <sup>th</sup> FSSG	Alcoa Highway – Reserve Center	Medical support
US Air Force			
Active Duty	AFROTC Detachment 800	University of Tennessee	Officer training and commissioning
	USAF Recruiters	Throughout the Area	Recruit officer & enlisted members for the USAF
National Guard	134 <sup>th</sup> Air Refueling Wing	McGhee Tyson ANGB	Aerial refueling
	119 <sup>th</sup> Command and Control Squadron	McGhee Tyson ANGB	Provides command and control (C2) of full-spectrum cyberspace operations for Air Force and Air National Guard cyberspace forces.
	I.G. Brown ANG Training and Education Center	McGhee Tyson ANGB	Professional military education such as the Non-Commissioned Officer (NCO) Academy
	572 <sup>nd</sup> Air Force Band of the South	McGhee Tyson ANGB	Support for USAF; public relations and recruiting
Other	Junior ROTC	William Blount, Heritage, Clinton, Karns, and Austin East HS	Educate and train HS cadets in citizenship, promote community service, instill responsibility, character, and self-discipline
	Civil Air Patrol	Throughout area	Support search and rescue, disaster relief and other emergencies and contingencies.

# Units, Organizations and Activities Included (con't)

Service	Unit	Location	Mission
Other DoD			
Active Duty	Military Entrance Processing Station (MEPS)	Knoxville	Process and enlist members into all branches of the service
Various DoD Agencies	University of Tennessee	University of Tennessee	Research and Development, Executive Education and Training, etc.
Defense Contracts	Various	Counties within 50 miles of Knoxville (Congressional Districts One, Two, and Three)	Manufacturing and services for DoD in 2016
Other Military			
Department of Veterans Affairs	VA Medical Center – Outpatient Clinic	Knoxville – Ray Mears Blvd.	Primary care, specialty care, extended care and related services for veterans
	Veteran's Affairs – Advisor/Registrar	University of Tennessee – Knoxville, Maryville College, Tusculum College, Pellissippi, Roane, and Walters Sate Community Colleges, and South College	Montgomery GI Bill and other education benefits
	Other Benefits	Knoxville Area	Veterans' rehabilitation, disability benefits, etc.
TN Department of Veterans Affairs	Ben Atchley State Veterans Nursing Home	Knoxville – One Veterans Way	Safe, secure, and pleasant home for veterans
Retirees	Retired Military Personnel	Within 50 miles of Knoxville	Retired pay

#### RESULTS AND CONCLUSIONS

The total economic impact for 2016 of the military activities is estimated at more than \$1.8 Billion as shown below.



Supporting the Military in East Tennessee

What has Changed: The economic impact has increased steadily since we completed the first analysis almost fifteen years ago, and for several reasons, the amount is almost double the impact in 2013. First, there has been a significant increase in the number and amount of Department of Defense Contracts awarded to firms in the Knoxville area. Second, the number of military retirees living in East Tennessee continues to increase. There has also been a significant increase in the benefits our veterans are receiving, both in terms of medical care as well as educational assistance. There has been a steady growth in the number of Army personnel, many of whom are supporting the relocation of the Blackhawk Helicopter Battalion to the airport. Finally, there is a continued increase in military and civilian salaries, including the salaries of the indirect jobs created by the military activity.

<u>Military Contracts</u>. This represents the largest increase in the economic impact. The number and amount for military contracts in sixteen county region around Knoxville increased significantly as compared to the 2013 analysis. In part, this is can be attributed to the reduction in spending due to sequestration from the Budget Control Act that was in effect in 2013. Additionally, since ETMAC

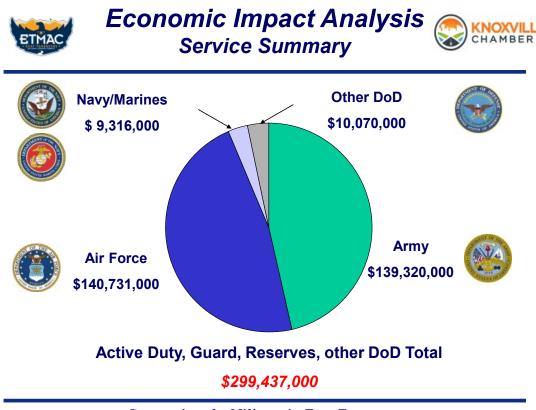
updates the analysis figures every three or four years, there may be a "spike" in the dollar amount simply because of the timing.

<u>Retirees</u>: The military retiree population is a major contributor to economic activity. More than 9,600 military retirees now live within a 50 mile radius of Knoxville, an increase of more than 1000 from the last report. This speaks volumes to the desirability of this area. Knoxville was recently ranked second as the "Best Places to Retire" by *livability.com*. Most retirees could live anywhere they choose, but more and more are coming to East Tennessee. Their retirement pay and associated indirect jobs created account for about one-fourth of the total economic impact.

<u>Veterans' Benefits.</u> Included in this benefit are the Ben Atchley State Veterans Nursing Home, the Knoxville VA Outpatient Clinic, students attending the University of Tennessee and other colleges on the Montgomery GI Bill and other veterans' educational assistance, and expenditures for other veteran's benefits such as disability and rehabilitation services.

<u>US Army:</u> The Army National Guard presence has grown significantly. The bed-down of the new Blackhawk helicopter mission at the airport has increased the size of that unit from squadron to battalion level.

### **Service Summary:**



Supporting the Military in East Tennessee

With the increased Army presence mentioned above, the U.S. Air Force and Army are now roughly equal in terms of economic impact. The Naval Operations Support Center represents the bulk of the Navy/Marine economic impact. The "Other" category includes the DoD Military Entrance Processing Station, and defense-related programs at the University of Tennessee.

<u>Comparison to Other Businesses:</u> While it is difficult to directly compare the results of this analysis to other activities in the area, it is clear that the military is among the largest economic drivers in the area. Shown below is a list of Knoxville Area Major Employers ranked according to number of employees is shown below. The number of individuals included in our analysis (Active Duty, Guard, Reserve, retirees, and civilian employees) would rank tops on this list. To make a reasonable comparison, the *JobsEQ* model was used which differs from the DoD Economic Impact Model shown in Appendix 1. Therefore, the \$766 Million for the military differs from the results of this report.

	<u>Direct</u>	Indirect	<u>Total</u>	\$ Economic	
Top Major Employers	<u>Jobs</u>	<u>Jobs</u>	<u>Jobs</u>	<u>Impact</u>	
U.S. DOE - Oak Ridge	11,327	5,828	17,155	\$2,109,385,488	
Denso Manufacturing	3,900	2,008	5,908	\$1,515,266,910	
Covenant Health	10,119	4,296	14,415	\$1,508,167,365	
Walmart Stores	6,206	1,644	7,850	\$804,130,331	
University Health Systems	5,144	2,183	7,327	\$766,677,827	
Military*	21,184	5,686	26,870	\$766,448,146	
Tennova Healthcare	4,033	1,712	5,745	\$601,090,917	
University of Tennessee	6,646	1,249	7,895	\$508,480,594	
Knox County Schools	8,146	1,130	9,276	\$447,206,360	
K-VA-T Food Stores	3,393	770	4,163	\$346,552,531	
Dollywood Co.	4,000	727	4,727	\$283,602,448	

<sup>\*</sup>Military personnel total here does not include: UT Research, Montgomery GI Bill students, & others receiving VA Veterans Benefits. Total economic impact does not include DoD Contracts. Sources: Sources: Knoxville News-Sentinel Book of Lists 2017; Chmura Economics – JobsEQ Economic Impact Model Q4 2016

<u>Military Impact – Beyond Dollars</u>: In addition to the purely economic factor, the military presence pays big dividends to the community in several other ways. Military personnel know the value of "service to others" and are valuable members of the community. In short, they "get involved." Listed below are examples of the civic activities the Active Duty, Guard, Reserve personnel, as well as veterans and retirees, are supporting on a daily basis:

- Boy and Girl Scouts
- Boys and Girls Clubs
- Charity runs/walks
- Church leadership roles

- Civic Events/Color Guards
- Combined Federal Campaign/United Way
- Habitat for Humanity
- High School Career Counseling
- High School Junior ROTC
- Homeless Veterans Stand Down Volunteers
- Honor Air Knoxville
- Keep Knoxville Beautiful Clean-up Program
- Military funerals
- Mountain Man Memorial March
- President's Reading Program children in schools
- Red Cross Armed Forces Emergency Services Committee
- Salvation Army
- Service clubs such as Kiwanis and Rotary
- Toys for Tots
- United Way
- Veterans Day Luncheon
- Veterans Day Parade
- Youth mentoring
- Youth sports

Military veterans and retirees are skilled, reliable, hard-working, motivated, well-educated and quickly become active in the local community. In most cases, the government will pay the relocation costs of a veteran moving into our area.

Clearly, the military is one of the major drivers of the economic activity in our area. As such, business and civic leaders must consider policies and actions that attract and retain this invaluable resource to East Tennessee.

## **DoD ECONOMIC IMPACT ANALYSIS MODEL**

<u>PAYROLL</u>	
# ACTIVE DUTY PERSONNEL  # GUARD/RESERVE PERSONNEI  # CIVILIAN PERSONNEL	
OTHER EVERYDITURES	\$TOTAL PAYROLL
OTHER EXPENDITURES	
CONSTRUCTION SERVICES MATERIALS CONTRACTS UTILITIES RENT SUPPLIES ENVIRONMENTAL OTHER	\$ TOTAL OTHER EXPENDITURES
INDIRECT JOBS*	· <u> </u>
INDIKECT GODS	
#ACTIVE DUTY $\times$ 0.41 =	INDIRECT JOBS CREATED
$\#GUARD/RESERVE \times 0.16 =$	INDIRECT JOBS CREATED
$\#CIVILIANS \times 0.55 =$	INDIRECT JOBS CREATED
JOBS CREATED x \$ 45,997 * =	\$ IMPACT OF JOBS CREATED
TOTAL ECONOMIC IMPACT = PAYRO	OLL + EXPENDITURES + INDIRECT JOBS
*Notes  1 Indirect jobs multipliers were obtained from	om the DoD EIA model and are based on the size of the

- employment base for each region. (AFMAN 65-506 Economic Impact Analysis).
- 2. The annual salary estimates for the indirect jobs are from the Bureau of Labor Statistics (BLS) files for Knoxville 2015 through www.bls.gov.

# Appendix 2

## **Data Tables**

ARMY ROTC		2016	ARMY Active Duty
	Personnel	Payroll	Comments
ACTIVE DUTY	8	\$507,528	Data is from the 2013 report since 2016 data was not available.
GUARD/RESERVE	2	\$159,444	Only indirect job wages have been updated.
CIVILIAN	4	\$228,000	
SCHOLARSHIP CADETS	40	\$509,159	Includes stipends (scholarship & non-scholarship), books, tuition, fees
Totals	54	\$1,404,131	
INDIRECT JOBS	6	\$275,982	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	3.28		
Guard/Reserve x 0.16	0.32		
Civilian x 0.55	2.20		
EXPENDITURES			No expenditure data was available.
Contract Services			
Materials/Supplies/Equip			
Utilities			
Healthcare			
Education			
TDY/TAD Expenses			
Other			
TOTAL ECO. IMPACT	60	\$1,680,113	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Army ROTC - Rocky Top Battalion		University of Tennessee	

ARMY JROTC (Junior ROTC)		2016	ARMY Active Duty
	Personnel	Payroll	Comments
ACTIVE DUTY	0	\$0	Data covers five units at Campbell Co., Gibbs,
GUARD/RESERVE	0	\$0	Grainger Co., Jefferson Co., and South-Doyle HS
CIVILIAN	10	\$525,000	
CADETS	750	\$0	
Totals	760	\$525,000	
INDIRECT JOBS	6	\$275,982	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41			
Guard/Reserve x 0.16			
Civilian x 0.55	5.50		
EXPENDITURES		\$50,000	
Contract Services			
Materials/Supplies/Equip		\$50,000	
Utilities			
Healthcare			
Education			
TDY/TAD Expenses			
Other			
TOTAL ECO. IMPACT	766	\$850,982	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: LTC Bill Woodcock; Senior Army Instructor; South-Doyle High School			

Army Recruiters		2016	ARMY Active Duty
_			-
	Personnel	Payroll	Comments
ACTIVE DUTY	30	\$1,311,856	
GUARD/RESERVE	4	\$181,278	
CIVILIAN	0	\$0	
OTHER	1	\$19,625	
Totals	35	\$1,512,759	
INDIRECT JOBS	13	\$597,961	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	12.30		
Guard/Reserve x 0.16	0.64		
Civilian x 0.55			
EXPENDITURES		\$407,555	
Contract Services		\$58,500	
Supplies		\$15,000	
Materials		\$76,800	
Utilities		\$58,000	
Education			
TDY/TAD Expenses			
Rent		\$199,255	
TOTAL ECO. IMPACT	48	\$2,518,275	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Army - Knoxville Recruiting Company			

ARMY National Guard		2016	ARMY National Guard
	Personnel	Payroll	Comments
ACTIVE DUTY	692	\$47,466,016	Active Duty includes full-time guard personnel.
			Army National Guard numbers include the 278th Armored Cavalry Regiment and the 1-230th Assault Helicopter Battalion in the first, second & third congressional districts
GUARD/RESERVE	3,390	\$36,659,483	
CIVILIAN	0	\$0	Regiment & the.
OTHER	0	\$0	
Totals	4,082	\$84,125,499	
INDIRECT JOBS	826	\$37,993,522	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	283.72		
Guard/Reserve x 0.16	542.40		
Civilian x 0.55			
EXPENDITURES		NA	Expenditure data was not available.
Armory Maintenance			
Contract Services & Supplies			
Rent			
Utilities			
TOTAL ECO. IMPACT	4,908	\$122,119,021	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Army - 278th Armored Cavalry Regiment			

ARMY Reserve		2016	ARMY Reserve
	Personnel	Payroll	Comments
ACTIVE DUTY	40		Active Duty payroll included in Reserve payroll total.
			Reserve units include: 489th Civil Affairs Battalion; 844th Engineer Battalion; 1-100th Engineer Battalion; 321st Engineer Detachment; 630th Engineer Detachmen
GUARD/RESERVE	405	\$6,237,843	
CIVILIAN	19	\$1,448,902	
OTHER	0	\$0	
Totals	464	\$7,686,745	
INDIRECT JOBS	92	\$4,231,724	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	16.40		
Guard/Reserve x 0.16	64.80		
Civilian x 0.55	10.45		
EXPENDITURES		\$232,896	
Contract Services & Supplies		\$35,418	
Rent		\$0	
Utilities		\$51,597	
Construction		\$133,381	
Environmental		\$12,500	
TOTAL ECO. IMPACT	556	\$12,151,365	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Army Reserve - Electronic Congressional Data Reporting System			

Navy Recruiters		2016	NAVY Active Duty
	Personnel	Payroll	Comments
ACTIVE DUTY	2	\$180,000	
GUARD/RESERVE	0	\$0	
CIVILIAN	0	\$0	
OTHER	0	\$0	
Totals	2	\$180,000	
INDIRECT JOBS	1	\$45,997	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	0.82		
Guard/Reserve x 0.16			
Civilian x 0.55			
EXPENDITURES		\$13,900	
Contract Services			
Materials/Supplies/Equip		\$4,400	
Utilities			
Healthcare			
Education			
TDY/TAD Expenses		\$9,500	
Rent			
TOTAL ECO. IMPACT	3	\$239,897	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Naval Operations Support Center - Knoxville			

Navy Sea Cadets		2016	NAVY Other
	Personnel	Payroll	Comments
ACTIVE DUTY	0	\$0	This is a non-profit with no federal funding. Funding T
GUARD/RESERVE	2	\$0	comes from cadet families from all over East Tennessee.
CIVILIAN	0	\$0	
CADETS	40	\$0	
Totals	42	\$0	
INDIRECT JOBS	0	\$0	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41			
Guard/Reserve x 0.16	0.32		
Civilian x 0.55			
EXPENDITURES		\$13,700	
Contract Services	0	\$0	
Materials/Supplies/Equip		\$12,000	
Utilities		\$0	
Healthcare		\$0	
Education		\$1,000	
TDY/TAD Expenses		\$700	
Other			
TOTAL ECO. IMPACT	42	\$13,700	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: LTJG Todd Johnson Commanding Officer Knoxville Anchor Division			

Naval Operations Support Center		2016	NAVY - Active Duty and Reserves
	Personnel	Payroll	Comments
ACTIVE DUTY	15	\$1,125,000	
GUARD/RESERVE	210	\$1,275,000	
CIVILIAN	1	\$100,000	
OTHER	0	\$0	
Totals	226	\$2,500,000	
INDIRECT JOBS	40	\$1,839,880	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	6.15		
Guard/Reserve x 0.16	33.60		
Civilian x 0.55	0.55		
EXPENDITURES		\$1,528,000	
Contract Services		\$230,000	
Materials/Supplies/Equip		\$120,000	
Utilities/Healthcare/Education		\$360,000	
TDY/TAD Expenses		\$818,000	
Other			
TOTAL ECO. IMPACT	266	\$5,867,880	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Naval Operations Support Center - Knoxville			

USMC Reserve/Recruiters		2016	MARINES Active Duty and Reserves
	Personnel	Payroll	Comments
ACTIVE DUTY	13	\$645,933	
GUARD/RESERVE	175	\$704,302	
CIVILIAN	0	\$0	
OTHER	0	\$0	
Totals	188	\$1,350,235	
INDIRECT JOBS	33	\$1,517,901	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	5.33		
Guard/Reserve x 0.16	28.00		
Civilian x 0.55			
EXPENDITURES		\$326,588	
Contract Services			
Supplies		\$10,000	
Construction		\$48,000	
Materials		\$25,000	
Rent		\$99,000	
TDY/TAD Expenses		\$46,413	
Healthcare		\$6,720	
Clothing Allowances		\$6,455	
Other		\$85,000	
TOTAL ECO. IMPACT	221	\$3,194,724	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Marine Corps. Company D, 4th CEB Reserve Unit			Includes "D" Company Marines, "A" Detachment Marines, &
			RS Knoxville Recruiter

AFROTC - UT		2016	USAF Active Duty
	Personnel	Payroll	Comments
ACTIVE DUTY	8	\$776,880	Includes AFIT students (4)
GUARD/RESERVE	1	\$97,980	
CIVILIAN	0	\$0	
			Includes stipends (scholarship & non-scholarship), books,
SCHOLARSHIP CADETS		\$474,977	tuition, fees
Totals	9	\$1,349,837	
INDIRECT JOBS	3	\$137,991	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	3.28		
Guard/Reserve x 0.16	0.16		
Civilian x 0.55			
EXPENDITURES		\$112,000	
Contract Services		\$14,000	
Materials/Supplies/Equip		\$98,000	
Utilities			
Healthcare			
Education			
TDY/TAD Expenses			
Other			
TOTAL ECO. IMPACT	12	\$1,599,828	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Air Force - ROTC Detachment 800, University of Tennessee			

AFJROTC (Junior ROTC)		2016	USAF Active Duty
	Personnel	Payroll	Comments
ACTIVE DUTY	0	\$0	Data covers 5 AFJROTC units within 50 miles of Knoxville.
GUARD/RESERVE	0	\$0	
			Instructors at four units within 50-mile radius of Knoxville. Austin-East, Clinton, Heritage, William Blount, & Karns High Schools
CIVILIAN	10	\$289,563	
CADETS	615	\$0	
Totals	625	\$289,563	
INDIRECT JOBS	6	\$275,982	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41			
Guard/Reserve x 0.16			
Civilian x 0.55	5.50		
EXPENDITURES		\$402,000	
Supplies		\$13,200	
Uniforms		\$183,600	
Utilities			
Rent			
Education			
TDY/TAD Expenses			
Other		\$205,200	
TOTAL ECO. IMPACT	631	\$967,545	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Air Force - Bobby Woods, HQ AFJROTC			

AF Recruiters		2016	USAF Active Duty
			-
	Personnel	Payroll	Comments
ACTIVE DUTY	9	\$344,926	
GUARD/RESERVE	0	\$0	
CIVILIAN	1	\$37,113	
Totals	10	\$382,039	
INDIRECT JOBS	4	\$183,988	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41	3.69		
Guard/Reserve x 0.16			
Civilian x 0.55	0.55		
EXPENDITURES		\$73,338	
Contract Services		\$2,823	
Supplies		\$5,555	
Utilities		\$3,650	
Construction		\$15,085	
Rent		\$42,025	
TDY/TAD Expenses			
Other		\$4,200	
TOTAL ECO. IMPACT	14	\$639,365	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: U.S. Air Force - 332nd Recruiting Command			

	2016	USAF Air National Guard
Personnel	Payroll	Comments
150	\$12,033,961	
1,082	\$24,528,000	
496	\$35,723,362	Includes federal civilians, BX & Club, and other civilians
2,967	\$16,891,427	
4,695	\$89,176,750	
507	\$23,320,479	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
61.50		
173.12		
272.80		
	\$24,504,887	
	\$5,535,851	
	\$16,012,948	
	\$2,956,088	
5,202	\$137,002,116	Total Impact = Payroll + Indirect Job \$ + Expenditures
		Includes 134th ARW, 119th Command & Control Squadron, I.G. Brown ANG TEC, and 572nd Air Force Band of the South
	150 1,082 496 2,967 <b>4,695</b> <b>507</b> 61.50 173.12 272.80	Personnel         Payroll           150         \$12,033,961           1,082         \$24,528,000           496         \$35,723,362           2,967         \$16,891,427           4,695         \$89,176,750           507         \$23,320,479           61.50         173.12           272.80         \$24,504,887           \$5,535,851         \$16,012,948           \$2,956,088

Civil Air Patrol		2016	USAF Total Force Civil Air Patrol
	Personnel	Payroll	Comments
ACTIVE DUTY	0	\$0	
GUARD/RESERVE	0	\$0	
CIVILIAN	1	\$28,350	
TRAINEES/CADETS	0	\$0	
Totals	1	\$28,350	
INDIRECT JOBS	1	\$45,997	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41			
Guard/Reserve x 0.16			
Civilian x 0.55	0.55		
EXPENDITURES		\$448,143	
Training		\$233,174	East Tennessee Search & Rescue Training
1st Air Force Missions		\$150,469	
Cadet Programs		\$55,000	
Miscellaneous Expenses		\$9,500	Office supplies and equipment
TOTAL ECO. IMPACT	2	\$522,490	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: Dent Young, Lt. Col., Civil Air Patrol, Tennessee Wing			

Military Entrance Processing Station		2016	Other DoD Active Duty
	Personnel	Payroll	Comments
ACTIVE DUTY	0	\$0	Active Duty is included in the civilian count.
GUARD/RESERVE	0	\$0	
CIVILIAN	30	\$2,149,132	
OTHER	0	\$0	
Totals	30	\$2,149,132	
INDIRECT JOBS	17	\$781,949	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41			
Guard/Reserve x 0.16			
Civilian x 0.55	16.50		
EXPENDITURES		\$1,862,998	
Contract Services		\$874,300	
Materials/Supplies/Equip		\$43,339	
Rent		\$731,921	
Utilities			
TDY/TAD Expenses			
Other Expenditures			
Other Services		\$213,438	
TOTAL ECO. IMPACT	47	\$4,794,079	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: Knoxville Military Entrance Processing Station			

Aerospace & Defense MBA Program - UT		2016	Other DoD Active Duty
	Personnel	Expenses	Comments
STUDENTS	35	\$2,310,000	Student expenses include: tuition, fees & meals.
EXPENDITURES			
TDY/TAD Expenses		\$126,000	Student lodging
TOTAL ECO. IMPACT	35	\$2,436,000	
Source: Andrew W. White; Director, Aerospace & Defense MBA Programs; Graduate & Executive Education; UT Haslam College of Business Administration			
Other Graduate & Executive Education - UT Haslam College of Business EXPENDITURES		2016	Other DoD Active Duty
EXTENDITORES	Personnel	Expenses	
			Comments
UT Research	. 0.000	\$2,800,000	The University of Tennessee provides research, development, training,& studies to the USAF
UT Research Visitors		•	The University of Tennessee provides research,
		\$2,800,000	The University of Tennessee provides research, development, training,& studies to the USAF
		\$2,800,000	The University of Tennessee provides research, development, training,& studies to the USAF in three major areas:  1) Acquisition & Integrated Life-Cycle Management
		\$2,800,000	The University of Tennessee provides research, development, training,& studies to the USAF in three major areas:  1) Acquisition & Integrated Life-Cycle Management System (ILCMS);

Ben Atchley State Veterans' Home		2016	State Veterans' Services
-			
	Personnel	Payroll	Comments
ACTIVE DUTY	0	\$0	
GUARD/RESERVE	0	\$0	
CIVILIAN	192	\$6,192,309	
OTHER	0	\$0	
Totals	192	\$6,192,309	
INDIRECT JOBS	106	\$4,875,682	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Active Duty x 0.41			
Guard/Reserve x 0.16			
Civilian x 0.55	105.60		
EXPENDITURES		¢2 649 620	
Contract Services		<b>\$3,618,630</b> \$946,182	
Materials/Supplies/Equip		\$2,136,827	
Utilities		\$376,621	
TDY/TAD Expenses		40.000	
Rent		\$9,000	
Other Services		\$150,000	
TOTAL ECO. IMPACT	298	\$14,686,621	Total Impact = Payroll + Indirect Job \$ + Expenditures
Source: Ben Atchley State Veterans' Home			

DoD Prime Contracts		2016	Other DoD
DoD Contracts within 50-miles of Knoxville			
	_	<b>Total Dollars</b>	Comments
	138		
Total Area Dollars	contractors	\$467,832,094	The DoD Prime Contract Awards shown here
			represent grand total award amounts from the Army,
			Air Force, Navy, Defense Logistics Agency, and
			all other defense agencies for FY 2016.
TOTAL ECO. IMPACT		\$467,832,094	Does not include any DOE contracts or spending.
Source: USAspending.gov			

Top 20 Contractors \$\$		2016	
	_	Total	
Contractor	County	Amounts	Products/Services
Janus Global Operations	Loudon	\$105,742,338	Environmental remediation svcs; guard svcs; technical project planning
			Environmental & ecological svcs; construction; building & infrastructure
Aerostar SES LLC	Anderson	\$60,216,999	repairs
Short Bark Industries	Monroe	\$31,995,213	Personal armor & gear; ballistic combat shirts; combat coats; navy trousers
Jacobs Field Services	Anderson	\$31,575,127	Environmental engineering
Navarro Research & Engineering	Anderson	\$21,264,855	Environmental remediation & logistics support svcs
Relyant Global LLC	Blount	\$18,915,852	General contractor; runway construction
Sword & Shield Enterprise	Knox	\$18,757,454	ADP software/components/support equipment
Sterling Global Operations	Loudon	\$18,681,876	Environmental remediation
Siler Excavating	Claiborne	\$17,593,425	Excavating contractor; roadway maintenance
Shaw Environmental & Infrasturcture	Knox	\$13,324,748	Environmental remediation

		7.4.1		
Contractor	County	Total Amounts	Products/Services	
Valley Apparel	Knox	\$13,021,475	Military clothing	
Aqua-Chem	Knox	\$10,347,879	Water purification equipment	
Vanquish Worldwide	Blount	\$10,110,460	Logistics support svcs	
Jacobs Government Services Co.	Anderson	\$9,484,419	Architectural svcs	
Information International Associates	Anderson	\$7,698,417	Applied research & exploratory development	
Original Footwear Holdings	Hamblen	\$7,332,461	Footwear	
Camel Manufacturing Co.	Campbell	\$6,840,772	Tents & tarpaulins	
HGW & Associates	Knox	\$5,546,663	Education & training	
SES Civil Contractors	Anderson	\$5,236,544	Civil engineers; construction	
DPRA, Inc.	Knox	\$5,026,947	IT/Telecom systems development	
Source: USAspending.gov				

VA Veterans' Benefits - Knoxville		2016	U.S. Veterans' Administration
	Personnel	Payroll	Comments
VETERANS			Veteran population in 16-county region within 50 miles of Knoxville is 99,319.
EXPENDITURES		\$605,804,000	There were also 25,266 unique patients. These are patients who
Compensation & Pensions		\$378,898,000	received treatment at a VA healthcare facility.
Construction		\$547,000	
Education/Vocational/Rehab/Employment		\$36,722,000	
General Operating Expenses		\$210,000	
Insurance/Indemnities		\$7,363,000	
Medical Care		\$182,064,000	
TOTAL ECO. IMPACT		\$605,804,000	
Sources: VA Office of the Actuary; VA Financial Management System; Veterans Benefits Administration Insurance Center;			
USAspending.gov; Allocation Resource Center			12 224

<sup>\*</sup> Veteran population estimates, as of September 30, 2016, are produced by the VA Office of the Actuary (VetPop 2014).

Expenditure data sources: USASpending.gov for Compensation & Pension (C&P) and Education and Vocational Rehabilitation and Employment (EVRE) Benefits; Veterans Benefits Administration Insurance Center for the Insurance costs; the VA Financial Management System (FMS) for Construction, Medical Research, General Operating Expenses, and certain C&P and Readjustment data; and the Allocation Resource Center (ARC) for Medical Care costs.

- 1. Expenditures are rounded to the nearest thousand dollars. For example, \$500 to \$1,000 are rounded to \$1; \$0 to \$499 are rounded to \$0; and "\$ -" = 0 or no expenditures.
- 2. The Compensation & Pension expenditures include dollars for the following programs: veterans' compensation for service-connected disabilities; dependency and indemnity compensation for service-connected deaths; veterans' pension for nonservice-connected disabilities; and burial and other benefits to veterans and their survivors.
- 3. Medical Care expenditures include dollars for medical services, medical administration, facility maintenance, educational support, research support, and other overhead items. Medical Care expenditures do not include dollars for construction or other non-medical support.
- 4. Medical Care expenditures are allocated to the patient's home location, not the site of care.

<sup>#</sup> Prior to FY 08, "Loan Guaranty" expenditures were included in the Education & Vocational Rehabilitation and Employment (E&VRE) programs. Currently, all "Loan Guaranty" expenditures are attributed to Travis County, TX, where all Loan Guaranty payments are processed. VA will continue to improve data collection for future GDX reports to better distribute loan expenditures at the state, county and congressional district levels.

<sup>\*\*</sup> Unique patients are patients who received treatment at a VA health care facility. Data are provided by the Allocation Resource Center (ARC).

VA Outpatient Clinic - Knoxville		2016	Department of Veteran's Affairs
	Personnel	Payroll	Comments
VA Clinic Employees	144	\$14,714,833	
VA Contract Employees	0	\$0	
Totals	144	\$14,714,833	
INDIRECT JOBS	79	\$3,633,763	Indirect Jobs x \$45,997 (Area Avg. Annual Pay)
Employees x 0.55			
EXPENDITURES		\$2,715,119	
Contract Services			Includes security and facility contracts
Materials/Supplies/Equip			Includes radiology, pharmacy and audiology supplies
Knoxville Lab Services			
Lease Payments			Includes main, new and admin leases as well as utilities
Other Services			Includes nursing, optometry, and travel
TOTAL ECO. IMPACT	223	\$21,063,715	Total Impact = Payroll + Indirect Job \$ + Expenditures
		, , , , , , , , , , , ,	
Source: U.S. Veterans' Administration			

Montgomery GI Bill - UT		2016	
	Personnel	Amount	Comments
VETERANS	729	\$7,715,375	
Totals	729	\$7,715,375	
Source: UT Admissions Office - Veterans' Affairs Advisor			
N. A. CIDIII D. III. I CALA		0040	
Montgomery GI Bill - Pellissippi State		2016	
	Personnel	Amount	Comments
VETERANO	007	<b>#4.000.400</b>	Chapter 33 - Post 9/11 GI Bill benefits &
VETERANS		\$1,038,492	Chapter 31 - VA Vocational Rehab funds
Totals	337	\$1,038,492	
Source: Pellissippi State; Nancy Ramsey; Executive Director of Institutional Effectiveness, Assessment & Planning			
Montgomery GI Bill - Roane State		2016	
	Personnel	Amount	Comments
VETERANS		\$279,662	
Totals	145	\$279,662	
Source: Roane State Community College Business Office			
Montgomery GI Bill - Walters State		2016	
	Personnel	Amount	Comments
VETERANS	255	\$1,000,000	
Totals	255	\$1,000,000	
Source: Walters State Community College; Linda Mason; Veterans' Affairs Office			

Montgomery GI Bill - South College			2016	
		Personnel	Amount	Comments
	VETERANS	160	\$2,378,895	
	Totals	160	\$2,378,895	
Source: South College; President Steve South				
Montgomery GI Bill - Tusculum College			2016	
		Personnel	Amount	Comments
	VETERANO	00	0004 707	Figures include half of Tusculum's total of 67 veterans & veteran dependents receiving total of \$443,453 in VA education benefits as college was
	VETERANS	33	\$221,727	unable to breakout totals by satellite campuses
	Totals	33	\$221,727	
Source: Tusculum College; Dale Laney; Director of Veterar	Services			
Montgomery GI Bill - Virginia College			2016	
		Personnel	Amount	Comments
	VETERANS	NDR	NDR	NDR - No data reported
	Totals	0	\$0	
Source: Virginia College; Student Career Development				
Montgomery GI Bill - Maryville College			2016	
		Personnel	Amount	Comments
	VETERANS	58	\$884,237	Includes both veterans & veteran dependents
	Totals	58	\$884,237	
Source: Maryville College; Stephen Kasper				

Military Retirees		2016	Other - DoD
	Personnel	Payroll	Comments
			Data from DFAS - Cleveland, OH - (50-mile radius
RETIREES	9,625	\$255,032,268	of Knoxville)
			Indirect Jobs = Retirees x 0.41 (Payroll = Ind Job x
INDIRECT JOBS	3,946	\$181,504,162	\$ \$45,997)
TOTAL ECO. IMPACT	13,571	\$436,536,430	
Source: Defense Finance and Accounting Service			

ETMAC Economic Impact		2016	Summary
Unit	Total Jobs	Total \$ Impact	Comments
Army ROTC	60	\$1,680,113	
Army JROTC	766	\$850,982	
Army Recruiters	48	\$2,518,275	
Army National Guard	4,908	\$122,119,021	
Army - Reserves	556	\$12,151,365	
			Army Total = \$139,319,756
Navy JROTC	NA	NA	
Navy Sea Cadets	42	\$13,700	
Navy Recruiters	3	\$239,897	
Naval Operations Support Center	266	\$5,867,880	
			Navy Total = \$6,121,477
Marine Reserve/Recruiters	221	\$3,194,724	
			Marines Total = \$3,194,724
Air Force ROTC - UT	12	\$1,599,828	
Air Force JROTC	631	\$967,545	
Air Force Recruiters	14	\$639,365	
Air ForceMcGhee-Tyson ANGB	5,202	\$137,002,116	
Air Force Auxiliary - Civil Air Patrol	2	\$522,490	
			Air Force Total = \$140,731,344
Knoxville Military Entrance Processing Stn	47	\$4,794,079	
Aerospace & Defense MBA Program - UT	35	\$2,436,000	
Other Graduate & Executive Education - UT Haslam College			
of Business		\$2,840,000	
			Other DoD Total = \$10,070,079
Ben Atchley State Veterans' Home	298	\$14,686,621	
			State Veterans Services Total = \$14,686,621
DoD Prime Contracts		\$467,832,094	
			Contracts Total = \$467,832,094

ETMAC Economic Impact (con't)		2016	Summary
Unit	Total Jobs	Total \$ Impact	Comments
VA Outpatient Clinic	223	\$21,063,715	
Montgomery GI Bill - UT	729	\$7,715,375	
Montgomery GI Bill -Maryville College	58	\$884,237	
Montgomery GI Bill - Pellissippi State	337	\$1,038,492	
Montgomery GI Bill - Roane State	145	\$279,662	
Montgomery GI Bill - Walters State	255	\$1,000,000	
Montgomery GI Bill - South College	160	\$2,378,895	
Montgomery GI Bill - Tusculum College	33	\$221,727	
Montgomery GI Bill - Virginia College	NA	NA	
Other Veteran's Benefits		\$605,804,000	Includes disability payments, rehabilitation, etc.
			VA Benefits Total = \$640,386,103
Retirees	13,571	\$436,536,430	
			Retiree Total = \$436,536,430
Total Impact (All Units/Categories)	28,622	\$1,858,878,628	

### Appendix 3

### Acronyms

AASF Army Aviation Support Facility

ACR Armored Cavalry Regiment

A/D Active Duty (personnel)

AFIT Air Force Institute of Technology

AFMAN Air Force Manual

AFROTC Air Force Reserve Officer Training Corps

AMSA Area Maintenance Support Activity

ANG Air National Guard

ANGB Air National Guard Base

ARW Air Refueling Wing

BLS Bureau of Labor Statistics

DoD Department of Defense

DOE Department of Energy

EIA Economic Impact Analysis

ESGR Employer Support for the Guard and Reserve

ETMAC East Tennessee Military Affairs Council

FSSG Force Service Support Group

JROTC Junior Reserve Officer Training Corps (High School)

MEPS Military Entrance Processing Station

MILCON Military Construction

MGIB Montgomery GI Bill

NCO Non-Commissioned Officer

ROTC Reserve Officer Training Corps

RPM Real Property Maintenance

TAD Temporary Assigned Duty

TDY Temporary Duty

TEC Training and Education Center

USAF United States Air Force

USMC United States Marine Corps

USN United States Navy

UT University of Tennessee

VA (Department of) Veteran's Affairs