FORT CAMPBELL STRONG ECONOMIC GROWTH PLAN

FORT CAMPBELL REGION

DECEMBER 2016

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ACKNOWLEDGEMENTS

TIP Strategies would like to thank the many individuals who took time to participate in the development of this plan. We are particularly grateful to the members of the Campbell Strong Policy Committee who provided feedback and valuable insights regarding the region's economic development opportunities and challenges. We would also like to thank the numerous individuals and organizations who provided input to this effort via interviews and focus group meetings.

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EXECUTIVE SUMMARY

The Fort Campbell Strong Economic Growth Plan was developed in response to the inactivation of the 159th Combat Aviation Brigade (CAB) at Fort Campbell in 2014, resulting in the loss of 2,500 Soldiers from the Post. This planning initiative was funded by a grant from the Department of Defense Office of Economic Adjustment (OEA). The goal of the planning process it to develop a long-term economic diversification and growth plan that both leverages the economic asset that Fort Campbell and its personnel represent, while also reducing the region's economic reliance on the Post.

KEY FINDINGS

- The population of the Fort Campbell region has grown by more than 50,000 residents in the last 10 years, representing a growth rate of 16%. This growth rate was significantly higher than the nation's (8%), Kentucky's (5%), and Tennessee's (9%).
- The Fort Campbell region is a young region. The share of the region's population for youth and young adult cohorts are considerably larger than nation's and state's.
- The region, on net, exports almost 16,000 workers to jobs outside of the region. While 47,075 workers commute out of the region to work, only 31,175 workers commute into the region to work.
- The manufacturing sector is the largest industry sector in the Fort Campbell region behind the military. Retail trade, healthcare, restaurants, and education comprise the top five industry sectors in the region. Together, these sectors represent 57% of the non-military employment base.
- Employers hold a generally favorable view of the existing workforce. However, they report difficulty accessing skilled workforce for some positions, especially in advanced manufacturing.
- Civilian employers find it difficult to translate Army MOS codes and skills to civilian occupations. In some cases, this lack of understanding has limited the ability of employers to hire military veterans.
- The region has historically struggled to promote bi-state regionalism. Fort Campbell is the one asset that seems to unify both sides of the state line.
- Education and workforce training providers report a lack of training funds for manufacturing skillsets (e.g., CNC, welding, general maintenance).
- The selection of target industries for the Fort Campbell region is intended to support and supplement existing business attraction, marketing, and industry cluster development in the region. The four recommended selected sectors are Distribution & Warehousing, Manufacturing, Agriculture & Food, and Business Services. These sectors represent the four largest traded sectors in the region.
- The Post supports $63,000 in economic output or sales of goods and services in the local region for each active military person; roughly 1.8 workers in the local region for each active military person; and $88,000 in household earnings in the local region for each active military person inclusive of their own pay as well as the pay of workers in supported industries.

GOALS

The framework for Fort Campbell Strong Economic Growth Plan is structured around three goals.

1. Form a regional defense alliance to enhance support for Fort Campbell and the defense sector.
2. Increase the flow of talent from Fort Campbell to the regional workforce.
3. Leverage the region's assets to enhance economic vitality.

PRIORITY STRATEGIES

The priority strategies are focused on two key initiatives: (1) establishing Fort Campbell Strong as a regional defense alliance and (2) expanding advanced manufacturing education and training in the region. The emphasis and urgency placed on these initiatives is due to opportunity to receive additional OEA grant funding to support their initial implementation. Additionally, these were the two initiatives prioritized by the Campbell Strong Policy Committee.

1. Establish Fort Campbell Strong to provide the region with a dedicated, unified voice on matters involving Fort Campbell.
   - The operations and day-to-day functions of FCS are driven by the executive director, who works to coordinate all necessary tasks required to fulfill the organization's mission. The executive director keeps the partner organizations and key stakeholders coordinated, focused, and informed so that FCS can support the overall health of the region's military and defense sector.
   - Fort Campbell Strong should be established as an independent, non-profit organization [501 (C)(6)]. FCS leadership includes a board of directors, an executive committee, and an executive director. The board should consist of elected representatives of each of the six counties in the impact area as well as key stakeholders and investors.
   - FCS will adopt a formal funding program that will support the ongoing operations, overhead, and staffing requirements of the organization. It will be a support structure made up of contributions from the public and private sectors. In addition to local funding, FCS will pursue outside grants to support specific initiatives.
   - Based on a review of budgets of similar organizations in other states, FCS's annual budget should be $375,000, which includes costs associated with personnel, travel, office, and overhead.
2. Align, coordinate, and expand advanced manufacturing education and training in the region that builds on an existing industry strength and leverages the talent pipeline coming out of Fort Campbell.
   - Expand the Kentucky Federation for Advanced Manufacturing Education (KY FAME) at Hopkinsville Community College to better serve Soldiers and their dependents.
   - Start up and expand the AAS and BS degrees in Mechatronics Advanced Manufacturing Education at Austin Peay State University.
   - Enhance the Mechatronics Program at the Tennessee College of Applied Technology Dickson and Clarksville Campus.

INTRODUCTION

In the fall of 2015, TIP Strategies was engaged by the Pennyrile Area Development District (PADD) to help prepare the Fort Campbell Strong Economic Growth Plan. This planning initiative was funded by a grant from the Department of Defense Office of Economic Adjustment (OEA). The grant was awarded to the region in response to the inactivation of the 159th Combat Aviation Brigade (CAB) at Fort Campbell in 2014, resulting in the loss of 2,500 Soldiers from the Post. Because of the loss of the 159th CAB as well as additional Army personnel reductions, Fort Campbell's active-duty population fell to 26,500 in FY2015, down from a high of 31,092 in FY 2013. The reduction in military personnel at Fort Campbell had a significant impact on the regional economy. When multipliers such as dependents and ancillary military support services are considered, this reduction in force could result in an additional 1,091 civilian and contractor jobs lost. The Fort Campbell impact area is defined as Christian, Todd, and Trigg counties in Kentucky and Montgomery, Robertson, and Stewart counties in Tennessee.

With the support of OEA, regional leaders in Kentucky and Tennessee committed to developing a long-term economic diversification and growth plan that both leverages the economic asset that Fort Campbell and its personnel represent, while also reducing the region's economic reliance on the Post. While the plan makes recommendations to increase economic diversification within the Fort Campbell region, it does not seek to usurp or undermine the existing economic development efforts and programs, only to build upon them. Strategies and actions are designed to complement existing initiatives, thus avoiding duplication of efforts and ensuring effective use of scarce resources.

Beyond the goal of promoting economic diversification, the Fort Campbell Strong Economic Growth Plan is intended to lay the foundation for greater regional cooperation between agencies and organizations in Kentucky and Tennessee. Outside of the annual Citizens for Fort Campbell trip to Washington, DC, to lobby congressional leaders on behalf of the Post, bi-state efforts to address regional economic development issues have traditionally been limited. However, this planning initiative is truly a regional effort. Each of the six counties has committed money and time in support of the planning process. Leaders in both states have also voiced their support for several of the recommendations in the plan that will require regional support and funding.

APPROACH

Over the course of planning process, TIP Strategies worked closely with business, government, planning, economic development, workforce development, and education leaders to identify the region's most promising opportunities for economic growth and diversification. The first step was to establish a common understanding of assets and challenges. This "Discovery Phase" included valuable **roundtable discussions and interviews** with numerous stakeholders representing a broad cross section of stakeholders in both Kentucky and Tennessee.

During this phase, the consulting team also compiled a **regional profile** that includes wide range of **demographic and economic data** for the six-county region, which is provided in Appendix A. The regional profile addresses issues such as population and workforce, jobs and economy, education and training, and infrastructure and assets.

Appendix B contains the **target industry analysis**, recommendations, and profiles. It includes industry definitions and trends, occupational characteristics, strategic considerations, and industry intelligence for each industry sector. Appendix C provides an analysis of the **skills and capabilities of active duty personnel** stationed at Fort Campbell as well as those who recently separated from service. Appendix D consists of an economic analysis of Fort Campbell to understand the ripple effect that military spending has in the immediate six-county region and in Kentucky and Tennessee. This analysis estimates the **economic impact of the Post** and identifies the industry sectors impacted by the Post and its active duty and civilian personnel.

SWOT

An evaluation of the region's strengths and weakness as well as its opportunities and threats are important touchstones to future strategies. The SWOT is based on community input and data findings. It is a snapshot in time, but it typically highlights longstanding issues of economic competitiveness.

STRENGTHS

- Geography: Interstate access, centrally located in the U.S., and proximity to Nashville
- Vibrant population growth over the last 10 years – outpacing U.S., Tennessee, and Kentucky rates
- A relatively youthful population, with a high share of youth and young adults
- Presence of certified megasites in the region
- Abundance of available land suited for commercial and industrial development
- Employers have a favorable view of the existing workforce
- Presence of Austin Peay State University, Hopkinsville Community College, Tennessee College of Applied Technology, and other high quality education and training providers
- Fort Campbell injects a diversity of experiences, backgrounds, and perspectives to the population
- Military spouses offer a valuable source of educated talent

WEAKNESSES

- Historical struggle to promote regionalism
- Fort Campbell is the one asset that seems to unify both sides
- Lack of training funds for manufacturing skillsets (CNC, welding, general maintenance)
- Challenge finding qualified people to work in advanced manufacturing
- Large number of residents commute out of the county for work, especially to Nashville
- Difficulty in translating Army MOS codes and skills to civilian employers
- Anchoring military spouses to the communities due to deployment cycles at Fort Campbell
- Lack of development infrastructure in rural counties
- Lack of class A office space and minimal class B
- Many large private employers are not headquartered locally and, therefore, do not develop strong bonds to the community

OPPORTUNITIES

- Establishing a regional military alliance
- Expanding training and education programs supporting the advanced manufacturing sector
- Raising awareness of advanced manufacturing career opportunities among Soldiers and their spouses, as well as the broader regional talent pool
- Enhance existing veterans inventory system
- Expanding access to and utilization of broadband infrastructure, especially in rural and underserved areas
- Ensure the region is represented in Nashville's long-term transportation planning efforts
- Fully leveraging the region's tourism assets: Fort Campbell, outdoor recreation, agricultural tourism, adventure tourism, fitness lifestyle events/assets
- Enhance the system for connecting separating Soldiers and their spouses to regional assets and services
- Using this planning process to advance the notion/mindset of creating a true regional alliance

THREATS

- Growing traffic congestion could begin restricting residential and commercial development
- The region will be challenged attracting and retaining skilled "white collar" professionals if it doesn't continue to develop the amenities those workers find attractive
- The region will continue losing potential high-earning and innovative young talent due to lack of economic opportunities
- Army restructuring, BRAC, and sequestration threaten force levels at Fort Campbell

STRATEGIC PLAN

GOAL 1. FORM A REGIONAL DEFENSE ALLIANCE TO ENHANCE SUPPORT FOR FORT CAMPBELL AND THE DEFENSE SECTOR.

The region has a long history of providing staunch support for the units, missions, service members, and families associated with Fort Campbell. This support has been provided by city and county governments, chambers of commerce, economic development organizations, nonprofits, and individual champions in both states. However, except for the annual Citizens for Fort Campbell visit to Washington, DC, and the 2015 listening tour, the region has lacked a full-time, collaborative initiative dedicated to advocating for the Post and maximizing its economic potential throughout the six-county impact area.

Many stakeholders in this process have identified a need to establish a new regional defense alliance to serve this purpose. The impetus for launching such an organization now is due to the current atmosphere of declining federal defense procurement and milcon budgets, Army downsizing, and the real prospect of a future BRAC round. Fort Campbell is not invulnerable to these threats. The loss of the 159th Combat Aviation Brigade is only a warning of what the region could face in the near future if it does not come together to work on behalf of Fort Campbell.

Importantly, the purpose of a new organization is not to usurp any existing programs and responsibilities administered by other organizations. Rather, Fort Campbell Strong should support and augment current efforts. Moreover, it should serve as a new model for regional engagement and cooperation that will demonstrate the positive benefits of regional collaboration on shared issues.

1.1. Establish Fort Campbell Strong to provide the region with a dedicated, unified voice on matters involving Fort Campbell. The detailed recommendations for the organization's mission, activities, structure, and proposed budget are below.

ACTIVITIES

The operations and day-to-day functions of FCS are driven by the executive director, who works to coordinate all necessary tasks required to fulfill the organization's mission. The executive director keeps the partner organizations and key stakeholders coordinated, focused, and informed so that FCS can support the overall health of the region's military and defense sector. Below are the primary tasks FCS will be engaged in over the next 24 months.

- Advocate on behalf of missions and facilities at Fort Campbell a the local, state, and federal levels
- Monitor, analyze, and communicate the impacts of national and state legislation, policies, and budgets on the force structure and missions at Fort Campbell
- Increase awareness of economic impact of Fort Campbell to the region
- Serve as the lead voice for military and defense issues in the region
- Work with local economic development organizations to identify and attract new defense sector companies, investments, and employment tied to Fort Campbell and the broader defense sector
- Serve on prospect recruitment teams with local economic development organizations in the region
- Support efforts to retain, attract, and enhance military missions and personnel at Fort Campbell
- Support programs and initiatives to increase civilian employment opportunities in the region for military veterans and spouses

- Work with regional partners to support the installation's infrastructure and program needs surrounding the installation
- Strengthen communication between military leadership and local civilian leadership
- Support state-level military assistance and advocacy efforts in Kentucky and Tennessee
- Serve as the focal point of regional data and information through the FCS website, including the regional profile
- Represent the region at local and national events and meetings

STRUCTURE

Fort Campbell Strong should be established as an independent, non-profit organization [501 (C)(6)]. FCS leadership includes a board of directors, an executive committee, and an executive director. The board should consist of elected representatives from each of the six counties in the impact area as well as key stakeholders and investors. The board's responsibilities should include:

- Provide recommendations and help to set action items, as identified and developed by the executive committee
- Develop and approve an annual work plan
- Authorize an annual budget
- Meet as necessary, but not less than quarterly, to coordinate FCS activities

Four of the members serving on the board of directors should serve on the executive committee and will be joined by the executive director of FCS. The five-member executive committee consists of two co-chairs (one from each state), a secretary, a treasurer, and the FCS executive director. The executive committee's responsibilities should include:

- Lead decisions regarding strategic, financial, and program goals
- Lead management oversight and evaluation of the executive director
- Meet monthly

The executive director is FCS's primary point of contact and provides organizational leadership and coordination of support activities provided by other agencies and organizations. This position is the face and voice of FCS to the public, community partners, and states. The ideal candidate would be a recently retired senior Army officer with personal knowledge of Fort Campbell and the surrounding region. The executive director's responsibilities should include:

- Provide daily management of FCS activities and programs
- Execute FCS activities and initiatives
- Report directly to the executive committee and board
- Hire and manage support staff

FUNDING

FCS will adopt a formal funding program that will support the ongoing operations, overhead, and staffing requirements of the organization. It will be a support structure made up of contributions from the public and private sectors. In addition to local funding, FCS will pursue outside grants to support specific initiatives.

- Regional partners should apply for an OEA grant to provide funding for the organization, to stand it up and sustain it through its first three years. OEA has provided funding assistance to other communities and regions to help stand up defense support organizations.

BUDGET

Based on a review of budgets of similar organizations in other states, FCS's annual budget should be $375,000, which includes costs associated with personnel, travel, office, and overhead.

1.1.1. Submit a grant request to the Office of Economic Adjustment (OEA) to provide partial funding to help stand up and solidify FCS for the first two years.

1.1.2. Draft and sign a memorandum of agreement (MOA) that details the leadership structure of FCS and the support each regional partner will provide.

1.1.3. Recruit and hire a full-time executive director to run the alliance.

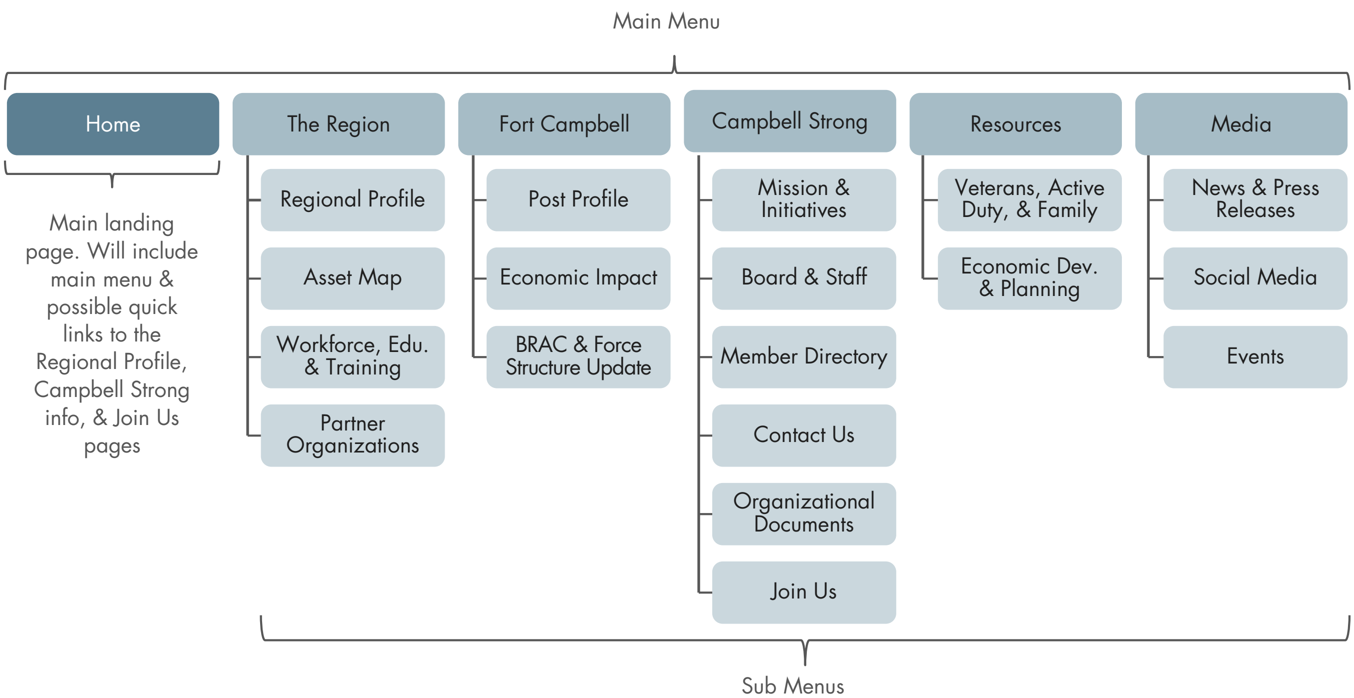
1.1.4. Identify suitable office space in both states to house FCS.

1.1.5. Launch a regional publicity campaign to raise awareness and build support for FCS.

1.1.6. Develop a long-term plan for financially sustaining the alliance after OEA funding expires.

1.2. Utilize the Fort Campbell Strong website as a tool for regional economic development. TIP developed a draft design and site structure for the Fort Campbell Strong website. The proposed site structure is shown in the figure below.

1.2.1. Fort Campbell Strong should assume responsibility for finalizing the site's design and structure, populating the site with information, and maintaining it.



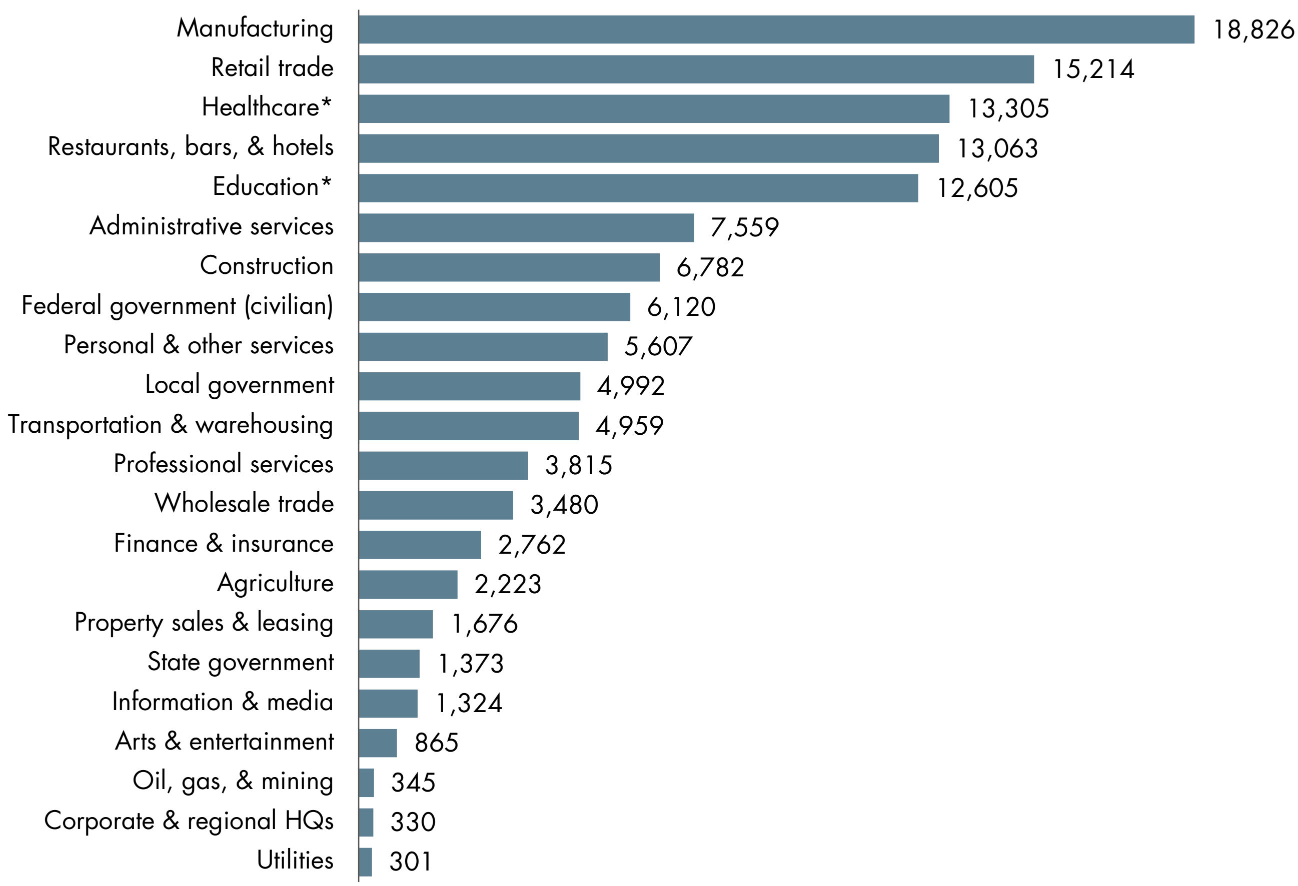
GOAL 2. INCREASE THE FLOW OF TALENT FROM FORT CAMPBELL TO THE REGIONAL WORKFORCE.

Access to talent is the most important factor businesses consider when assessing locations for relocation or expansion. In fact, per Area Development's "30th Annual Survey of Corporate Executives (Q1 2016)", access to a skilled workforce ranked number one among 36 site selection factors. There is no question that access to talent is also a critical issue for the region's employers. In discussions with the consulting team, employers in the region reported that workforce attraction, retention, and development is their top challenge, especially in the advanced manufacturing sector.

Indeed, the Fort Campbell region is an advanced manufacturing center that is home to several leading manufacturing companies and facilities, including Akebono Brake, Bridgestone, Trane, and GE Engine Services. In addition, Hankook Tire Company is currently constructing an $800 million manufacturing facility in the region, which is scheduled to create 1,800 new jobs. Overall, the manufacturing sector employs almost 19,000 workers in the region, making it the largest industry employment sector behind the military.

NON-MILITARY JOB BASE BY INDUSTRY SECTOR

AS OF 2015



Source: 2015.4 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Note: Education includes all public schools, colleges, & universities, and healthcare includes all public hospitals.

Furthermore, conversations with employers, higher education officials, and workforce training professionals reveal a significant unmet demand for manufacturing occupations in the region. The demand is especially acute for technical positions within manufacturing operations (e.g., industrial maintenance, CNC operators). Employers report difficulty in finding qualified candidates who possess the skills, training, and personal qualities they are seeking to fill critical positions.

At the same time, Fort Campbell offers the region a substantial talent pool of workers who could potentially fill many of these positions through the Soldiers separating from service at the Post. Every month, 400-600 Soldiers depart the Army from Fort Campbell because of ETS or retirement. Per a survey of Soldiers participating in Fort Campbell's Army Career and Alumni (ACAP) program, 47% would be willing to remain in the region after leaving the Army if desirable employment were available. Existing employers are enthusiastic in hiring veterans due to the discipline, leadership, and workplace skills instilled in them from their military service.

However, the critical gap to connecting veterans as well as civilian workers with high demand manufacturing occupations are requisite training and certifications. The region's higher education institutions and workforce training organizations recognize this need and are developing training and education programs to address it. What they lack, however, are the resources and regional coordination needed to expand and regionally align advanced manufacturing education programs.

2.1. Align, coordinate, and expand advanced manufacturing education and training in the region that builds on an existing industry strength and leverages the talent pipeline coming out of Fort Campbell.

The Fort Campbell region is seeking additional OEA grant funding assistance to help implement this opportunity. The region's three post-secondary education institutions that provide advanced manufacturing education and training programs – Hopkinsville Community College, Austin Peay State University, and the Tennessee College of Applied Technology – have identified specific programmatic needs that would benefit from additional financial support. Funding needs include start-up/expansion costs associated with capital and equipment procurement, training for educators, and marketing materials. Veterans, active duty military personnel and their spouses will receive priority for enrollment in these training programs.

2.1.1. Expand the Kentucky Federation for Advanced Manufacturing Education (KY FAME) to better serve Soldiers and their dependents.

Hopkinsville Community College (HCC) would like to expand the Kentucky Federation for Advanced Manufacturing Education (KY FAME), the Commonwealth's nationally-recognized advanced manufacturing training program which will launch in Hopkinsville this fall, to better serve Soldiers and their dependents. The plan is to increase program capacity and cultivate options for stackable credentials at HCC which would transfer to Austin Peay State University.

The KY FAME program was made available at HCC in August 2016 for the first time through a partnership between the college and 12 local manufacturers. KY FAME participants can earn an associate degree in the advanced manufacturing technician track of industrial maintenance technology while gaining hands-on, paid work experience at a sponsoring manufacturer. The apprenticeship-style work-and-learn program addresses a need for more technically-skilled workers in advanced manufacturing regionally and across the country, while also providing an avenue to high-wage high-demand careers for military veterans and their dependents.

KY FAME participants attend classes two days a week and work at a sponsoring manufacturer for a competitive wage at least 24 hours each week. This work-and-learn format gives students the opportunity to immediately apply what they learn on campus in a real-work setting on the plant floor. Students who complete the five-semester program receive an associate in applied science degree and often graduate with zero student-loan debt.

After just 21 months, students graduate not only with an associate degree but with more than 2,000 hours of practical work experience which surges them ahead of their competitors in the job market. This work-and-learn experience builds on the strong essential workplace skills which military veterans and their families often already possess. These critical skills – such as reliability, diligence, initiative, communication and teamwork – are lacking in the workforce according to local employers.

KENTUCKY FAME (FEDERATION FOR ADVANCED MANUFACTURING EDU.)

The Kentucky Federation for Advanced Manufacturing Education (KY FAME) is a partnership of manufacturers and higher education institutions that provides apprenticeship-style training for technically-skilled workers in advanced manufacturing. The KY FAME program was made available in West Kentucky in August 2016 for the first time through a partnership between the region's three community colleges and more than a dozen local manufacturers and other large employers. KY FAME participants can earn an associate's degree in the advanced manufacturing technician track of industrial maintenance technology while gaining hands-on, paid work experience with a sponsoring manufacturing business.

STACKABLE CREDENTIALS AND PROGRAM ALIGNMENT

Over the course of the five semesters of this program, participants will earn technical certificates along the way to achieving an associate degree. The associate's degree coursework is transferrable to Austin Peay State University, where students can continue their education to pursue bachelor's and master's degrees.

HOPKINSVILLE COMMUNITY COLLEGE

CREDENTIAL	ACADEMIC PROGRAM	CONCENTRATION
Certificate	Engineering and Electronics Technology	Electrician Trainee Level I
Certificate	Engineering and Electronics Technology	Electrician Trainee, Level II
Certificate	Manufacturing Industrial Technology: Industrial Maintenance Technology	Industrial Maintenance Electrical Mechanic
Certificate	Manufacturing Industrial Technology: Industrial Maintenance Technology	Industrial Maintenance Mechanic Level I
Certificate	Manufacturing Industrial Technology: Industrial Maintenance Technology	Industrial Maintenance Robotics Technician
Associate in Applied Science Degree	Manufacturing Industrial Technology: Industrial Maintenance Technology	Advanced Manufacturing Technician Track

AUSTIN PEAY STATE UNIVERSITY

CREDENTIAL	ACADEMIC PROGRAM	CONCENTRATION
Bachelor of Science	Engineering Technology	Electrical Engineering Technology
Bachelor of Science	Engineering Technology	Manufacturing Engineering Technology
Bachelor of Science	Engineering Technology	Mechatronics Engineering Technology
Master of Science	Engineering Technology	Engineering Technology

2.1.2. Start up and expand the AAS and BS degrees in Mechatronics Advanced Manufacturing Education at Austin Peay State University.

Austin Peay State University's (APSU) Engineering Technology Department has a long history of graduating individuals to help meet the manufacturing workforce needs for the region. APSU offers AAS and BS specializations that cover both Subtractive Manufacturing (CNC Milling Machines) and Additive Manufacturing (3D printing) with over $1 million of equipment and highly qualified faculty. APSU is now in the startup phase of their recently approved AAS and BS degrees in Mechatronics. These two degrees were developed to meet the rapidly growing demand for a workforce with expertise in Manufacturing Automation.

It is imperative that the newly approved Mechatronics degree programs follow a format that meets local, regional, and international industry standards. Siemens and Allen Bradley are the two most prominent names in automation, as associated with mechatronics, with Siemens developing the majority of standards currently being integrated into the manufacturing industry. The majority of Siemens standards also apply to Allen Bradley with the Siemens format dominating industry worldwide. Therefore, it is imperative that any certificate or degree awarding Mechatronics program follow training standards developed by Siemens to provide students with training that is internationally accepted in a manufacturing industry that is globally active.

To meet the needs of both the military and civilian students, Austin Peay must provide Siemens certified Mechatronics degrees so that every student will have the greatest chance of success in finding valid employment after degree completion. Since the very nature of the military is transient, many students completing a Mechatronics degree while enlisted in the military will need a program of study that can follow them internationally once they separate from the military and seek gainful employment. It is our responsibility to make sure that we service the military in such a way that we provide training outcomes that are as mobile as the military students. Although most civilian students are far less mobile than military students and usually enter a workforce within a short distance from Austin Peay, it is just as important to make sure the program of study provided to them also allows for international mobility. Also, a properly trained local workforce draws new industry to the area and any city with a mechatronics workforce that is Siemens trained will provide a strong attraction for new industry seeking a workforce with advanced knowledge of modern automation standards.

PRIORITY 1: FACULTY CERTIFICATION

For Austin Peay to offer Mechatronics degrees that meet Siemens standards, it is required that faculty teaching Mechatronics courses be certified for the level of Siemens training the courses are associated with. First year courses require that the instructor be "Level 1" Siemens certified. Second year courses leading to the AAS degree, or to the second year of a BS degree in Mechatronics, require "Level 2" Siemens certification. Third and fourth year courses leading to the completion of the BS degree require that the instructor be "Level 3" certified. Since Austin Peay will be offering both the AAS and BS degrees, instructors within the program will be required to have all three certifications if the instructors will be teaching in the BS concentration. Degree certification requires that at least two faculty members obtain "Level 3" certification. The cost for each level of certification is approximately $6,000 per faculty member, or a total of $18,000 to get to "Level 3" certification ($36,000 total). Level 2 & 3 certification can only be obtained in Germany; each certification program requires two weeks of intensive training. Travel costs plus two weeks of room and board is about $4,000 per faculty member, per certification level (total cost for two faculty members: $24,000).

PRIORITY 2: MECHATRONICS TEACHING MODULES

In order to meet the requirements for mechatronics training based on the Siemens format, it will be necessary for Austin Peay to purchase a modular training system that supports each phase of Level 1 Siemens training. Further, the training system must be designed to integrate with additional equipment used for Level 2 and Level 3 stages of Siemens format training. One example of this type system is the FESTO MPS-210 trainer consisting of ten modular sections designed so that each module provides training toward specific aspects of the Siemens format. The ten modules can all operate together as one complete system or individually as one stage of a complete system. The MPS-210 package provides control packages based on the Siemens S7-313C format and Compact Logix PLC's format. The MPS-210 comes with a complete curriculum for Siemens Level 1 and Level 2 training, multimedia and computer-based software which allows for troubleshooting using EasyPort, FluidSIM, simulation control panels for troubleshooting, and ten separate project kits focused on the design of Mechatronics systems for design and repair training. This system is designed to train up to 30 students.

PRIORITY 3: ALIGNMENT OF STUDENT CREDENTIALING AND PROGRAM MARKETING FOR APSU, HCC, AND THE CLARKSVILLE TCAT

Time and effort will need to be put into developing degree pathways from the one-year certificate program offered at the TCAT to the AAS. degrees offered by APSU and HCC, to the BS degree offered at APSU. Additionally, materials will need to be developed to help market the programs.

2.1.3. Enhance the Mechatronics program at the Tennessee College of Applied Technology Dickson and Clarksville Campus.

The Tennessee College of Applied Technology Dickson and Clarksville Campus (TCAT) is a Tennessee Board of Regents Institution, accredited by the Council on Occupational Education, in Atlanta, Georgia. The state technical colleges provide quality, competency-based training and retraining with the primary mission to serve as the premier suppliers of workforce development throughout the State of Tennessee.

The goal of the Tennessee Colleges of Applied Technology is to provide technical training to students to meet the occupational needs of employers in the community. Individualized instruction is utilized to the maximum in most programs. School policy provides that a student may enter a program when a vacancy occurs, start training at their own level, and progress at their own rate to the level desired within the limitations of the school. Individualized instruction provides the student with the highest quality instruction possible in the occupational area of their choosing.

The student population of TCAT is diverse, with approximately 35% utilizing veteran's benefits, while also serving the general population as well as dislocated workers seeking opportunities to learn to earn higher paying salaries. While the TCAT serves all residents of Tennessee, there is not an out-of-state fee for residents of Kentucky, or any other state.

Currently TCAT offers a 20-month Mechatronics program, in addition to 13 additional skilled trades training programs. The Mechatronics program provides training development for a multi-skilled industrial maintenance craftsman, which includes hands-on instruction in blueprint reading, mechanical positioning, predictive maintenance, welding, AC/DC electrical and electronics, programmable logic controllers (PLC), motor controls, fluid power, machine tool basics and CNC programming, hydraulics and pneumatics, robotics, and troubleshooting in many of the areas mentioned previously.

At the present time, the PLC training consists primarily of Allen-Bradley based PLCs; however, the growing industrial base in the Clarksville-Montgomery County is expanding their use of Siemens' PLCs and through this OEA Grant, it is our desire to upgrade some existing equipment to include Siemens, which is estimated to cost $75,000.00. Since this is a new PLC format, the Mechatronics instructor will require training, which is provided at no cost to TCAT; however, travel and lodging, estimated at $1,000 will be required to attend the training at one of five locations in the United States.

In addition to the need to incorporate Siemens' PLCs into the curriculum, there is a need to replace two aging pieces of equipment providing basic electrical, motors and generators, and motor controls training. TCAT has identified three trainers in the amounts of $27,000, $28,000, and $33,000, respectively, to upgrade the current trainers for improved learning opportunities for the students. The identified equipment will also provide the options of fault insertion capabilities and performance testing, allowing the instructor increased control for teaching troubleshooting skills.

The TCAT is pursuing partnerships with Austin Peay State University's Engineering Technology Department, with emphasis on Mechatronics, to provide certificates to entry level freshmen continuing onto earn an AAS. degree, then onto earn a BS degree. By means of this grant TCAT anticipates partnering with Hopkinsville Community College's Advanced Manufacturing program. Through these partnerships, TCAT anticipates the opportunity for students seeking a higher degree to have a clear path established to this means. Through these partnerships, TCAT, APSU and HCC will provide good will, targeting opportunities for the active military out-processing as well spouses of the active military.

TOTAL OEA GRANT ASSISTANCE REQUEST	
HCC KY FAME Program	$500,000
APSU Advanced Manufacturing Education	$420,000
TCAT Mechatronics Program	$165,000
Total	$1,085,000

2.2. Formalize the use of the Fort Campbell Veterans Inventory as a regional economic development tool.

The Fort Campbell Veterans Inventory is an anonymous, voluntary survey given to Soldiers who are preparing to transition to civilian life. The questionnaire is administered during mandatory Soldier for Life Transition Assistance Program (SFL-TAP) classes. It asks valuable information regarding military occupational specialty, educational attainment, professional/technical certifications, career desires (Soldier and spouse), relocation plans, and views on what can be done to improve the region's quality of place. The survey was previously utilized by the Clarksville-Montgomery County EDC (CMCEDC) as part of regional workforce studies conducted by TIP in 2006 and 2011. With hundreds of Soldiers separating from military service through Fort Campbell each month, understanding this workforce and their post-service intentions can provide a unique economic development differentiator for the region.

2.2.1. Fort Campbell Strong should coordinate with Soldier for Life and local workforce and economic development organizations to regularly administer the survey, collect the responses, tabulate the results, analyze the findings, and market the information to existing regional employers and investment prospects.

2.3. Develop a public awareness campaign designed to educate existing Soldiers and spouses, as well as broader talent pool, on the advanced manufacturing career opportunities and education/training programs available in the region.

2.3.1. Set clear goals and objectives for the awareness campaign with guidance from partners.

2.3.2. Build analytics into the campaign design so that effectiveness can be measured and strategies/tactics can be modified to improve results.

2.3.3. Brand the initiative, create a consistent message, and develop marketing collateral.

2.3.4. Target specific audiences by tailoring the message, tools, and delivery method. The target audiences that should be evaluated are as follows:

- Veterans separating from service
- Spouses of active-duty Soldiers
- Middle school and high school students
- Community college students—particularly undecided or undeclared
- Adults in workforce system or enrolled in other training program

2.3.5. Identify best ways to amplify the campaign through partnerships with employers, training providers, and the community at-large and through channels that maximize reach and exposure. Potential tools and channels include:

- Outreach presentations
- Speakers bureaus
- Train-the-trainer workshops
- Traditional and social media outlets
- Promotional materials (e.g. bookmark, magnet, or pens) that feature the career education tool
- Scholarships for students choosing fields of study relevant to the critical occupations

COLLEGE CREDIT FOR MILITARY SERVICE

The American Council on Education collaborates with the U.S. Department of Defense (DoD) to review military training and experiences and recommend appropriate college credit for members of the Armed Forces. ACE's credit recommendations appear in the Military Guide and on military transcripts.

www.acenet.edu/higher-education/topics/Pages/College-Credit-for-Military-Service.aspx

2.4. Develop a system to pre-screen and evaluate military skills and credentials and then translate them into higher education credits.

2.4.1. Explore and evaluate existing models for such a system. The American Council on Education has been working with DoD to develop guidelines and recommendations on this topic. *(See text box.)*

2.5. Strengthen the talent pipeline between Fort Campbell and regional employers.

2.5.1. Expand efforts to identify, categorize, and market Fort Campbell's workforce to current and future employers.

2.5.2. Build awareness among Kentucky and Tennessee employers about the skill sets represented by personnel separating from service at Fort Campbell.

2.5.3. Encourage employers to participate in job fairs and related Soldier for Life events at Fort Campbell.

GOAL 3. LEVERAGE THE REGION'S ASSETS TO ENHANCE ECONOMIC VITALITY.

Beyond the initiatives associated with Fort Campbell Strong and expanded advanced manufacturing training and education programs, there other assets and opportunities that should be fully exploited to promote regional growth and collaboration. Each local economic development organization has its own strategic plan that outlines the strategies and actions needed to pursue local opportunities. For example, the South Western Kentucky Economic Development Council and the Clarksville-Montgomery County Economic Development Council each have their own list of target industries to pursue as part of their industry attraction and recruitment program. The target industry recommendations provided in this plan should be viewed as strong recruitment and development prospects for the six-county impact area.

Other opportunities such as promoting festivals, outdoor recreation, and adventure tourism, as well as investing in and expanding critical infrastructure, were identified by local stakeholders as important to more rural areas of the region. Leaders and citizens expressed hope that the key initiatives identified in this planning process (i.e., advanced manufacturing training and education and forming a regional defense alliance) will help to coalesce a regional mindset and approach for economic development. This will then lead to regional collaboration on other initiatives, including those identified below.

TARGET INDUSTRY RECOMMENDATIONS

- Manufacturing
  - Motor Vehicle Seating & Interior Trim Mfg.
  - Industrial & Commercial Fan & Blower & Air Purification Equipment Mfg.
  - Plate Work Manufacturing
  - Farm Machinery & Equipment Mfg.
- Agriculture & Food
  - Wineries
  - Grain and Field Bean Merchant Wholesalers
  - All Other Misc. Wood Product Manufacturing
  - Flour Milling
- Distribution & Warehousing
  - Industrial Mach. & Equip. Merchant Wholesalers
  - Metal Service Centers & Other Metal Merchant Wholesalers
  - Farm Supplies Merchant Wholesalers
  - Electrical Apparatus & Equip, Wiring Supplies, & Related Equip. Merchant Wholesalers
- Business Services
  - Other Scientific & Tech. Consulting Services
  - Custom Computer Programming Services
  - Telemarketing Bureaus & Other Contact Centers
  - Data Processing, Hosting, & Related Services

3.1. Support regional industry development and attraction efforts in targeted industry sectors. While each economic development organization in the region has independently identified their own list of target industries, the industry recommendations in this plan should be considered and incorporated where appropriate.

3.1.1. Utilize the data and information in the regional target industry analysis and recommendations to bolster local industry recruitment and attraction efforts.

Four target sectors were identified as having the highest prospects for new investment and employment in the region. Within each sector, promising niches were noted. Industry definitions and trends, occupational characteristics, strategic considerations, and industry intelligence are provided for each industry sector in Appendix B. The four target sectors and some selected niches are shown in the text box.

3.2. Promote efforts to develop and promote outdoor recreation and tourism as economic drivers in more rural areas of the region. Specific opportunities include agritourism, adventure tourism, festivals and events, and fitness lifestyle events and amenities (trails, marathons, etc.).

3.2.1. Partner with state and regional organizations to invest in developing and marketing tourism assets.

3.2.2. Promote the development and marketing of craft wineries and breweries in the region.

3.2.3. Work with local convention & visitors bureaus to promote existing festivals and to identify opportunities to create new events.

3.3. Continue investing in the region's critical economic development physical infrastructure to ensure the region has the capacity to foster and accommodate future growth.

3.3.1. Position the region to be included as part of Nashville's long-term transportation planning efforts.

3.3.2. Expand broadband access to underserved and rural areas of the region. The Tennessee Department of Community and Economic Development recently released its *Broadband Survey and Report* that provides analysis and recommendations for increasing access and utilization of broadband in the state. The recommendations in the report should be analyzed for local suitability in in all six counties.

IMPLEMENTATION

The following matrix combines all the strategies and actions in a single table. The implementation matrix provides a graphic representation of when the actions should realistically be implemented and the most appropriate organizations to carry them out. The implementation matrix should not be viewed as a static document that cannot be modified or adjusted. On the contrary, events or conditions can rapidly change in a community after the plan is completed. These changing circumstances may require a re-prioritization of strategies and actions. In fact, TIP recommends that every plan be viewed as an evergreen document that requires routine pruning and reshaping.

Implementation of the plan will require the participation and collaboration of several organizations throughout the region. It should not rest entirely on the Pennyrile Area Development District. Once it is operational and staffed, Fort Campbell Strong will be responsible for coordinating the implementation of many of the key strategies and actions laid out in the plan. However, local government, economic development organizations, chambers of commerce, workforce boards, and higher education institutions in both states will all play critical roles. Suggested partner implementation organizations include (but are not necessarily limited to):

- FCS – Fort Campbell Strong
- PADD – Pennyrile Area Development District
- SWKEDC – South Western Kentucky Economic Development Council
- CMCEDC – Clarksville Montgomery Council Economic Development Council
- CCCoC – Christian County Chamber of Commerce
- CACoC – Clarksville Area Chamber of Commerce
- SCCoC – Stewart County Chamber of Commerce
- WKWB– West Kentucky Workforce Board
- WE – Workforce Essentials
- APSU – Austin Peay State University
- HCC – Hopkinsville Community College
- TCAT – Tennessee College of Applied Technology

	POTENTIAL PARTNERS	TIMEFRAME Ongoing	Next 12 mos	Years 2-3	Years 4 to 5
GOAL 1: FORM A REGIONAL DEFENSE ALLIANCE TO ENHANCE SUPPORT FOR FORT CAMPBELL AND THE DEFENSE SECTOR.					
Strategy 1.1. Establish Fort Campbell Strong to provide the region with a dedicated, unified voice on matters involving Fort Campbell.					
1.1.1. Submit a grant request to the Office of Economic Adjustment (OEA) to provide partial funding to help stand up and solidify FCS for the first two years.	PADD	◆			
1.1.2. Draft and sign a memorandum of agreement (MOA) that details the leadership structure of FCS and the support each regional partner will provide.	Counties, Cities, CMCEDC, SWKEDC, Chambers of Commerce		◆		
1.1.3. Recruit and hire a full-time executive director to run the alliance.	Counties, Cities, CMCEDC, SWKEDC, Chambers of Commerce		◆		
1.1.4. Identify suitable office space in both states to house FCS.	Counties, Cities, CMCEDC, SWKEDC, Chambers of Commerce		◆		
1.1.5. Launch a regional publicity campaign to raise awareness and build support for FCS.	FCS, Counties, Cities, CMCEDC, SWKEDC, Chambers of Commerce		◆	◆	
1.1.6. Develop a long-term plan for financially sustaining the alliance after OEA funding expires.	FCS, Counties, Cities, CMCEDC, SWKEDC, Chambers of Commerce		◆	◆	
Strategy 1.2. Utilize the Fort Campbell Strong website as a tool for regional economic development.					
1.2.1. Fort Campbell Strong should assume responsibility for finalizing the site's design and structure, populating the site with information, and maintaining it.	FCS		◆		
GOAL 2: INCREASE THE FLOW OF TALENT FROM FORT CAMPBELL TO THE REGIONAL WORKFORCE.					
Strategy 2.1. Align, coordinate, and expand advanced manufacturing education and training in the region that builds on an existing industry strength and leverages the talent pipeline coming out of Fort Campbell.					
2.1.1. Expand the Kentucky Federation for Advanced Manufacturing Education (KY FAME) to better serve Soldiers and their dependents.	HCC, APSU, WKWB	◆	◆	◆	
2.1.2. Start up and expand the AAS and BS degrees in Mechatronics Advanced Manufacturing Education at Austin Peay State University.	APSU, WE	◆	◆	◆	

	POTENTIAL PARTNERS	TIMEFRAME			
		Ongoing	Next 12 mos	Years 2-3	Years 4 to 5
2.1.3. Enhance the Mechatronics Program at the Tennessee College of Applied Technology Dickson and Clarksville Campus.	TCAT, APSU, WE	◆	◆	◆	
Strategy 2.2. Formalize the use of the Fort Campbell Veterans Inventory as a regional economic development tool.					
2.2.1. Coordinate with Soldier for Life and local workforce and economic development organizations to regularly administer the survey, collect the responses, tabulate the results, analyze the findings, and market the information to existing regional employers and investment prospects.	FCS, WE, WKWB, CMCEDC, SWKEDC			◆	
Strategy 2.3. Develop a public awareness campaign designed to educate existing Soldiers and spouses, as well as broader talent pool, on the advanced manufacturing career opportunities and education/training programs available in the region.					
2.3.1. Set clear goals and objectives for the awareness campaign with guidance from partners.	WE, WKWB, APSU, HCC, TCAT			◆	
2.3.2. Build analytics into the campaign design so that effectiveness can be measured and strategies/tactics can be modified to improve results.	WE, WKWB, APSU, HCC, TCAT			◆	
2.3.3. Brand the initiative, create a consistent message, and develop marketing collateral.	WE, WKWB, APSU, HCC, TCAT			◆	
2.3.4. Target specific audiences by tailoring the message, tools, and delivery method.	WE, WKWB, APSU, HCC, TCAT			◆	
2.3.5. Identify best ways to amplify the campaign through partnerships with employers, training providers, and the community at-large and through channels that maximize reach and exposure.	WE, WKWB, APSU, HCC, TCAT				◆
Strategy 2.4. Develop a system to pre-screen and evaluate military skills and credentials and then translate them into higher education credits.					
2.4.1. Explore and evaluate existing models for such a system.	WE, WKWB, APSU, HCC, TCAT			◆	
Strategy 2.5. Strengthen the talent pipeline between Fort Campbell and regional employers.					
2.5.1. Expand efforts identify, categorize, and market the Fort Campbell workforce to current and future employers.	WE, WKWB, APSU, HCC, TCAT	◆	◆		
2.5.2. Build awareness among Kentucky and Tennessee employers about the skill sets represented by personnel separating from service at Fort Campbell.	WE, WKWB, APSU, HCC, TCAT, CMCEDC, SWKEDC		◆		

	POTENTIAL PARTNERS	TIMEFRAME			
		Ongoing	Next 12 mos	Years 2-3	Years 4 to 5
2.5.3. Encourage employers to participate in job fairs and related Soldier for Life events at Fort Campbell.	WE, WKWB, APSU, HCC, TCAT, CMCEDC, SWKEDC		◆		
GOAL 3: LEVERAGE THE REGION'S ASSETS TO ENHANCE ECONOMIC VITALITY.					
Strategy 3.1. Support regional industry development and attraction efforts in targeted industry sectors.					
3.1.1. Utilize the data and information in the regional target industry analysis and recommendations to bolster local industry recruitment and attraction efforts.	SWKEDC, CMCEDC		◆		
Strategy 3.2. Promote efforts to develop and promote outdoor recreation and tourism as economic drivers in more rural areas of the region.					
3.2.1. Partner with state and regional organizations to invest in developing and marketing tourism assets.	Chambers of Commerce, CVBs	◆			
3.2.2. Promote the development and marketing of craft wineries and breweries in the region.	Chambers of Commerce, CVBs	◆			
3.2.3. Work with local convention & visitors bureaus to promote existing festivals and to identify opportunities to create new events.	Chambers of Commerce, CVBs	◆			
Strategy 3.3. Continue investing in the region's critical economic development physical infrastructure to ensure the region has the capacity to foster and accommodate future growth.					
3.3.1. Position the region to be included as part of Nashville's long-term transportation planning efforts.	Cities, Counties, PADD			◆	◆
3.3.2. Expand broadband access to underserved and rural areas of the region.	Cities, Counties, PADD			◆	◆

MEASURES

An important and often overlooked component of a successful strategic plan is the development of metrics by which progress toward the plan's implementation will be measured and tracked. While it is difficult to directly connect the success of any economic development strategic plan to local-level macro-economic statistics (e.g., median household income), tracking some economic indicators provides a general understanding of the relative economic health of the region. TIP recommends regional partners use the following indicators to measure program effectiveness and economic growth in the six-county impact area.

SUGGESTED METRICS
Number of jobs created/retained
Average wages of new jobs created/retained
Annual unemployment rate
Private non-farm employment
Employment growth in the manufacturing sector
Amount of new private sector investment
Number of new businesses within the region
Growth of commercial tax base
Retail sales growth
Annual population estimates
Population projections
Population over age 25 with a bachelor's degree or higher
Percent of the population age 20-34
Number of enrolled college and university students
Net migration
Median household income

APPENDIX A: REGIONAL PROFILE

ABOUT THE REGION

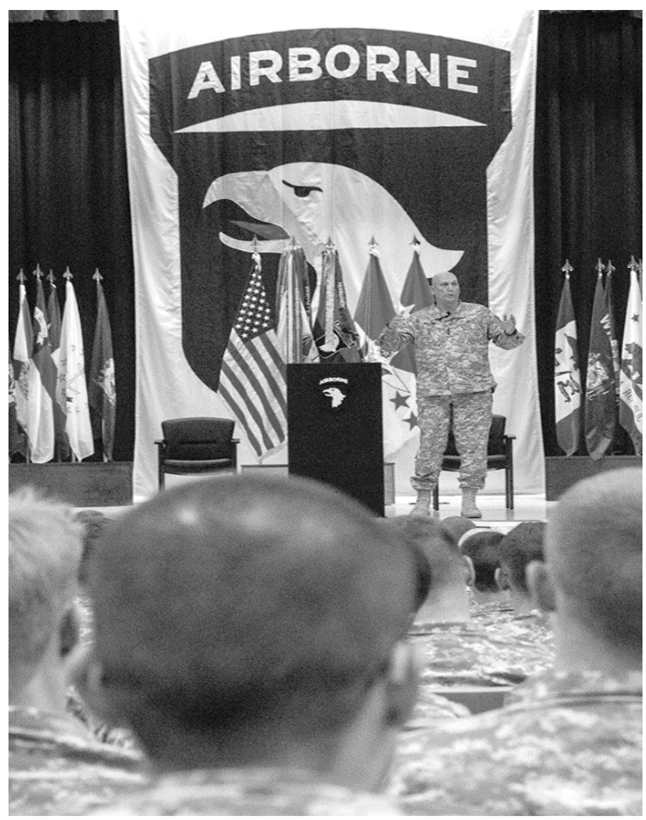
The Fort Campbell region is comprised of six counties spanning two states: Christian, Todd, and Trigg in Kentucky and Montgomery, Robertson, and Stewart in Tennessee.

ABOUT FORT CAMPBELL

Fort Campbell is located at the center of the region. It supports the 5th largest military population in the Army and the 7th largest in the Department of Defense.

In 2013, Fort Campbell had a military population of 31,092. Additional family members increased the population by 53,116, and Army retirees, retiree family members and reserve component added another 155,591.

Image credit: U.S. Army photo by Staff Sgt. Terrance D. Rhodes, 101st Airborne Division (Air Assault) Public Affairs



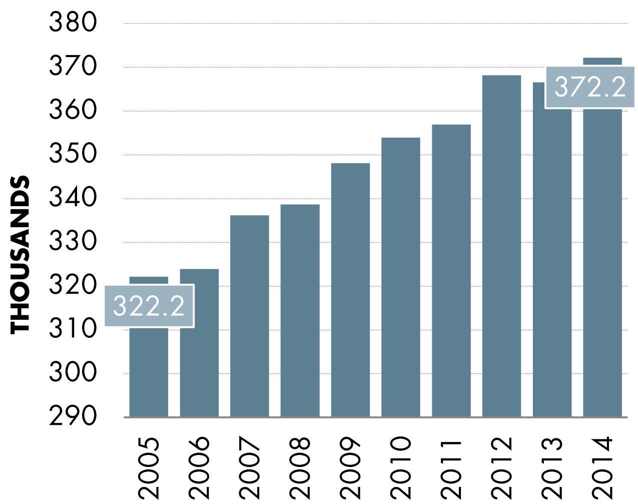


FIGURE 1. TOTAL POPULATION

ANNUAL ESTIMATES JULY 1 OF EACH YEAR

The population of the Fort Campbell region has grown by more than 50,000 residents in the last 10 years. As of 2014, the total population in the region was 372,200.

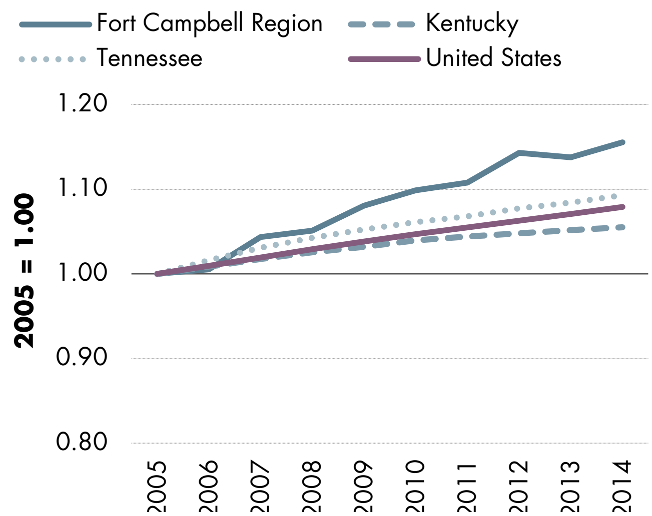
Source: US Census Bureau, Population Estimates program
Notes: via Moody's economy.com

FIGURE 2. POPULATION TRENDS

GROWTH SINCE 2005

The Fort Campbell region grew 16% between 2005 and 2014. This growth rate was significantly higher than the nation's (8%), Kentucky's (5%), and Tennessee's (9%).

Source: US Census Bureau, Population Estimates program
Notes: via Moody's economy.com



	2014 POPULATION	TRENDS 2010-14
Montgomery	189,961	↑
Christian	74,250	–
Robertson	68,079	↑
Trigg	14,142	↓
Stewart	13,279	↓
Todd	12,520	↑

FIGURE 3. REGIONAL POPULATION DISTRIBUTION

Approximately half of the region's population lives in Montgomery County. Twenty percent live in Christian County, and 18% live in Robertson County.

Montgomery County was the fastest growing county in the region, growing almost 10% between 2010 and 2014. Robertson and Todd Counties also saw growth, increasing about 3% and 1% respectively.

Source: US Census Bureau, Population Estimates 2010 - 2014
Notes: via Moody's economy.com

FIGURE 4. EDUCATIONAL ATTAINMENT

About 68% of the Fort Campbell region's population 25 years and older have earned a high school diploma, a certificate, or an associate's degree. Twenty percent have earned a bachelor's degree or higher.

Source: ACS via Moody's Economy.com

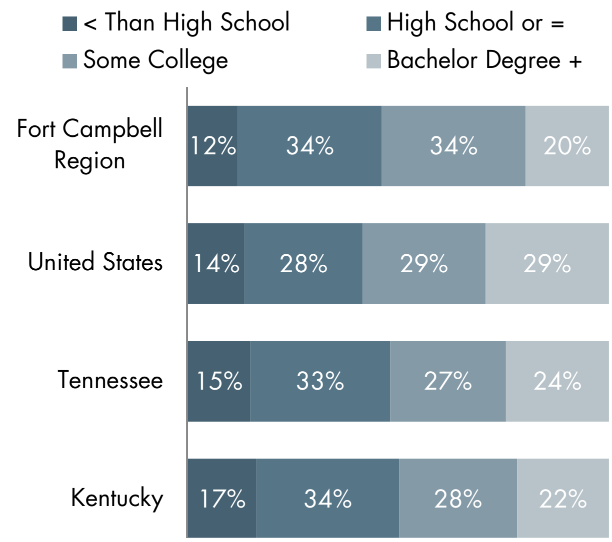


FIGURE 5. AGE DISTRIBUTION

The Fort Campbell region is a young region. Its largest age cohorts are experienced working age and youth. The region's youth and young adult cohorts are considerably larger than nation's and state's, while the experienced working age and senior cohorts are much smaller than these benchmarks.

Source: ACS via Moody's Economy.com

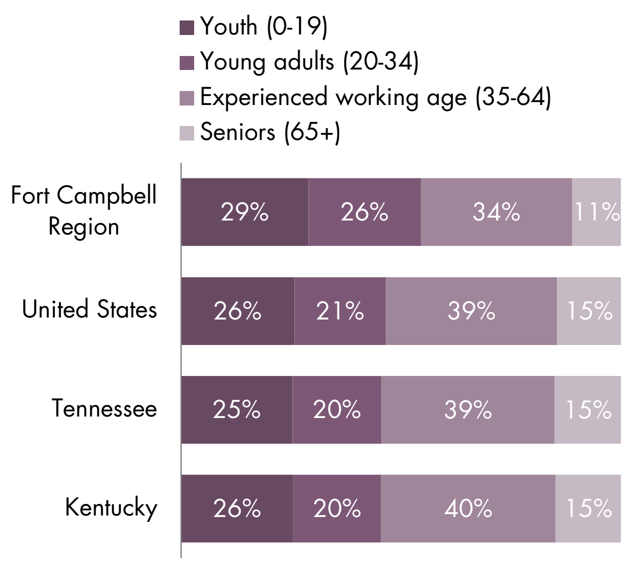


FIGURE 6. RACE & ETHNICITY

The region is relatively diverse. The region's black population represents 15% of the total population, while the Hispanic population represents 8%.

Source: ACS via Moody's Economy.com

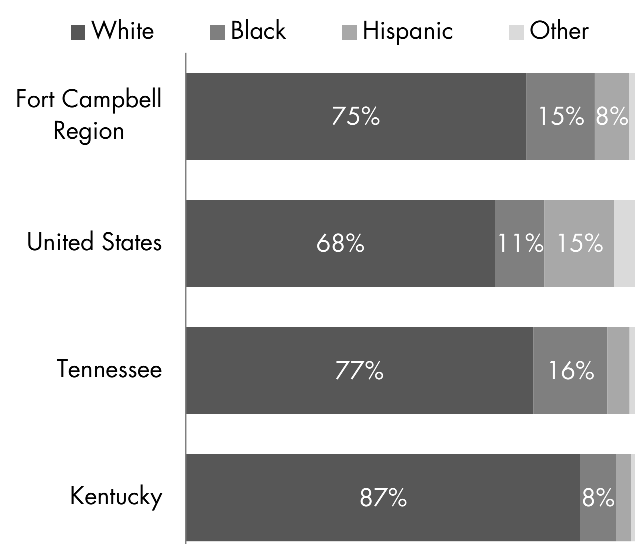


FIGURE 7. LABOR MARKET OVERVIEW

The Fort Campbell region has a civilian labor force of 155,000. Almost 90% of these workers live in Montgomery, Robertson, or Christian Counties.

GEOGRAPHY	CIVILIAN LABOR FORCE	EMPLOYED	UNEMPLOYED	UNEMPLOYMENT RATE
United States	157,833,000	149,929,000	7,904,000	5.0
Kentucky	1,950,431	1,846,133	104,298	5.3
Tennessee	3,082,841	2,909,762	173,079	5.6
FORT CAMPBELL REGION	**154,816**	**146,050**	**8,766**	**5.7**
Christian	25,388	23,810	1,578	6.2
Montgomery	78,413	73,881	4,532	5.8
Robertson	34,692	33,036	1,656	4.8
Stewart	5,104	4,714	389	7.6
Todd	5,380	5,126	255	4.7
Trigg	5,838	5,483	356	6.1

Source: US Bureau of Labor Statistics, Local Area Unemployment Statistics (state and county labor market data); US Census Bureau, Current Population Survey (national labor market data).
Notes: State and local figures for November 2014 are preliminary.

FIGURE 8. INFLOW/OUTFLOW FOR FORT CAMPBELL REGION, 2013

FLOW OF WORKERS TO/FROM REGION

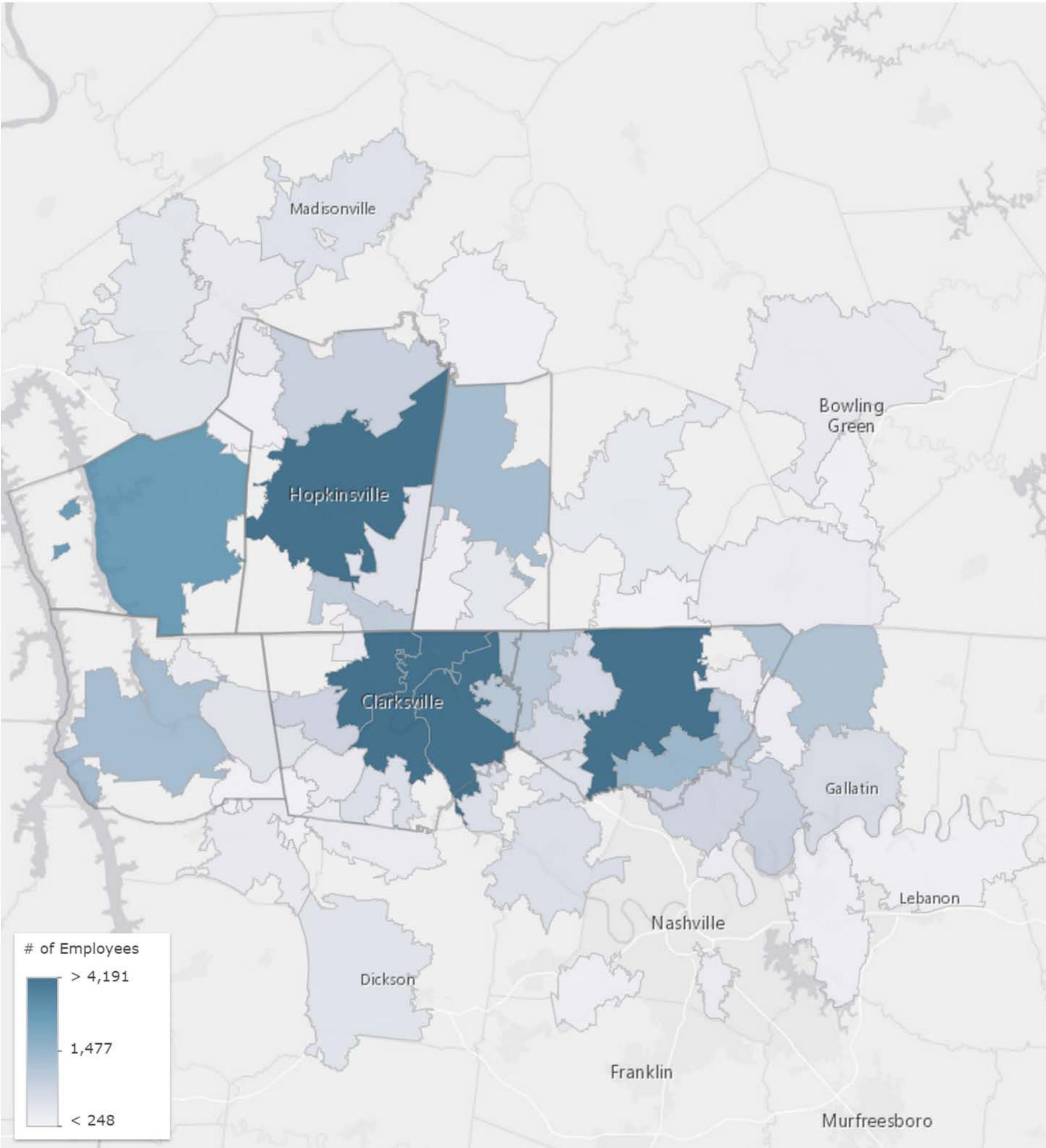
The majority (68%) of workers employed in the region also live in the region. The region, on net, exports almost 16,000 workers to jobs outside of the region. While 47,075 workers commute out of the region to work, only 31,175 workers commute into the region to work.

Source: US Census Bureau, Local Employment Dynamics.
Notes: Overlay arrows are for illustrative purposes and do not indicate directionality of worker flow between home and employment locations.

FIGURE 9. FORT CAMPBELL REGION LABORSHED

TOP 25 ZIP CODES WHERE REGIONAL EMPLOYEES LIVE

The Fort Campbell region's laborshed extends about 75 miles east to west and about 50 miles north to the south. The highest concentration of workers lives in the Zip codes associated with Clarksville and Hopkinsville. Springfield, TN (37172) also has a high number of employees.



Source: LEHD via OnTheMap.

JOBS & ECONOMY

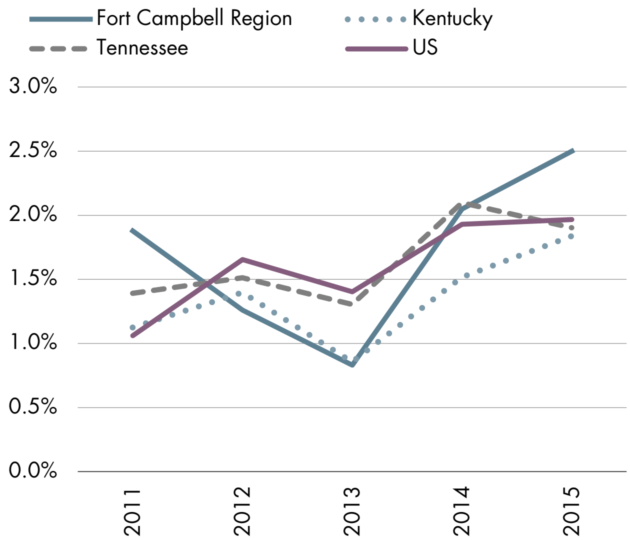


FIGURE 10. EMPLOYMENT TRENDS

2010 TO 2020

Following slow growth in 2013 due to sequestration, the Fort Campbell region has been growing at more than 2% per year since.

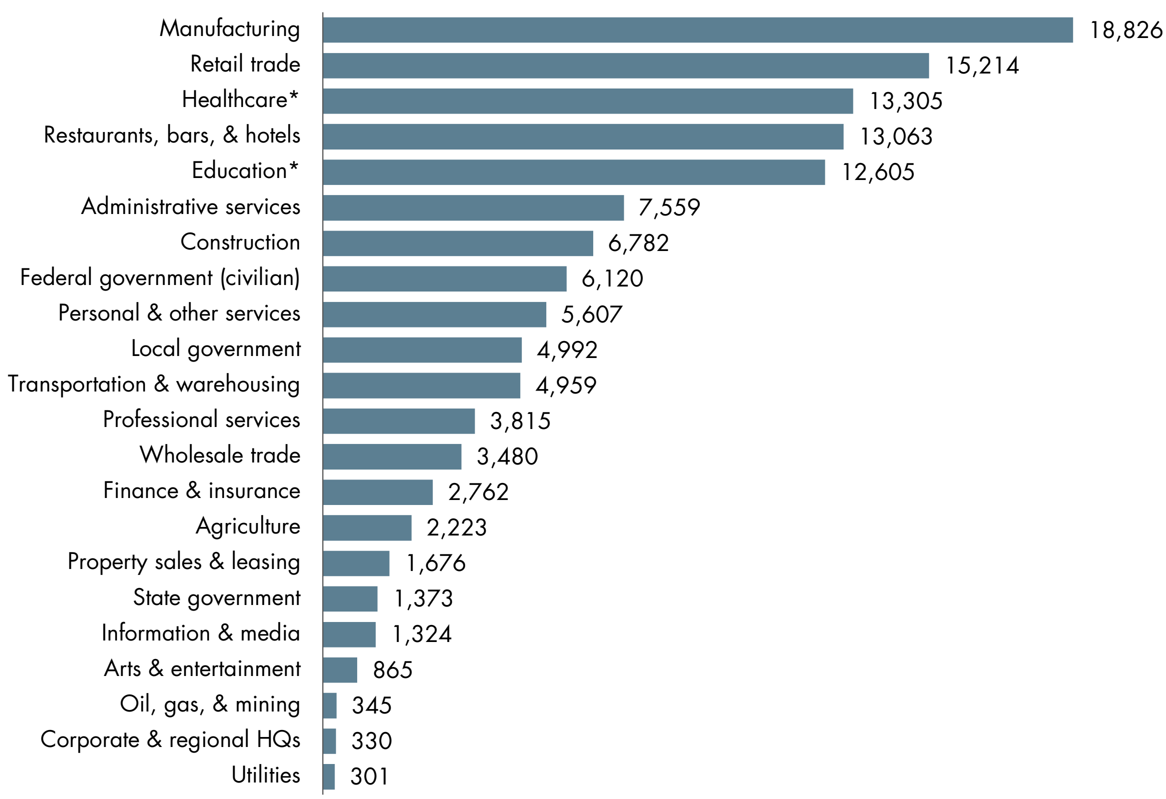
In all years but 2012 and 2013, the Fort Campbell region grew more quickly than the US overall.

Source: 2015.4 – QCEW Employees, Non-QCEW Employees, and Self-Employed

FIGURE 11. NON-MILITARY JOB BASE BY INDUSTRY SECTOR

AS OF 2015

The manufacturing sector is the largest industry sector in the Fort Campbell region behind the military. Retail trade, healthcare, restaurants, and education round out the top 5 industry sectors in the region. Together, these sectors represent 57% of the non-military employment base.



Source: 2015.4 – QCEW Employees, Non-QCEW Employees, and Self-Employed
*Note: Education includes all public schools, colleges, & universities, and healthcare includes all public hospitals.

FIGURE 12. MAJOR INDUSTRIAL EMPLOYERS

TOP 10 MAJOR INDUSTRIAL EMPLOYERS

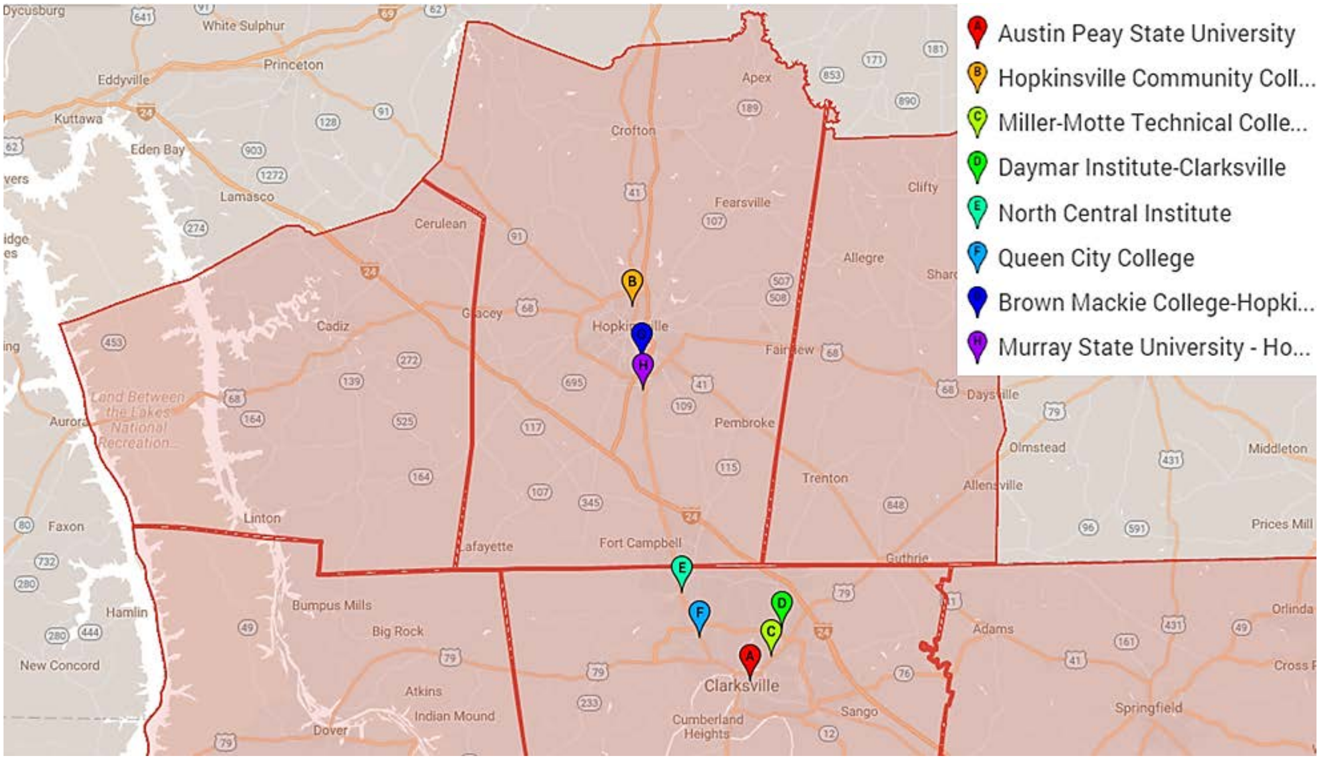
The region is home to a number of significant manufacturing and logistics employers.

COMPANY	NUMBER OF EMPLOYEES
Trane Company	1,100
Martinrea	900
Wal-Mart Distribution Center	884
Akebono	500
Grupo Antolin Kentucky	455
TRAD	440
Transcraft Corporation	410
Jostens, Printing & Publishing Division	400
Bridgestone Metalpha	355
Florim USA	287

EDUCATION & TRAINING

FIGURE 13. REGIONAL COLLEGES AND UNIVERSITIES

The Fort Campbell region has seven post-secondary institutions. Austin Peay State University is the region's four-year university, offering a wide range of degree programs from associate degrees to master's.

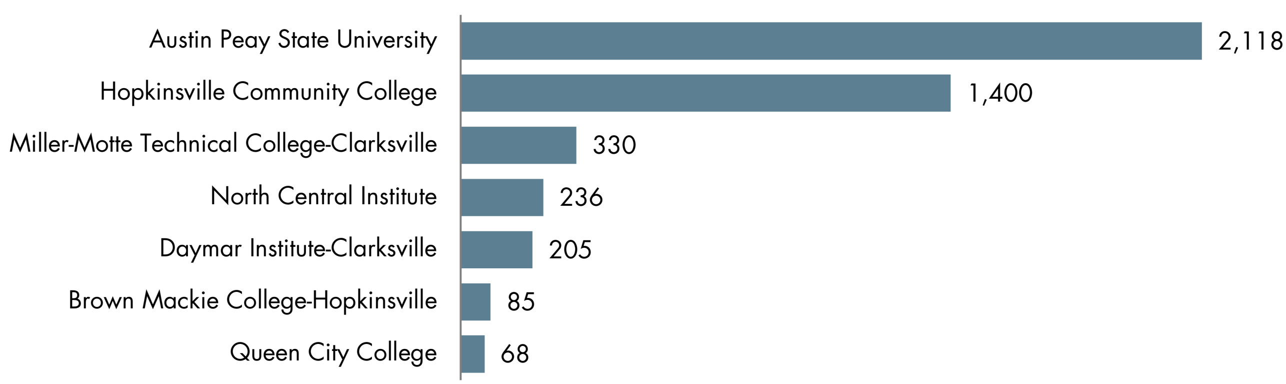


Source: National Center for Education Statistics via EMSI

FIGURE 14. REGIONAL COMPLETIONS BY INSTITUTION

TOTAL COMPLETIONS, 2014

The Fort Campbell region's post-secondary institutions graduate more than 4,000 students each year. Austin Peay graduates about 2,000 students annually, while Hopkinsville Community College graduates almost 1,500.



Source: National Center for Education Statistics via EMSI
Note: Completions figures are not available for MSU-Hopkinsville.

FIGURE 15. REGIONAL COMPLETIONS BY AWARD LEVEL

Just over 35% of the degrees conferred in the region are a bachelor's degree. Another 30% of the degrees are awards less than two years, and 26% are associate's degrees.

Source: ACS via Moody's Economy.com

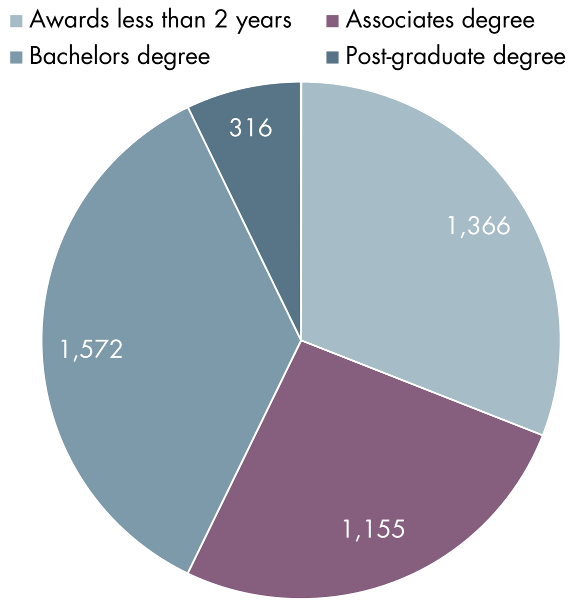
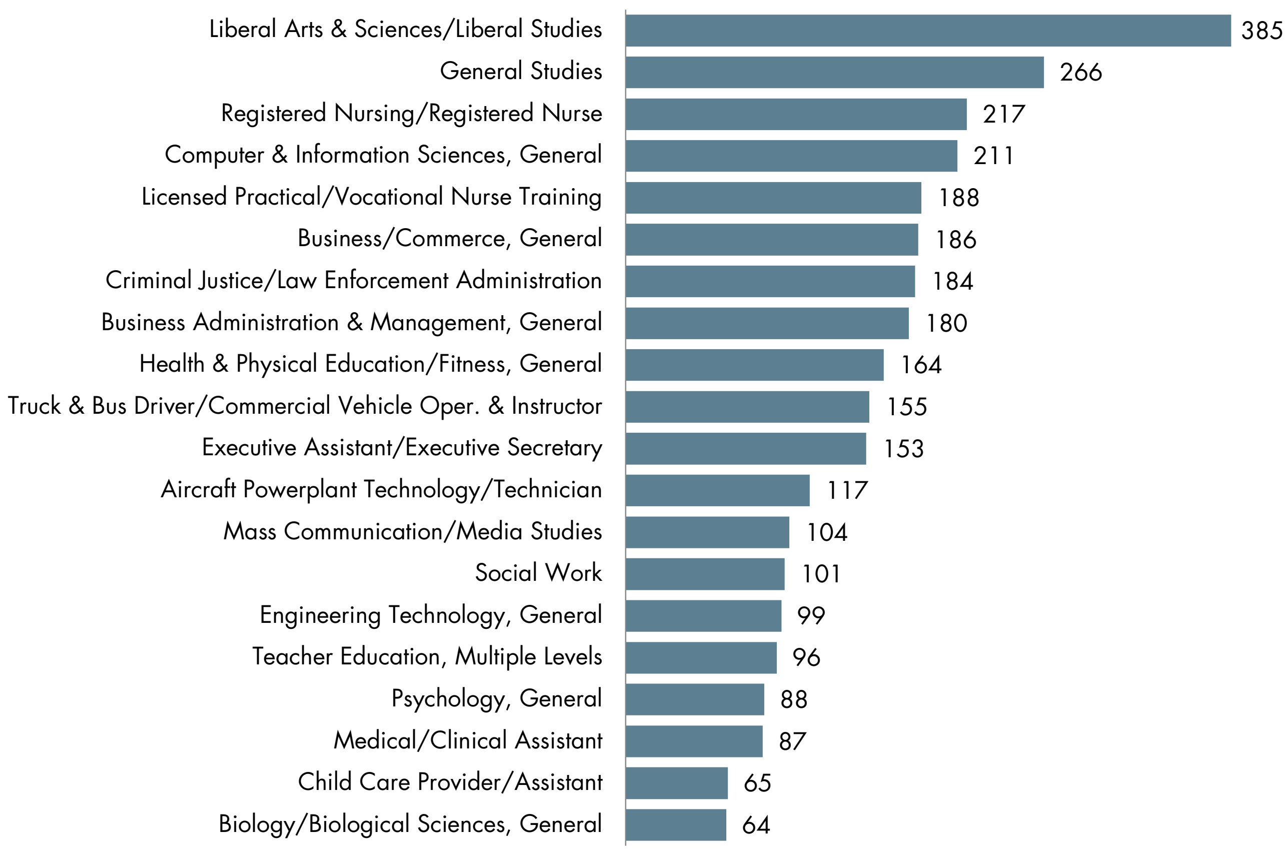


FIGURE 16. TOP 20 FIELDS OF STUDY

REGIONAL COMPLETIONS, 2014

The most popular fields of study are liberal arts and general studies. Registered nursing and licensed practical nursing are two of the top 5. Computer & information sciences is also popular.



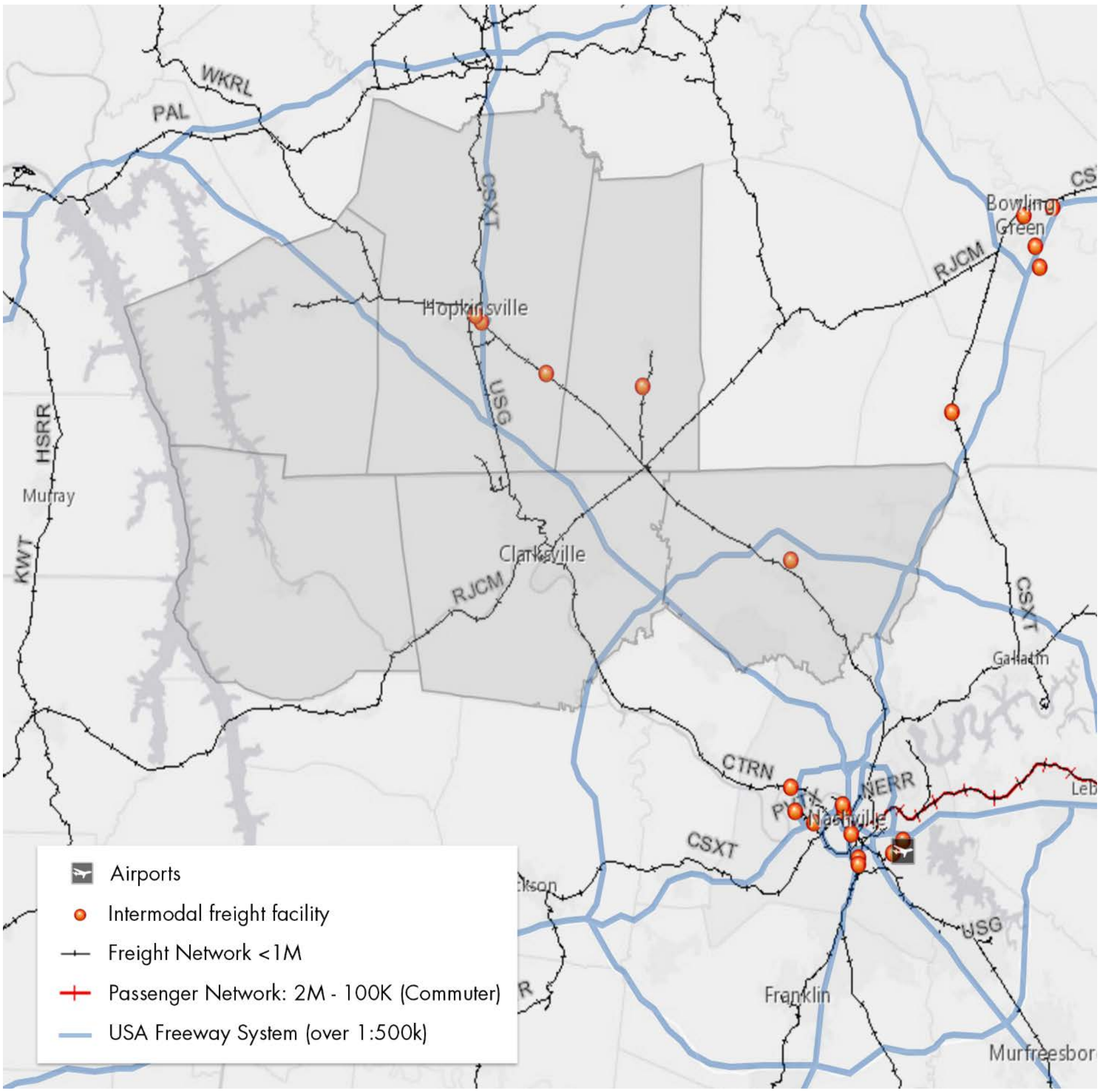
Source: National Center for Education Statistics via EMSI

FIGURE 17. TRANSPORTATION ASSETS

AIR, RAIL, ROAD, AND INTERMODAL

The region's largest and closest airport is Nashville International Airport (BNA), which is served by 10 airlines and three cargo carriers. For public transportation, the cities of Hopkinsville and Clarksville both offer local bus transit service.

The region is served by one Class I railroad – CSX – and connected by several other local freight lines. Interstate 24 bi-sects the region. Five rail-truck intermodals facilitate movement between these networks.



Source: ESRI

FIGURE 18. MARKET ACCESS
300-MILE AND 600-MILE RADII

Many major metropolitan areas lie within a one-day drive (600 miles) of the Fort Campbell region. These include Chicago, Atlanta, Charlotte, Washington DC, and Dallas.

Source: GoogleMaps

APPENDIX B: TARGET INDUSTRY ANALYSIS

The selection of target industries for the Fort Campbell region is intended to support and supplement existing business attraction, marketing, and industry cluster development in the region. The industry profiles that follow provide information on industry trends, why the industry is a fit for the state, which niches are most promising, and typical staffing patterns.

In selecting target sectors, TIP examined detailed industry data to identify which traded sectors are well-established in the state, how they performed over the last five years, and how they are expected to perform. We then drilled down into the sectors to identify which niches within each sector are the most promising for business attraction. We looked at factors including:

EXPORT ORIENTATION: is the sector traded outside of the regional service area?

CRITICAL MASS: are there a significant number of firms in the sector?

COMPETITIVE ADVANTAGE: does the region have a higher concentration of employment in this sector than the nation overall?

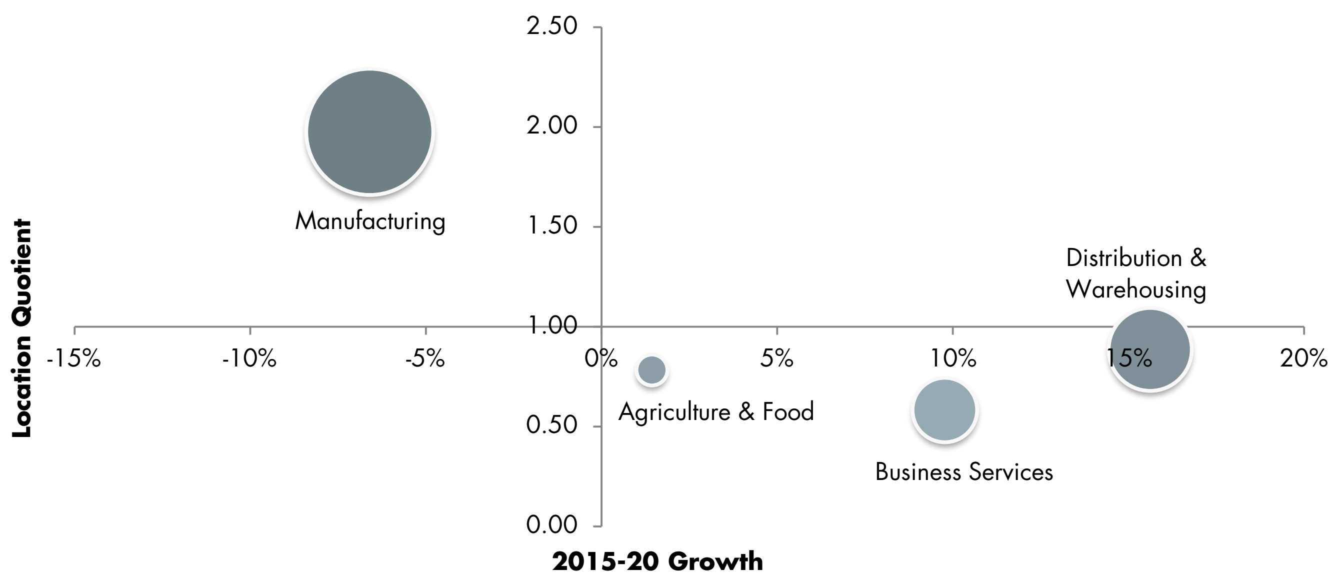
GROWTH PROSPECTS: is the industry projected to grow over the next five years nationally and/or within the region?

IMPACT: does the growth in the industry spillover to other sectors?

In addition, we examined the industries in the context of the assets and characteristics of the region. This exercise allowed us to further narrow the list of target niches. Finally, consideration was given to how targets fit within the goals of the project and within the potential opportunities and challenges identified during the planning process.

The four sectors selected are: Distribution & Warehousing, Manufacturing, Agriculture & Food, and Business Services. These sectors represent the four largest traded sectors in the region. Manufacturing is, by far, the largest sector with a high relative concentration of employment. Business Services and Distribution & Warehousing are the fastest growing sectors. However, each of the four sectors have established and emerging niches that offer strong growth prospects for industry cluster development.

FIGURE 19. TARGET SECTOR RELATIVE CONCENTRATION AND EXPECTED GROWTH



DISTRIBUTION & WAREHOUSING

The Distribution & Warehousing sector employs over 8,300 workers at 496 establishments in the region. The nine niche subsectors account for 48% of the Distribution & Warehousing jobs in the region. The three largest subsectors are General Warehousing, Wholesale Trade Agents & Brokers, and Farm Supplies Merchant Wholesalers.

Regional employment growth in the overall sector has been substantial over the last five years, expanding by 37%. Employment growth in the subsectors jumped by 113%. Moreover, projected job growth for both the total sector and the niches are expected to increase by 16% and 24% respectively over the next five years. These projected growth rates outpace projected U.S. job growth over the same period.

GENERAL WAREHOUSING is certainly the largest subsector, accounting for over 2,500 jobs in 2015. The subsector is also projected to continue growing by 31% over the next five years.

WHOLESALE TRADE AGENTS & BROKERS employment is expected to remain steady at approximately 400 jobs through 2020.

FARM SUPPLIES MERCHANT WHOLESALERS are also expected to experience strong job growth over the next five years.

FIGURE 20. INDUSTRY SNAPSHOT

REGION	TOTAL	NICHES
Number of Establishments (2015)	496	143
Number of Jobs (2015)	8,344	4,043
% Change 2010–2015	37.0%	113.0%
EMPLOYMENT GROWTH OUTLOOK (2015-20):		
Fort Campbell Region	16.1%	23.6%
United States	5.1%	11.7%

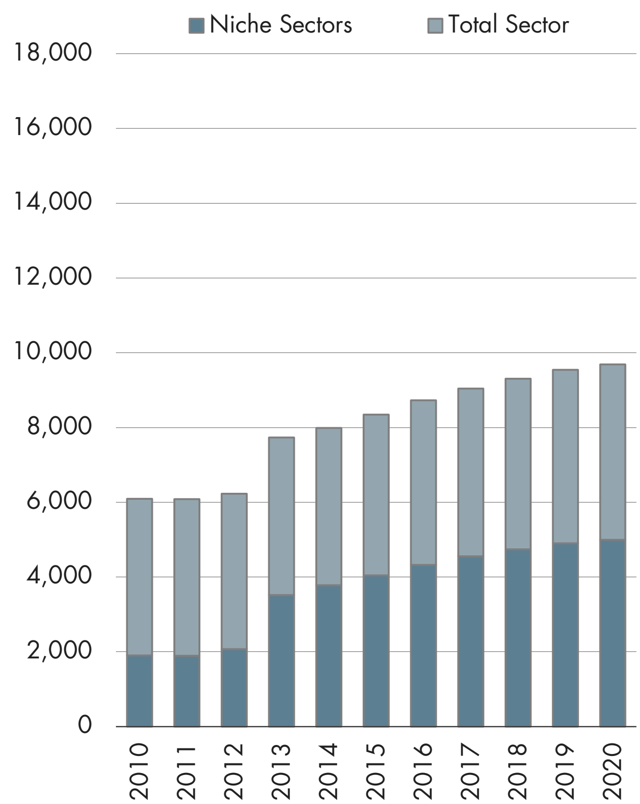
FIGURE 21. NICHE INDUSTRIES

NAICS	DESCRIPTION
454111	Electronic Shopping
454112	Electronic Auctions
425120	Wholesale Trade Agents & Brokers
493110	General Warehousing & Storage
423510	Metal Service Centers & Other Metal Merchant Wholesalers
423830	Industrial Mach. & Equip. Merchant Wholesalers
424910	Farm Supplies Merchant Wholesalers
423610	Electrical Apparatus & Equip, Wiring Supplies, & Related Equip. Merchant Wholesalers
424710	Petroleum Bulk Stations & Terminals

Source: EMSI

FIGURE 22. INDUSTRY PERFORMANCE & TRENDS

ANNUAL EMPLOYMENT



Source: EMSI

FIGURE 23. INDUSTRY PERFORMANCE & TRENDS

ANNUAL CHANGE IN EMPLOYMENT

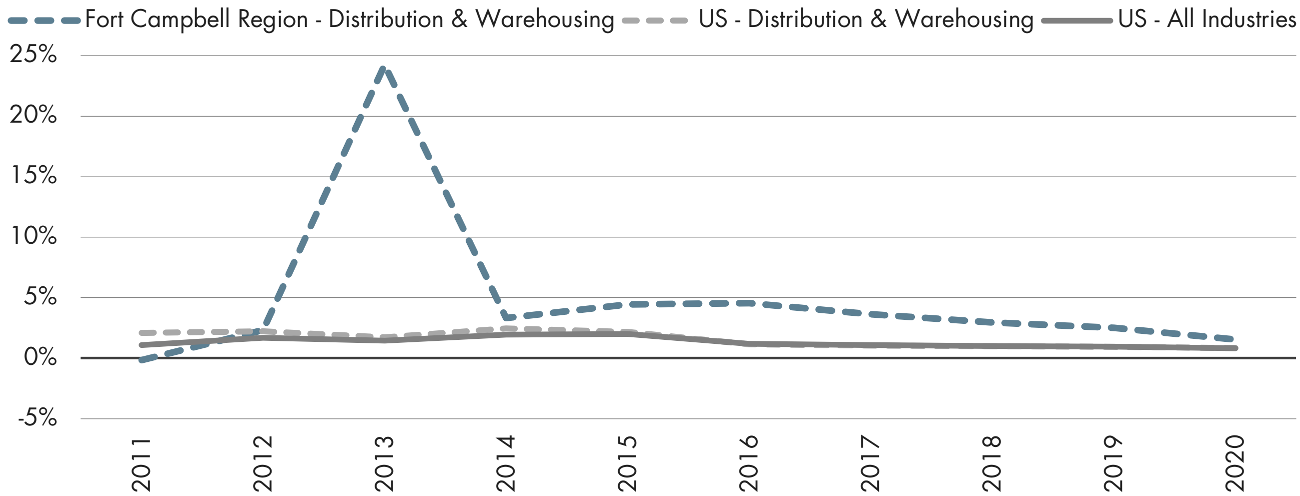


FIGURE 24. STAFFING PATTERNS

TOP 20 OCCUPATIONS FOR NICHE INDUSTRIES

SOC	DESCRIPTION	2015 JOBS	LQ	WAGES AS % OF US MEDIAN
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	2,789	1.07	93%
53-7051	Industrial Truck & Tractor Operators	889	1.60	88%
43-5081	Stock Clerks & Order Fillers	2,380	1.22	93%
53-3032	Heavy & Tractor-Trailer Truck Drivers	1,756	0.90	81%
53-7064	Packers & Packagers, Hand	790	1.06	87%
41-4012	Sales Reps., Wholesale & Mfg., Except Tech. & Scientific Products	849	0.56	76%
53-7063	Machine Feeders & Offbearers	358	3.24	110%
53-1021	First-Line Supervisors of Helpers, Laborers, & Material Movers, Hand	280	1.53	91%
43-5071	Shipping, Receiving, & Traffic Clerks	548	0.78	102%
41-2031	Retail Salespersons	3,954	0.82	98%
43-4051	Customer Service Representatives	2,418	0.90	76%
51-2092	Team Assemblers	5,187	4.30	112%
49-9071	Maintenance & Repair Workers, General	1,484	1.00	100%
11-1021	General & Operations Managers	1,348	0.61	72%
53-3033	Light Truck or Delivery Services Drivers	725	0.82	86%
43-9061	Office Clerks, General	1,698	0.50	93%
41-4011	Sales Reps., Wholesale & Mfg., Technical & Scientific Products	168	0.45	93%
53-1031	First-Line Supervisors of Transport. & Material-Moving Mach. & Vehicle Ops.	175	0.83	89%
43-6014	Secretaries & Admin. Assistants, Except Legal, Medical, & Executive	2,052	0.75	82%
43-1011	First-Line Supervisors of Office & Administrative Support Workers	1,089	0.72	82%

Source: EMSI

FIGURE 25. INDUSTRY INTELLIGENCE & NETWORKING

DISTRIBUTION & WAREHOUSING		
TRADE ASSOCIATIONS		
American Trucking Association		www.truckline.com/Home.aspx
National Association of Wholesaler-Distributors		www.naw.org
Intermodal Association of North America		www.intermodal.org
International Warehouse Logistics Association		www.iwla.com
Convenience Distribution Association		www.cdaweb.net
Associated Equipment Distributors (AED)		www.aednet.org
Industrial Supply Association (ISA)		www.isapartners.org
RELEVANT CONFERENCES/EVENTS		
2016 Convenience Distribution Business Exchange		
12-15 September 2016	*Scottsdale, AZ*	www.cdaweb.net/Public/EventDetails?EventId=74
2017 AED Summit & CONDEX		
10-13 January 2017	*Chicago, IL*	www.aednet.org/summit
2017 ISA Convention		
22-25 April 2017	*Denver, CO*	www.isapartners.org/events/2017-annual-convention
TRADE PUBLICATIONS		
Industrial Distribution		www.inddist.com
Industrial Supply Magazine		www.industrialsupplymagazine.com
Modern Distribution Management		www.mdm.com
CED Magazine		www.aednet.org/ced-magazine
Modern Materials Handling		www.mmh.com

Source: TIP Strategies research

MANUFACTURING

Manufacturing is the largest private employment sector in the Fort Campbell region. As of 2015, the sector accounted for over 17,300 workers in 240 establishments. The eight niche subsectors account for about 14% of the Manufacturing jobs in the region. The three largest sub-sectors are Motor Vehicle Seating & Interior Trim Mfg., Farm Machinery & Equipment Manufacturing, and Fluid Power Pump & Motor Manufacturing.

Regional Manufacturing employment growth has been vigorous over the last five years, expanding by 27%. However, projected job growth for both the total sector and the niches are expected to decline by 9% over the next five years. By comparison, U.S. manufacturing employment is projected to fall by 4% by 2020.

Nevertheless, the region continues to remain a highly competitive location for new manufacturing investment and employment, especially for Automotive Parts and Farm Machinery and Equipment.

Akebono Brake, Bridgestone, Trane, and GE Engine Services are among the region's largest manufacturing employers. In addition, Hankook Tire Company is currently constructing an $800 million manufacturing facility in the region, which is scheduled to create 1,800 new jobs.

Among the niche subsectors, Metal Coating & Engraving, Farm Machinery & Equipment, Truck Trailers, and Ornamental & Architectural Metal Work are projected to experience the strongest employment growth between 2015 and 2020.

However, for the region to be able to accommodate this projected job growth, it will have to increase the supply of skilled workers available to existing and potential employers. Workforce availability continues to be the biggest challenge local manufacturing employers report.

FIGURE 26. INDUSTRY SNAPSHOT

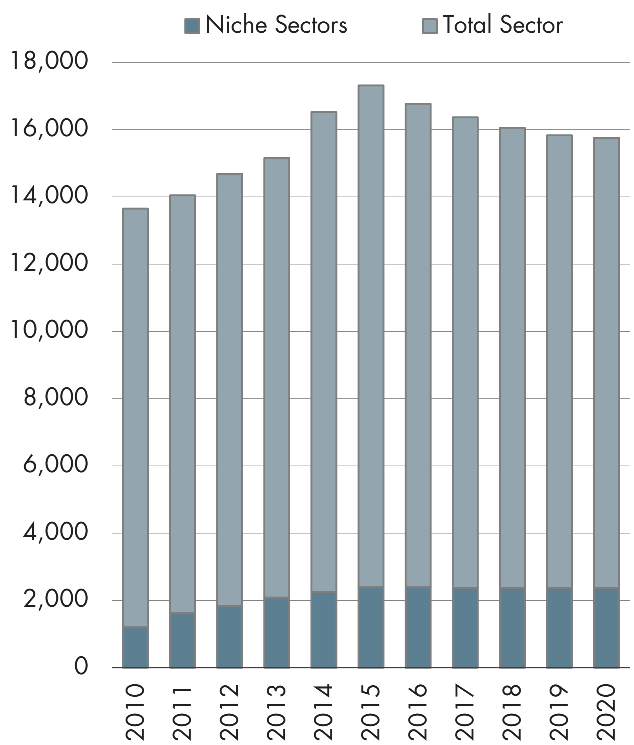
REGION	TOTAL	NICHES
Number of Establishments (2015)	240	20
Number of Jobs (2015)	17,316	2,404
% Change 2010–2015	26.8%	101.1%
EMPLOYMENT GROWTH OUTLOOK (2015-20):		
Fort Campbell Region	-9.0%	-1.8%
United States	-4.0%	7.8%

FIGURE 27. NICHE INDUSTRIES

NAICS	DESCRIPTION
336360	Motor Vehicle Seating & Interior Trim Mfg.
333413	Industrial & Commercial Fan & Blower & Air Purification Equipment Manufacturing
332313	Plate Work Manufacturing
336212	Truck Trailer Manufacturing
332812	Metal Coating, Engraving (except Jewelry & Silverware), & Allied Services to Mfgs.
332323	Ornamental & Architectural Metal Work Mfg.
333111	Farm Machinery & Equipment Manufacturing
333996	Fluid Power Pump & Motor Manufacturing

Source: EMSI

FIGURE 28. INDUSTRY PERFORMANCE & TRENDS
ANNUAL EMPLOYMENT



Source: EMSI

FIGURE 29. INDUSTRY PERFORMANCE & TRENDS

ANNUAL CHANGE IN EMPLOYMENT

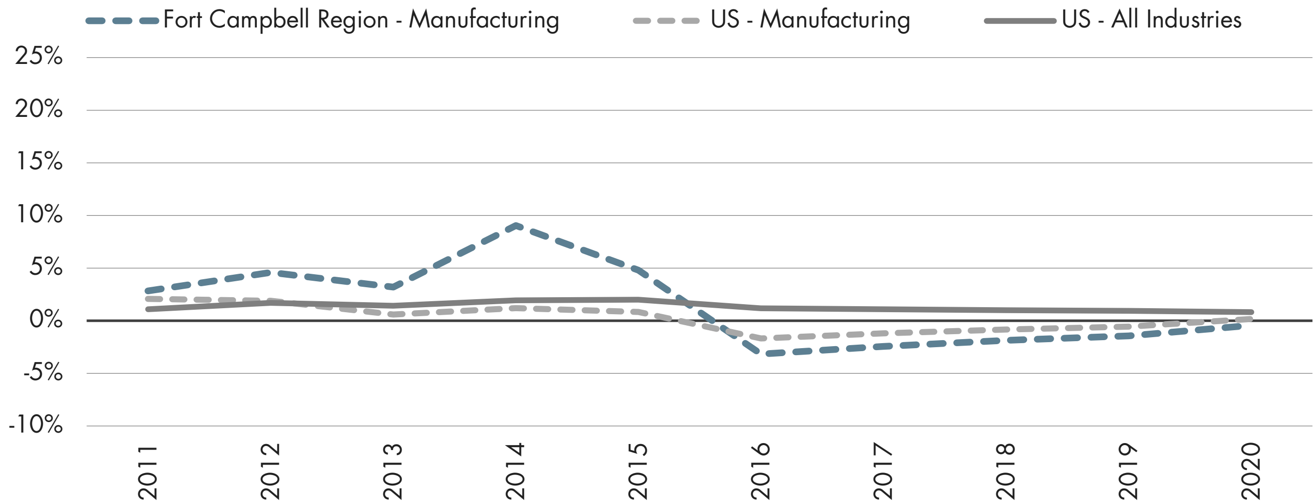


FIGURE 30. STAFFING PATTERNS

TOP 20 OCCUPATIONS FOR NICHE INDUSTRIES

SOC	DESCRIPTION	2015 JOBS	LQ	WAGES AS % OF US MEDIAN
51-2092	Team Assemblers	5,187	4.30	112%
51-4041	Machinists	663	1.60	107%
51-4031	Cutting, Punching, & Press Mach. Setters, Ops., & Tenders, Metal & Plastic	683	3.45	105%
51-4121	Welders, Cutters, Solderers, & Brazers	373	0.91	91%
51-2099	Assemblers & Fabricators, All Other	525	2.03	99%
51-4122	Welding, Soldering, & Brazing Machine Setters, Operators, & Tenders	504	8.21	108%
51-9121	Coating, Painting, & Spraying Machine Setters, Operators, & Tenders	213	2.24	101%
51-1011	First-Line Supervisors of Production & Operating Workers	796	1.26	98%
51-9061	Inspectors, Testers, Sorters, Samplers, & Weighers	644	1.23	89%
17-2112	Industrial Engineers	459	1.84	89%
51-9198	Helpers–Production Workers	534	1.22	85%
51-2041	Structural Metal Fabricators & Fitters	149	1.83	81%
51-9199	Production Workers, All Other	500	2.01	91%
49-9041	Industrial Machinery Mechanics	412	1.20	124%
49-9071	Maintenance & Repair Workers, General	1,484	1.00	100%
53-7051	Industrial Truck & Tractor Operators	889	1.60	88%
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	2,789	1.07	93%
41-4012	Sales Reps., Wholesale & Mfg., Except Technical & Scientific Products	849	0.56	76%
51-4011	Computer-Controlled Machine Tool Operators, Metal & Plastic	151	0.98	104%
11-3051	Industrial Production Managers	221	1.25	86%

Source: EMSI

FIGURE 31. INDUSTRY INTELLIGENCE & NETWORKING

ADVANCED MANUFACTURING		
TRADE ASSOCIATIONS		
National Council for Advanced Manufacturing		www.nacfam.org
The Association for Manufacturing Technology		www.amtonline.org
Heavy Duty Manufacturers Association		www.hdma.org
Association of Equipment Manufacturers		www.aem.org
Fabricators & Manufacturers Association, International		www.fmanet.org
National Association of Architectural Metal Manufacturers		www.naamm.org
Motor & Equipment Manufacturers Association		www.mema.org
Fabricators & Manufacturers Association, International		www.fmanet.org
Precision Metalforming Association		www.pma.org
RELEVANT CONFERENCES/EVENTS		
International Manufacturing Technology Show 2016		
12-17 September 2016	*Chicago, IL*	www.imts.com
2016 International Manufacturing Research Conference		
27 June-1 July 2016	*Blacksburg, VA*	www.cpe.vt.edu/2016namrc-msec
FABTECH 2016		
16-18 November 2016	*Las Vegas, NV*	www.fabtechexpo.com
Mid-South Design-2-Part Show		
9-10 November 2016	*Nashville, TN*	www.d2p.com/2016-nashville-manufacturing-trade-show
HOUSTEX 2017		
28 February-2 March 2017	*Houston, TX*	www.houstexonline.com
TRADE PUBLICATIONS		
The International Journal of Adv. Manufacturing Tech.		www.springer.com/engineering/production+engineering/journal/170
Advanced Manufacturing Insight		www.advancedmanufacturinginsight.com

Source: TIP Strategies research

AGRICULTURE & FOOD

The Agricultural & Food sector employs over 3,300 in 115 establishments. The seven niche subsectors account for about 56% of the Agricultural & Food jobs in the region. The three largest subsectors are Crop Production, Wineries, and Flour Milling.

Regional employment growth in the overall sector has been robust over the last five years, expanding by 19%. However, projected job growth for both the total sector and the niches are expected to decline slightly over the next five years.

Agriculture is one of the traditional pillars of the region's economy. While not a significant job creator, the sector nevertheless remains a critical component of the region's economic vitality. Agritourism also represents an opportunity to leverage the region's agricultural heritage.

CROP PRODUCTION is by far the largest subsector, accounting for over 1,500 jobs. Technological advancements in agriculture mean that the sub-sector is not likely to generate many new jobs in the future.

WINERIES are also not large job creators, but are still experiencing healthy growth in the region. These establishments also benefit the region's tourism sector and contribute to the region's quality of place.

FLOUR MILLING is a small subsector that employed 83 workers in 2015.

FIGURE 32. INDUSTRY SNAPSHOT

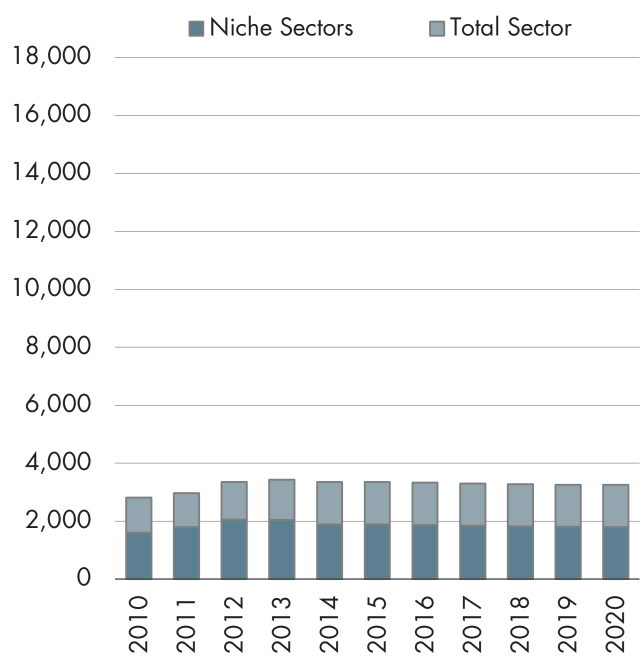
REGION	TOTAL	NICHES
Number of Establishments (2015)	115	79
Number of Jobs (2015)	3,358	1,884
% Change 2010–2015	19.2%	17.7%
EMPLOYMENT GROWTH OUTLOOK (2015-20):		
Fort Campbell Region	-3.2%	-4.7%
United States	0.5%	1.4%

FIGURE 33. NICHE INDUSTRIES

NAICS	DESCRIPTION
312130	Wineries
424510	Grain and Field Bean Merchant Wholesalers
321999	All Other Misc. Wood Product Manufacturing
111000	Crop Production
311211	Flour Milling

Source: EMSI

FIGURE 34. INDUSTRY PERFORMANCE & TRENDS
ANNUAL EMPLOYMENT



Source: EMSI

FIGURE 35. INDUSTRY PERFORMANCE & TRENDS

ANNUAL CHANGE IN EMPLOYMENT

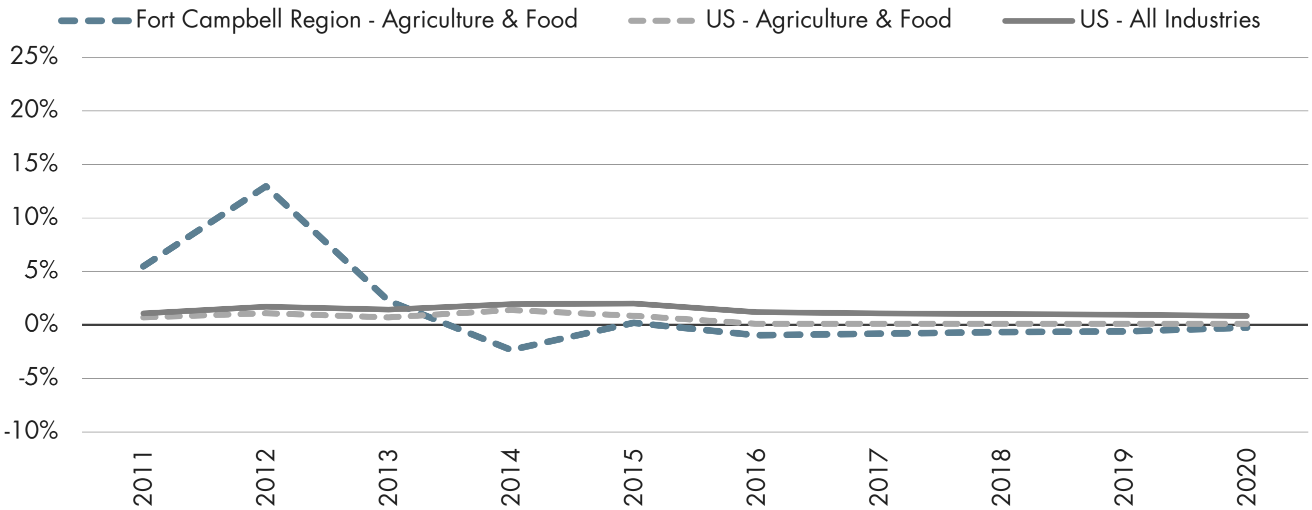


FIGURE 36. STAFFING PATTERNS

TOP 20 OCCUPATIONS FOR NICHE INDUSTRIES

SOC	DESCRIPTION	2015 JOBS	LQ	WAGES AS % OF US MEDIAN
11-9013	Farmers, Ranchers, & Other Agricultural Managers	1,129	2.17	84%
45-2092	Farmworkers & Laborers, Crop, Nursery, & Greenhouse	561	0.71	112%
45-2093	Farmworkers, Farm, Ranch, & Aquacultural Animals	60	0.73	102%
51-9111	Packaging & Filling Machine Operators & Tenders	343	0.85	95%
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	2,789	1.07	93%
45-2091	Agricultural Equipment Operators	55	0.73	99%
53-3032	Heavy & Tractor-Trailer Truck Drivers	1,756	0.90	81%
51-2092	Team Assemblers	5,187	4.30	112%
51-9012	Separating, Filtering, Clarifying, Precipitating, & Still Machine Setters, Operators, & Tenders	91	1.97	85%
43-3031	Bookkeeping, Accounting, & Auditing Clerks	1,308	0.71	87%
41-4012	Sales Reps., Wholesale & Mfg., Except Technical & Scientific Products	849	0.56	76%
45-1011	First-Line Supervisors of Farming, Fishing, & Forestry Workers	40	0.80	95%
45-2041	Graders & Sorters, Agricultural Products	34	0.58	104%
53-3033	Light Truck or Delivery Services Drivers	725	0.82	86%
53-7051	Industrial Truck & Tractor Operators	889	1.60	88%
51-7031	Model Makers, Wood	5		
43-4171	Receptionists & Information Clerks	719	0.66	88%
51-9121	Coating, Painting, & Spraying Machine Setters, Operators, & Tenders	213	2.24	101%
35-9031	Hosts & Hostesses, Restaurant, Lounge, & Coffee Shop	409	1.04	90%
33-9032	Security Guards	326	0.27	109%

Source: EMSI

FIGURE 37. INDUSTRY INTELLIGENCE & NETWORKING

AGRICULTURE & FOOD		
TRADE ASSOCIATIONS		
North American Millers' Association		www.namamillers.org
Milling and Baking Division of the AACI		www.aaccnet.org/membership/divisions/MillingBaking/Pages/default.aspx
Snack Food Association		www.sfa.org
Southern Nursery Association		www.sna.org
Kentucky Nursery & Landscape Association		www.knla.org
Organic Trade Association		www.ota.com
National Aquaculture Association		www.thenaa.net
The World Aquaculture Society		www.was.org
Council for Agricultural Science and Technology		www.cast-science.org
American Frozen Food Institute		www.affi.org
Grocery Manufacturers Association		www.gmaonline.org
Institute of Food Technologies		www.ift.org
National Association for Specialty Food Trade		www.specialtyfood.com
US Poultry & Egg Association		www.uspoultry.org
RELEVANT CONFERENCES/EVENTS		
80th Annual SNAXPO Exhibition & Conference		
1-4 April 2017	*Savannah, GA*	www.snaxpo.com
Organic Confluences Summit		
23 May 2016	*Washington, D.C.*	www.organic-center.org/programs/organic-confluences
Organic Produce Summit		
13-14 July 2016	*Monterey, CA*	www.organicproducesummit.com
11th International Conference on Recirculating Aquaculture & 2016 Aquaculture Innovation Workshop		
19-21 August 2016	*Roanoke, VA*	www.recircaqua.com
Aquaculture America 2017		
19-22 February 2017	*San Antonio, TX*	www.was.org/meetings/default.aspx?code=AA2017
TRADE PUBLICATIONS		
Snack World Magazine		www.sfa.org/resources/publications/snack-world-magazine
Nursery Management		www.nurserymag.com
American Nurseryman		www.amerinursery.com
KNLA Industry Dirt		www.knla.org/blog
Journal of the World Aquaculture Society		www.onlinelibrary.wiley.com/journal/10.1111/(ISSN)1749-7345

Source: TIP Strategies research

BUSINESS SERVICES

The Business Services sector employs over 4,300 in 260 establishments. The seven niche subsectors account for about 60% of the Business Services jobs in the region. The three largest subsectors are Telemarketing Bureaus & Other Contact Centers, Corporate, Subsidiary, & Regional Managing Offices, and Other Scientific & Tech. Consulting Services.

Regional employment growth in the overall sector remained essentially flat over the last five years. However, the seven niche industries experienced robust job growth exceeding 50%. Moreover, projected job growth for both the total sector and the niches are expected to reach almost 10% over the next five years.

The industry remains one of the fastest growing employment sectors in the nation. While wages in the sector lag other industries, it is still an important industry to the region. Employers are drawn to the region's growing population, available workforce, and modest cost of living and doing business. The attraction of a Google data center represents an opportunity to expand the data hosting subsector, as well.

TELEMARKETING BUREAUS & OTHER CONTACT CENTERS is largest subsector and grew by over 430 jobs since 2010. Agero and Convergys are the largest customer service center employers in the region.

CORPORATE, SUBSIDIARY, & REGIONAL MANAGING OFFICES employment grew by 30% over the last five years in the region. However, growth over the next five years is projected to remain flat.

OTHER SCIENTIFIC & TECH. CONSULTING SERVICES is an emerging subsector that employs 260 workers at 11 establishments. Growth prospects in this niche are strong as employment is projected to grow by 48% by 2020.

FIGURE 38. INDUSTRY SNAPSHOT

REGION	TOTAL	NICHES
Number of Establishments (2015)	260	112
Number of Jobs (2015)	4,349	2,598
% Change 2010–2015	-0.5%	52.8%
EMPLOYMENT GROWTH OUTLOOK (2015-20):		
Fort Campbell Region	9.5%	9.9%
United States	9.1%	11.8%

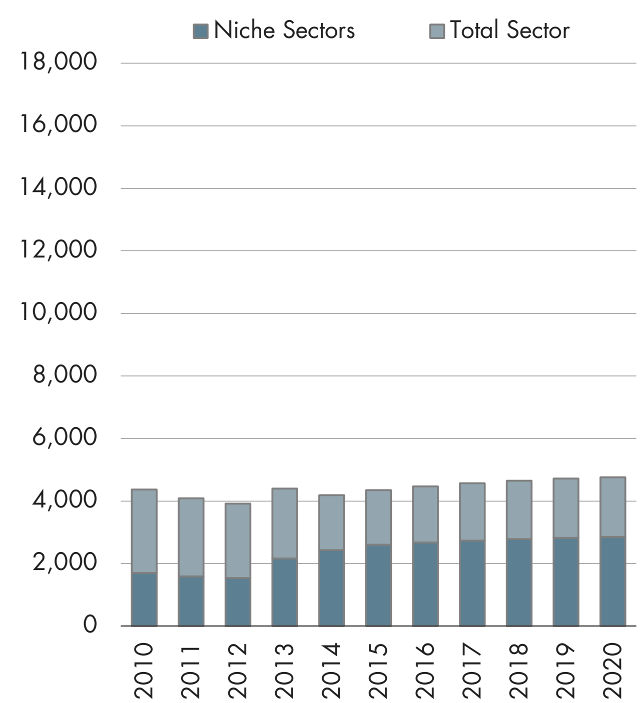
FIGURE 39. NICHE INDUSTRIES

NAICS	DESCRIPTION
541690	Other Scientific & Tech. Consulting Services
541611	Administrative Management & General Management Consulting Services
541511	Custom Computer Programming Services
561422	Telemarketing Bureaus & Other Contact Centers
561210	Facilities Support Services
551114	Corporate, Subsidiary, & Regional Managing Offices
518210	Data Processing, Hosting, & Related Services

Source: EMSI

FIGURE 40. INDUSTRY PERFORMANCE & TRENDS

ANNUAL EMPLOYMENT



Source: EMSI

FIGURE 41. INDUSTRY PERFORMANCE & TRENDS
ANNUAL CHANGE IN EMPLOYMENT

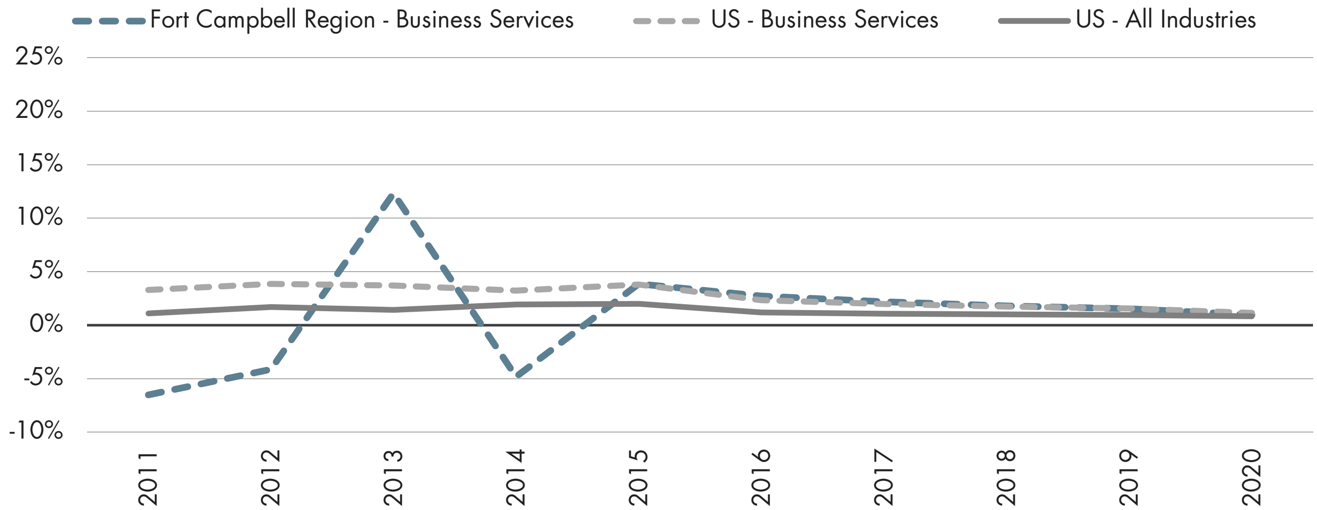


FIGURE 42. STAFFING PATTERNS
TOP 20 OCCUPATIONS FOR NICHE INDUSTRIES

SOC	DESCRIPTION	2015 JOBS	LQ	WAGES AS % OF US MEDIAN
43-4051	Customer Service Representatives	2,418	0.90	76%
41-9041	Telemarketers	202	0.79	92%
13-1111	Management Analysts	292	0.36	73%
43-1011	First-Line Supervisors of Office & Administrative Support Workers	1,089	0.72	82%
15-1121	Computer Systems Analysts	207	0.35	88%
41-3099	Sales Representatives, Services, All Other	328	0.34	77%
11-1021	General & Operations Managers	1,348	0.61	72%
43-6014	Secretaries & Admin. Assistants, Except Legal, Medical, & Executive	2,052	0.75	82%
43-2011	Switchboard Operators, Including Answering Service	86	0.74	87%
15-1151	Computer User Support Specialists	223	0.33	80%
43-9061	Office Clerks, General	1,698	0.50	93%
43-3031	Bookkeeping, Accounting, & Auditing Clerks	1,308	0.71	87%
13-1151	Training & Development Specialists	176	0.68	89%
15-1133	Software Developers, Systems Software	80	0.19	71%
13-1199	Business Operations Specialists, All Other	639	0.63	84%
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	1,690	0.64	90%
49-9071	Maintenance & Repair Workers, General	1,484	1.00	100%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	244	0.66	81%
15-1132	Software Developers, Applications	101	0.13	80%
13-1161	Market Research Analysts & Marketing Specialists	158	0.30	68%

Source: EMSI

FIGURE 43. INDUSTRY INTELLIGENCE & NETWORKING

BUSINESS SERVICES		
TRADE ASSOCIATIONS		
Shared Services & Outsourcing Network		www.ssonetwork.com
Shared Services Link		www.sharedserviceslink.com
National Association of Call Centers		www.nationalcallcenters.org
Association of TeleServices International		www.atsi.org
The Outsourcing Institute		www.outsourcing.com
RELEVANT CONFERENCES/EVENTS		
19th HR Shared Services & Outsourcing Summit		
16-18 May 2016	*Chicago, IL*	www.hrssoutsourcing.com
The North American Shared Services Leaders' Summit 2016		
11-13 October 2016	*Atlanta, GA*	www.sharedserviceslink.com/event/the-north-american-shared-services-leaders-summit-2016
21st Annual North American Shared Services & Outsourcing Week		
7-10 March 2017	*Orlando, FL*	www.sharedservicesweek.com/
EOS16: Embracing Technology and New Business Models for Outsourcing Success		
6-8 November 2016	*Amsterdam, NL*	www.iaop.org/Content/23/154/4537/Default.aspx
OWS17: Harnessing the Power of Disruption		
19-22 February 2017	*San Antonio, TX*	www.iaop.org/summit
TRADE PUBLICATIONS		
PULSE Magazine		www.iaop.org/Content/23/152/3004/Default.aspx
Back Office Magazine		www.iowanetworkservices.com/content/back-office-magazine
Shared Services Link Blog & Publications		www.sharedserviceslink.com/listing/blog
Outsource Magazine		www.outsourcemag.com

Source: TIP Strategies research

APPENDIX C: FORT CAMPBELL WORKFORCE ANALYSIS

Data provided by Fort Campbell were used to understand the capability of active duty personnel stationed at Fort Campbell as well as those who recently separated from service. No personally identifiable data were provided; only a count of personnel by category (enlisted, warrant officer, commissioned officer), rank, and the following relevant career-related codes:

- Enlisted personnel: military occupational specialty (MOS) code.
- Warrant officer: warrant officer military occupational specialty (WOMOS).
- Commissioned officer: area of concentration (AOC) or branch code for active duty; MOS for those separating from service.

The results of the analysis are presented below.

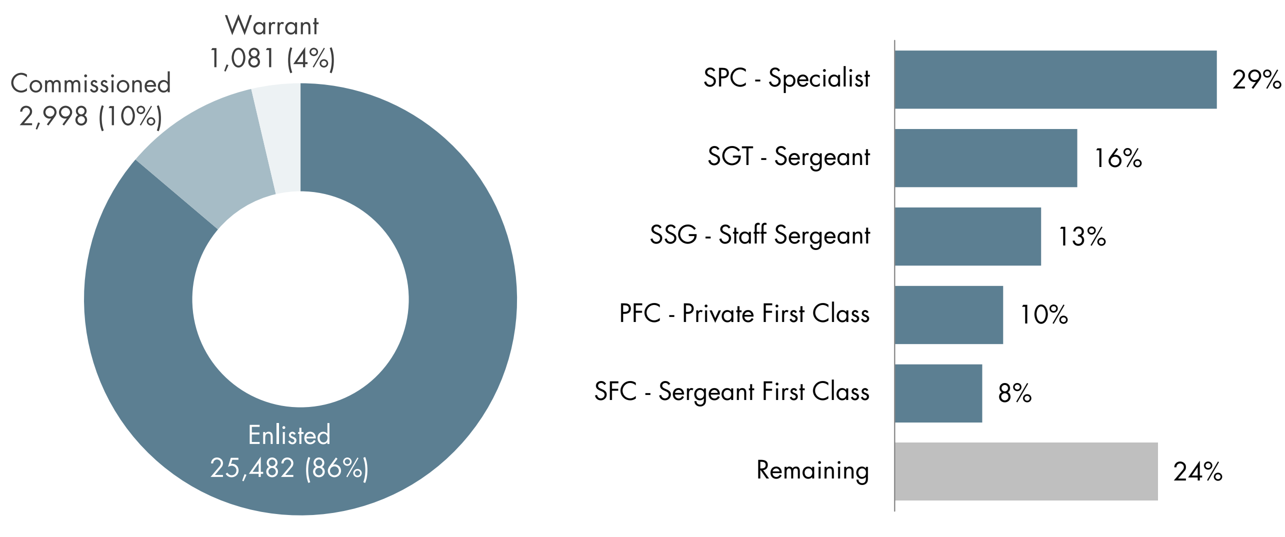
ACTIVE DUTY PERSONNEL

Information was provided on 29,561 active duty personnel. Of these, the vast majority (86%) were enlisted personnel. In terms of rank, Specialist (SPC) was the largest group, accounting for 29% of the total. Additional ranks accounting for 10% or more of personnel were Sergeant (SGT, 16% of total), staff sergeant (SSG, 13%), and private first class (PFC, 10%).

Figure 45 (page 47) shows the top 20 military career codes (ranked by the number of personnel). As would be expected based on the number of enlisted personnel, MOS codes account for 19 of the top 20 careers. Of these, the largest is 11B Infantryman. With more than 5,100 Soldiers, the MOS represents roughly one in six jobs (17%) among active duty personnel. Because of their relatively small number, Figure 45 presents data for warrant officers and commissioned officers separately. Aviation-related positions dominate the top 20 careers among warrant officers. Among commissioned officers, four branch codes account for more than one-third of total personnel: Infantry (IN), Aviation (AV), Military Intelligence (MI), and Field Artillery (FA).

FIGURE 44. FORT CAMPBELL ACTIVE DUTY PERSONNEL

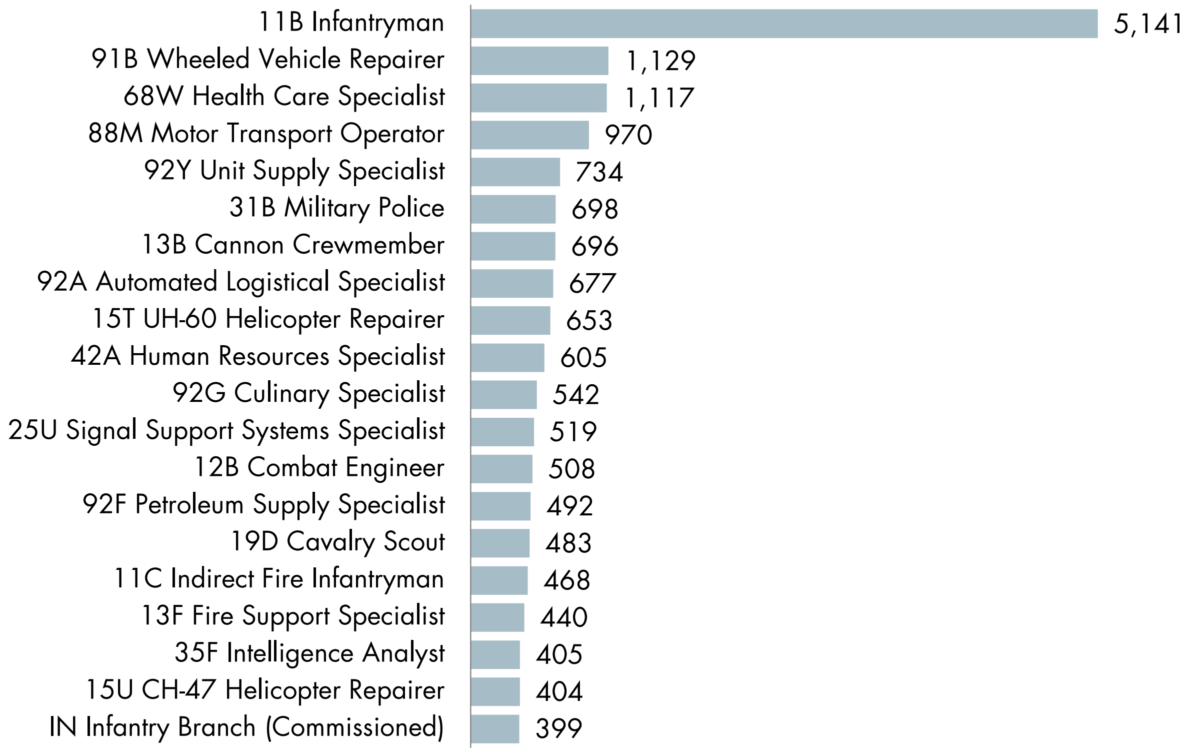
DISTRIBUTION BY RANK *DETAILED RANK (TOP 5)*



Source: TIP Strategies analysis of data on active duty personnel provided by Fort Campbell

FIGURE 45. TOP 20 CAREER-RELATED CODES

ALL ACTIVE DUTY PERSONNEL



WARRANT OFFICERS ONLY

WOMOS CODE	#
153M UH-60M Pilot	111
153E MH-60 Pilot	94
152H AH-64D Attack Pilot	87
180A Special Forces Warrant Officer	87
152C OH-6 Pilot	60
915A Automotive Maintenance WO	50
153A Rotary Wing Aviator (Aircraft Nonspecific)	47
154E MH-47 Pilot	45
152D OH-58D Pilot	40
153D UH-60 Pilot	37
150U Unmanned Aircraft Systems Operations Tech.	36
154F CH-47F Pilot	27
151A Aviation Maintenance Tech. (Nonrated)	26
350F All Source Intelligence Technician	25
131A Field Artillery Targeting Technician	24
920A Property Accounting Technician	18
255A Information Services Technician	17
920B Supply Systems Technician	16
311A CID Special Agent	16
420A Human Resources Technician	14

COMMISSIONED OFFICERS ONLY

AOC/BRANCH CODE	#
IN Infantry	399
AV Aviation	248
MI Military Intelligence	241
FA Field Artillery	232
SF Special Forces	162
MS Medical Service Corps	158
OD Ammunition, Mechanical Maint. & Ordnance	156
QM Quartermaster Corps	146
EN Corps of Engineers	143
SC Signal Corps	142
TC Transportation	118
MC Medical Corps	110
AG Adjutant General	103
AR Armor	94
AN Nurse Corps	82
SP Medical Specialist Corps	73
MP Military Police	71
AD Air Defense Artillery	65
CH Chaplain	58
JA Judge Advocate General	47

Source: TIP Strategies analysis of data on active duty personnel provided by Fort Campbell

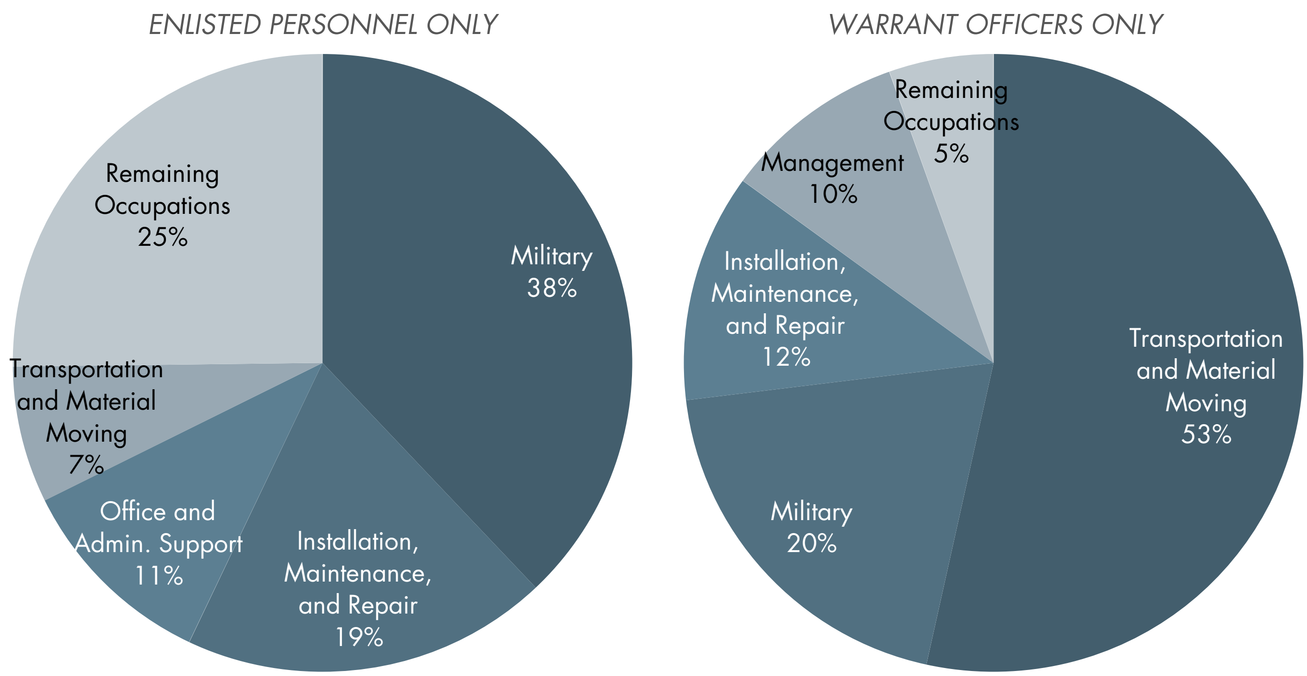
To understand the potential impact of Fort Campbell on the regional labor force, military occupational codes (MOC) were translated to the civilian Standard Occupational Classification (SOC) system occupational codes using a crosswalk downloaded from the Occupational Information Network, (commonly known as O-NET). Commissioned officers were excluded from this analysis since the branch codes provided were too broad to link to the detailed civilian codes in the MOC-SOC crosswalk. Figure 46 shows the distribution of the remaining Fort Campbell personnel by major occupational group.

For enlisted personnel, more than one-third of the MOS-defined occupations (38%) were matched to SOC major group 55, which is used to classify military employment. This finding suggests that a number of the post's military occupations do not have specific job skills that translate directly to civilian classifications. By contrast, more than one-half (53%) of warrant officer career fields were classified as Transportation and Material Moving jobs (SOC 53-000), while only 20% had no direct civilian counterpart. Installation, Maintenance, and Repair occupations (SOC 49-0000) were common skillsets among both groups, accounting for 19% of enlisted careers and 12% of positions held by warrant officers.

Figure 47 (page 49) presents the same data at the individual occupation level (rather than the major groupings shown in Figure 46). Like the prior figure, military occupations with no civilian counterpart are by far the largest group, accounting for roughly 37% of the 26,500 enlisted personnel and warrant officers. Of the remaining personnel, Aircraft Mechanics and Service Technicians (SOC 49-3011) is the most prevalent civilian counterpart to Fort Campbell's military careers. Eleven MOSs map to this occupation, with the largest being 15T (UH-60 Helicopter Repairer), 15U (CH-47 Helicopter Repairer), 15R (AH-64 Attack Helicopter Repairer), 15G (Aircraft Structural Repairer), and15E (Unmanned Aircraft Systems Repairer).

Other civilian skills that are heavily represented on the Post include Stock Clerks-Stockroom, Warehouse Storage or Yard (SOC 43-5081); Automotive Master Mechanics (49-3023); Emergency Medical Technicians and Paramedics (SOC 29-2041); and Heavy and Tractor-Trailer Truck Drivers (53-3032).

FIGURE 46. DISTRIBUTION BY MAJOR OCCUPATIONAL GROUP



Source: TIP Strategies analysis of data on active duty personnel provided by Fort Campbell; MOC-SOC crosswalk from O-NET supplemental files.

FIGURE 47. DISTRIBUTION BY DETAILED OCCUPATION (FOR POSITIONS WITH >50 PERSONNEL)
ENLISTED PERSONNEL AND WARRANT OFFICERS ONLY

	SOC CODE	DESCRIPTION		% OF TOTAL	MEDIAN HOURLY WAGE	
	55-0000	**Military Occupations** *(no civilian counterpart)*	**9,875**	**37.2%**		
1	49-3011	Aircraft Mechanics & Service Technicians	1,900	7.2%	$20.70	◀
2	43-5081	Stock Clerks & Order Fillers	1,411	5.3%	$10.28	
3	49-3023	Automotive Service Technicians & Mechanics	1,131	4.3%	$16.99	◀
4	29-2041	Emergency Medical Techs. & Paramedics	1,117	4.2%	$13.42	
5	53-3032	Heavy & Tractor-Trailer Truck Drivers	970	3.7%	$15.33	
6	27-4013	Radio Operators	815	3.1%	–	
7	33-3051	Police & Sheriff's Patrol Officers	715	2.7%	$19.17	◀
8	43-4161	HR Asst., Except Payroll & Timekeeping	605	2.3%	$17.89	◀
9	53-2012	Commercial Pilots	569	2.1%	$29.31	◀
10	35-2012	Cooks, Institution & Cafeteria	564	2.1%	$11.11	
11	47-4099	Construction & Related Workers, All Other	517	1.9%	$17.53	◀
12	53-7072	Pump Operators, Except Wellhead Pumpers	492	1.9%	–	
13	49-2091	Avionics Technicians	461	1.7%	$25.39	◀
14	47-5031	Explosives, Ordnance Handling, & Blasters	460	1.7%	$21.01	◀
15	49-1011	First-Line Supvsr., Mechanics, Install, & Repair	434	1.6%	$26.41	◀
16	47-4041	Hazardous Materials Removal Workers	319	1.2%	$16.67	◀
17	43-9011	Computer Operators	299	1.1%	$18.21	◀
18	27-3091	Interpreters & Translators	220	0.8%	$17.18	◀
19	17-3024	Electro-Mechanical Technicians	206	0.8%	–	
20	49-3031	Bus/Truck Mechanics & Diesel Engine Specialists	200	0.8%	$19.15	◀
21	53-2022	Airfield Operations Specialists	194	0.7%	–	
22	47-1011	First-Line Supvsr., Constr. Trades & Extraction	160	0.6%	$22.51	◀
23	49-2094	Elec./Electronics Repair, Commercial & Ind. Equip.	155	0.6%	$25.84	◀
24	49-9021	HVAC/Refrig. Mechanics & Installers	143	0.5%	$18.00	◀
25	15-1142	Network & Computer Systems Admin.	137	0.5%	$30.02	◀
26	17-1021	Cartographers & Photogrammetrists	121	0.5%	–	
27	43-5011	Cargo & Freight Agents	120	0.5%	–	
28	49-9099	Install./Maint./Repair Workers, All Other	116	0.4%	$14.29	
29	51-8031	Water/WW Treatment Plant Operators	113	0.4%	$18.53	◀
30	49-9093	Fabric Menders, Except Garment	111	0.4%	–	
31	43-2099	Communications Equip. Operators, All Other	107	0.4%	–	
32	13-1071	Human Resources Specialists	104	0.4%	$21.92	◀
33	43-3031	Bookkeeping, Accounting, & Auditing Clerks	102	0.4%	$15.36	
34	53-7199	Material Moving Workers, All Other	101	0.4%	$12.75	
35	49-2021	Radio, Cellular, & Tower Equip. Install/Repair	89	0.3%	–	
36	49-9041	Industrial Machinery Mechanics	76	0.3%	$29.35	◀
37	23-2011	Paralegals & Legal Assistants	76	0.3%	$18.28	◀
38	51-4041	Machinists	75	0.3%	$20.77	◀
39	21-2099	Religious Workers, All Other	70	0.3%	$13.19	
40	49-2011	Computer, ATM, & Office Machine Repairers	67	0.3%	$18.54	◀
41	53-2021	Air Traffic Controllers	57	0.2%	$49.48	◀
42	29-2053	Psychiatric Technicians	53	0.2%	$11.05	

Source: TIP Strategies analysis of data on active duty personnel provided by Fort Campbell; MOC-SOC crosswalk from O-NET supplemental files.
◀ Indicates median hourly wage rate above the regional average of $16.39. —insufficient data available on this occupation in the region.

SEPARATING FROM SERVICE

In this section, we present a similar analysis using information compiled from the Survey of Post-Military Service Intent, also referred to as the Veterans Inventory. This ongoing data collection effort, initiated as part of a study conducted by TIP in 2007, is used to document characteristics of active duty military personnel separating from service through Fort Campbell.

The inventory consists of a one-page questionnaire provided to Soldiers participating in the Transition Assistance Program (TAP), a series of workshops designed to assist military personnel in transitioning to civilian careers. All service members attending TAP workshops are scheduled to leave the active duty service within six months. The brief survey solicits basic information including military occupation code, length of service, educational attainment, professional and technical skills, and intent to remain in the region permanently.

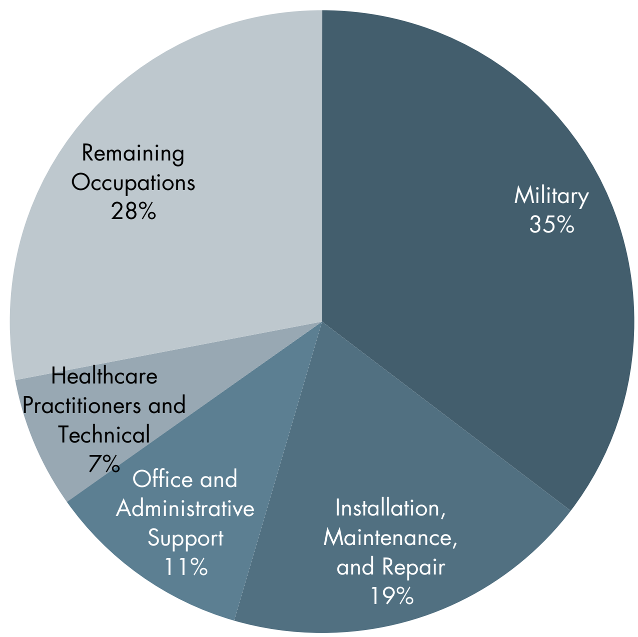
Data for this task were supplied by Workforce Essentials and included information on the military occupation of 2,442 personnel scheduled to separate from service during the latter half of 2016. Unlike the prior analysis, commissioned officers are included throughout this section since respondents were asked specifically to provide their MOS.

During the period analyzed, an average of 407 personnel separated from service via Fort Campbell each month. Of these, nine out of ten were enlisted personnel. In civilian terms, Installation, Maintenance, and Repair occupations (SOC 49-0000) were the largest group, accounting for roughly one in five jobs (19%). Office workers and skilled healthcare jobs accounted for the next highest share of civilian-equivalent skills, representing 11% and 7 %, respectively, of the total. As with the active duty population, roughly one third of personnel had military occupations that did not have a civilian equivalent.

FIGURE 48. SEPARATING FROM SERVICE
VETERANS INVENTORY OVERVIEW

	Number	% of Total	Average Separations per Month*
Enlisted	2,192	90%	365
Commissioned	186	8%	31
Warrant	64	3%	11
Total	**2,442**	**100%**	**407**

DISTRIBUTION OF RESPONDENTS BY MAJOR OCCUPATIONAL GROUP



Source: TIP Strategies analysis of data from the Fort Campbell Survey of Post Military Intent, administered to Soldiers separating from service during the latter half of 2016; MOC-SOC crosswalk from O-NET supplemental files.

*Figures represent average based on this data set and should not be interpreted as official numbers.

Figure 49 (page 51) shows the distribution of skills at the individual occupation level among those separating from service. During the period analyzed, an average of between 20 and 25 Soldiers separating from service each month had military occupations that translated to one of four civilian jobs: aircraft mechanics, stock clerks, auto mechanics, and emergency medical technicians (EMTs). This correlation does not mean the personnel in question are fully qualified to enter civilian occupations, only that the skills and training they received during their military experience correspond to those required by the civilian occupation. For example, military personnel categorized as

MOS 68W are not automatically eligible to work as EMTs or paramedics. Not all states recognize military certifications in this field, meaning additional coursework or examinations may be required to obtain the equivalent civilian credentials.

All but a handful of the civilian occupations identified have hourly wages above the regional median rate of $16.39. Three occupations had median wage rates in excess of $30 per hour: Human Resource Managers (SOC 11-3121), Logisticians (13-1081), and Network & Computer Systems Administrators (SOC 15-1142). However, these were among the smallest in numeric terms. By contrast, the lowest-paying civilian occupation identified—Stock Clerks & Order Fillers (43-5081)—is among the largest. Insufficient data were available for two occupations: Radio Operators (SOC 27-4013) and Pump Operators, Except Wellhead Pumpers (53-7072). However, based on state-level data for Kentucky and Tennessee, median wages range between $15 and $20 per hour for each occupation.

The remaining figures illustrate the share each of the 25 occupations comprises of selected industries based on national staffing patterns. This information can support the industry recruitment and retention efforts of regional economic development organizations. In addition, a crosswalk of military occupation codes to civilian codes is provided for the 25 occupations included in this analysis.

FIGURE 49. DISTRIBUTION BY DETAILED OCCUPATION (25 LARGEST)

PERSONNEL SEPARATING FROM SERVICE VIA FORT CAMPBELL OVER 6-MONTH PERIOD

	SOC CODE	DESCRIPTION		% OF TOTAL	MEDIAN HOURLY WAGE	
	55-0000	**Military Occupations** *(no civilian counterpart)*	**864**	**35.4%**		
1	49-3011	Aircraft Mechanics & Service Technicians	150	6.1%	$20.70	◀
2	43-5081	Stock Clerks & Order Fillers	149	6.1%	$10.28	
3	49-3023	Automotive Service Technicians & Mechanics	122	5.0%	$16.99	◀
4	29-2041	Emergency Medical Techs. & Paramedics	121	5.0%	$13.42	
5	35-2012	Cooks, Institution & Cafeteria	74	3.0%	$11.11	
6	27-4013	Radio Operators	73	3.0%	–	
7	43-4161	HR Asst., Except Payroll & Timekeeping	57	2.3%	$17.89	◀
8	47-4099	Construction & Related Workers, All Other	55	2.3%	$17.53	◀
9	33-3051	Police & Sheriff's Patrol Officers	53	2.2%	$19.17	◀
10	53-3032	Heavy & Tractor-Trailer Truck Drivers	50	2.0%	$15.33	
11	53-7072	Pump Operators, Except Wellhead Pumpers	45	1.8%	–	◀
12	49-2091	Avionics Technicians	40	1.6%	$25.39	◀
13	53-2012	Commercial Pilots	38	1.6%	$29.31	◀
14	49-1011	First-Line Supvsr., Mechanics, Install, & Repair	36	1.5%	$26.41	◀
15	47-5031	Explosives, Ordnance Handling, & Blasters	34	1.4%	$21.01	◀
16	47-4041	Hazardous Materials Removal Workers	31	1.3%	$16.67	◀
17	47-1011	First-Line Supvsr., Constr. Trades & Extraction	29	1.2%	$22.51	◀
18	49-9099	Install./Maint./Repair Workers, All Other	24	1.0%	$14.29	
19	49-2094	Elec./Electronics Repair, Commercial & Ind. Equip.	23	0.9%	$25.84	◀
20	49-3031	Bus/Truck Mechanics & Diesel Engine Specialists	20	0.8%	$19.15	◀
21	43-9011	Computer Operators	19	0.8%	$18.21	◀
22	27-3091	Interpreters & Translators	18	0.7%	$17.18	◀
23	13-1081	Logisticians	15	0.6%	$33.77	◀
24	15-1142	Network & Computer Systems Admin.	13	0.5%	$30.02	◀
25	11-3121	Human Resources Managers	12	0.5%	$35.17	◀

Source: TIP Strategies analysis of data from the Fort Campbell Survey of Post Military Intent, administered to Soldiers separating from service during the latter half of 2016; MOC-SOC crosswalk from O-NET supplemental files. *Median hourly wages for the civilian occupation in the region.
◀ Indicates median hourly wage rate above the regional average of $16.39. —insufficient data available on this occupation in the region.

FIGURE 50. CONSTRUCTION & EXTRACTION AND TRANSPORTATION & MATERIAL-MOVING *OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES*

	Number separating from service in related MOC	55	50	45	38	34	31	29
	Median hourly rate, Fort Campbell Region	$17.53	$15.33	–	$29.31	$21.01	$16.67	$22.51
	SOC code and description	47-4099	53-3032	53-7072	53-2012	47-5031	47-4041	47-1011
NAICS	Description	Construction & Related Workers, All Other	Heavy & Tractor-Trailer Truck Drivers	Pump Operators, Except Wellhead Pumpers	Commercial Pilots	Explosives, Ordnance Handling, & Blasters	Hazardous Materials Removal Workers	First-Line Supvsr., Constr. Trades & Extraction
113300	Logging		**16.5**					
115000	Support activities for agriculture & forestry		2.1		2.3			
211000	Oil & gas extraction		0.9	0.9	0.1			2.7
212100	Coal mining		3.9	0.2		0.5		5.3
212200	Metal ore mining		5.4					2.0
212300	Nonmetallic mineral mining & quarrying		**11.1**			0.3		3.0
213000	Support activities for mining		5.7	1.0		0.4		4.8
236100	Residential building construction	0.2	0.2					8.2
236200	Nonresidential building construction	0.1	0.6				0.2	**11.3**
237130	Power/communication line & related construction	0.3	1.3				0.1	5.9
237200	Land subdivision		0.9					3.5
237300	Highway, street, & bridge construction	0.1	7.7					8.0
237900	Other heavy & civil engineering construction	0.2	3.0		0.1			6.7
238110	Poured concrete foundation & structure contractors		1.8					7.1
238140	Masonry contractors	0.1	0.4					5.0
238160	Roofing contractors	0.1	0.2					6.0
238210	Electrical & other wiring installation contractors		0.1					4.1
238220	Plumbing, heating, & air-conditioning contractors		0.1					3.0
238290	Other building equipment contractors	0.4	0.7				0.1	3.5
238310	Drywall & insulation contractors	0.1	0.1					5.3
238320	Painting & wall covering contractors	0.1						4.9
238900	Other specialty trade contractors	0.6	6.7			0.1	0.3	5.6
311100	Animal food manufacturing		6.2					
311500	Dairy product manufacturing		3.3					
312100	Beverage manufacturing		3.1					
321100	Sawmills & wood preservation		3.3					
321200	Veneer, plywood, & eng. wood product mfg.		2.5					0.2
321900	Other wood product manufacturing		2.2					0.4
324000	Petroleum & coal products manufacturing		2.1	0.5				0.7
325100	Basic chemical manufacturing		3.0	0.3				
325300	Pesticide, fertilizer, & other ag. chemical mfg.		2.6					
327300	Cement & concrete product manufacturing	0.1	**29.6**					0.6
337900	Other furniture related product manufacturing		2.4					
423300	Lumber & other construction materials wholesalers		9.1					0.2

continued next page

FIGURE 50 - CONTINUED

OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES

	Number separating from service in related MOC	55	50	45	38	34	31	29
	Median hourly rate, Fort Campbell Region	$17.53	$15.33	–	$29.31	$21.01	$16.67	$22.51
	SOC code and description	47-4099	53-3032	53-7072	53-2012	47-5031	47-4041	47-1011
NAICS	Description	Construction & Related Workers, All Other	Heavy & Tractor-Trailer Truck Drivers	Pump Operators, Except Wellhead Pumpers	Commercial Pilots	Explosives, Ordnance Handling, & Blasters	Hazardous Materials Removal Workers	First-Line Supvsr., Constr. Trades & Extraction
423500	Metal & mineral (except petroleum) wholesalers		5.6					0.1
423900	Miscellaneous durable goods wholesalers		3.8					
424100	Paper & paper product wholesalers		3.8					
424400	Grocery & related product wholesalers		8.7					
424500	Farm product raw material wholesalers		6.6					
424600	Chemical & allied products wholesalers		6.6			0.4		
424700	Petroleum & petroleum products wholesalers		**25.0**	1.4	0.1			
424800	Beer, wine, & distilled alcoholic beverage whlslrs.		8.2					
424900	Miscellaneous nondurable goods wholesalers		4.5					
454300	Direct selling establishments		**11.9**	0.1				0.1
481200	Nonscheduled air transportation		0.4		**37.1**			
484100	General freight trucking		**61.2**					
484200	Specialized freight trucking		**53.4**					0.1
486100	Pipeline transportation of crude oil		7.2	0.7				0.8
486900	Other pipeline transportation		5.5	4.2				
487900	Scenic & sightseeing transportation, other				**15.6**			
488200	Support activities for rail transportation		2.7	0.7				0.2
488400	Support activities for road transportation		**40.4**					
488500	Freight transportation arrangement		5.3					
488900	Other support activities for transportation		4.9					
492100	Couriers & express delivery services		5.2					
492200	Local messengers & local delivery		4.6					
493000	Warehousing & storage		4.9					
532100	Automotive equipment rental & leasing		2.2					
532300	General rental centers		3.3					
532400	Commercial & industrial machinery & equipment rental & leasing	0.2	7.1	0.2	0.1			0.4
562100	Waste collection		**20.5**				1.4	0.2
562200	Waste treatment & disposal		**12.3**				5.0	1.1
562900	Remediation & other waste management services		5.5	0.2			**19.3**	4.7
611505	Technical & trade schools; private				3.5			

Source: TIP Strategies analysis of data from the Fort Campbell Survey of Post Military Intent, administered to Soldiers separating from service during the latter half of 2016; MOC-SOC crosswalk from O-NET supplemental files; US Bureau of Labor Statistics, National Industry-Occupation Employment Matrix.

FIGURE 51. INSTALLATION, MAINTENANCE, & REPAIR

OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES

	Number separating from service in related MOC	150	122	40	36	24	23	20
	Median hourly rate, Fort Campbell Region	$20.70	$16.99	$25.39	$26.41	$14.29	$25.84	$19.15
	SOC code and description	49-3011	49-3023	49-2091	49-1011	49-9099	49-2094	49-3031
NAICS	Description	Aircraft Mechanics & Service Technicians	Automotive Service Techs. & Mechanics	Avionics Technicians	First-Line Supvsr., Mechanics, Install, & Repair	Install./Maint./Repair Workers, All Other	Elec./Electronics Repair, Commercial & Ind. Equip.	Bus/Truck Mechanics & Diesel Engine Specialists
1131-2	Forestry							4.5
114000	Fishing, hunting, & trapping							1.4
212100	Coal mining				1.7			0.6
212200	Metal ore mining				2.2	0.6		2.7
221100	Electric power gen., transmission & distribution		0.4		3.4	0.1	0.2	0.5
221200	Natural gas distribution		0.2		1.8	0.5	0.1	0.3
237130	Power/communication line & related construction		0.2		3.9	0.2	0.3	0.5
238220	Plumbing, heating, & air-conditioning contractors				1.6	0.1	0.1	0.1
238290	Other building equipment contractors				1.9	0.9	0.2	0.2
322100	Pulp, paper, & paperboard mills				1.3		1.7	
324000	Petroleum & coal products manufacturing				1.3		0.2	0.3
325100	Basic chemical manufacturing				1.3		0.7	0.2
325200	Resin & synthetic rubber, fibers, filaments mfg.				1.2		0.8	
327300	Cement & concrete product manufacturing				0.5	0.1		2.1
327400	Lime & gypsum product manufacturing				1.5		0.4	
331100	Iron & steel mills & ferroalloy manufacturing				1.7		0.5	
336400	Aerospace product & parts manufacturing	3.8		1.1	0.3	0.1	0.2	
423100	Motor vehicle/parts & supplies wholesalers		2.9		1.3	0.9		6.5
423820	Farm & garden machinery & equip. wholesalers		0.1		2.6	0.4		0.6
423900	Miscellaneous durable goods wholesalers		0.1		0.3	1.3	0.1	0.2
424700	Petroleum & petroleum products wholesalers	0.2	0.2		0.4	0.2		1.1
441100	Automobile dealers		**18.8**		2.5			0.4
441200	Other motor vehicle dealers		1.2		2.7			1.1
441300	Automotive parts, accessories, & tire stores		**12.7**		2.8	0.7		0.4
447000	Gasoline stations		2.1		0.2			0.1
453900	Other miscellaneous store retailers				0.3	2.1		
454200	Vending machine operators		0.2		1.7			0.3
454300	Direct selling establishments		0.2		0.9	1.4		0.6
481100	Scheduled air transportation	6.4	0.1	0.3	0.8			0.2
481200	Nonscheduled air transportation	**15.1**		0.7	2.0			
482000	Rail transportation				1.7	0.4		0.9
484100	General freight trucking		0.2		0.4			3.5
484200	Specialized freight trucking		0.2		0.3	0.1		3.4
485100	Urban transit systems				1.0			6.8

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FIGURE 51 – CONTINUED

OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES

	Number separating from service in related MOC	150	122	40	36	24	23	20
	Median hourly rate, Fort Campbell Region	$20.70	$16.99	$25.39	$26.41	$14.29	$25.84	$19.15
	SOC code and description	49-3011	49-3023	49-2091	49-1011	49-9099	49-2094	49-3031
NAICS	Description	Aircraft Mechanics & Service Technicians	Automotive Service Techs. & Mechanics	Avionics Technicians	First-Line Supvsr., Mechanics, Install, & Repair	Install./Maint./Repair Workers, All Other	Elec./Electronics Repair, Commercial & Ind. Equip.	Bus/Truck Mechanics & Diesel Engine Specialists
485200	Interurban & rural bus transportation				0.5			5.1
485300	Taxi & limousine service		2.3		0.2			0.1
485400	School & employee bus transportation		0.1		0.2			2.6
485500	Charter bus industry				0.5			5.5
485900	Other transit & ground passenger transportation		0.4		0.3			1.6
486200	Pipeline transportation of natural gas		0.2		1.2		0.4	
486900	Other pipeline transportation				1.3			
487100	Scenic & sightseeing transportation, land		0.4		0.6			3.0
487900	Scenic & sightseeing transportation, other	**10.6**						
488100	Support activities for air transportation	**19.4**	0.5	2.9	2.0	0.8	0.1	
488200	Support activities for rail transportation				2.2			1.6
488400	Support activities for road transportation		3.1		0.2	0.1		2.1
515200	Cable & other subscription programming				2.4	0.3		
517100	Wired telecommunications carriers		0.1		2.0	0.1	0.1	
517400	Satellite telecommunications				2.8		0.7	
531100	Lessors of real estate				1.6			
531300	Activities related to real estate				1.8			
532100	Automotive equipment rental & leasing		3.3		1.1	0.4		5.7
532400	Commercial & industrial machinery & equipment rental & leasing		0.4		2.0	0.4	0.1	1.0
561620	Security systems services				3.5	0.3		
562100	Waste collection		0.3		0.5			4.1
562200	Waste treatment & disposal		0.1		0.6		0.1	2.7
711200	Spectator sports		2.2		0.4			
811110	Automotive mech. & electrical repair & maint.		**53.2**		6.5	0.1		4.9
811120	Automotive body, paint, interior, & glass repair		3.9		4.7	0.3		0.4
811190	Other automotive repair & maintenance		6.7		1.0			0.2
811200	Electronic & precision equip. repair & maint.		0.1	0.3	3.7	0.5	3.8	
811300	Commercial/industrial machinery & equip. (except automotive & electronic) repair & maint.	0.1	0.7		3.6	1.1	1.3	1.9
811400	Personal & household goods repair & maint.		0.4		2.0	2.3		0.1

Source: TIP Strategies analysis of data from the Fort Campbell Survey of Post Military Intent, administered to Soldiers separating from service during the latter half of 2016; MOC-SOC crosswalk from O-NET supplemental files; US Bureau of Labor Statistics, National Industry-Occupation Employment Matrix.

FIGURE 52. VARIOUS ADMINISTRATIVE, OFFICE, AND BUSINESS OCCUPATIONS

OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES

	Number separating from service in related MOC	149	57	19	15	13	12
	Median hourly rate, Fort Campbell Region	$10.28	$17.89	$18.21	$33.77	$30.02	$35.17
	SOC code and description	43-5081	43-4161	43-9011	13-1081	15-1142	11-3121
NAICS	Description	Stock Clerks & Order Fillers	HR Asst., Except Payroll & Timekeeping	Computer Operators	Logisticians	Network & Computer Systems Admin.	Human Resources Managers
311300	Sugar & confectionery product manufacturing	1.1	0.1			0.1	0.1
311500	Dairy product manufacturing	1.1	0.1		0.3	0.1	0.2
312100	Beverage manufacturing	2.5	0.1		0.3	0.1	0.1
325600	Soap, cleaning compound, & toilet preparation manufacturing	1.2	0.1		0.5	0.2	0.2
335100	Electric lighting equipment manufacturing	1.3	0.1		0.2	0.3	0.2
336400	Aerospace product & parts manufacturing	0.5	0.1		2.0	0.3	0.2
336900	Other transportation equipment manufacturing	1.1			0.4		0.2
423100	Motor vehicle & motor vehicle parts & supplies wholesalers	3.9	0.1		0.1	0.2	0.1
423200	Furniture & home furnishing wholesalers	3.3	0.1		0.1	0.3	0.1
423300	Lumber & other construction materials wholesalers	2.6			0.1	0.1	
423400	Professional & commercial equipment & supplies wholesalers	2.0	0.1	0.1	0.3	0.9	0.2
423500	Metal & mineral (except petroleum) wholesalers	2.5	0.1		0.2	0.2	0.1
423600	Household appliances & electrical/electronic goods whlslrs.	2.8	0.1		0.3	0.5	0.1
423700	Hardware, & plumbing & heating equip./supplies whlslrs.	5.4			0.1	0.2	0.1
423900	Miscellaneous durable goods wholesalers	2.8	0.1		0.1	0.2	0.1
424100	Paper & paper product wholesalers	6.6	0.1		0.1	0.3	0.1
424200	Drugs & druggists' sundries wholesalers	4.7	0.1	0.1	0.4	0.3	0.1
424300	Apparel, piece goods, & notions wholesalers	4.6	0.1		0.3	0.4	0.1
424400	Grocery & related product wholesalers	6.3	0.1	0.1	0.1	0.1	0.1
424600	Chemical & allied products wholesalers	1.3	0.1	0.1	0.3	0.2	0.1
424800	Beer, wine, & distilled alcoholic beverage wholesalers	3.9		0.1	0.1	0.2	0.1
424900	Miscellaneous nondurable goods wholesalers	5.5	0.1	0.1	0.1	0.2	0.1
425000	Wholesale electronic markets & agents & brokers	2.2	0.1		0.1	0.4	0.1
442100	Furniture stores	3.3				0.1	
442200	Home furnishings stores	5.9			0.1		
444100	Building material & supplies dealers	5.6					
444200	Lawn & garden equipment & supplies stores	2.2					
445100	Grocery stores	**18.3**	0.1	0.1			
445200	Specialty food stores	4.9					
445300	Beer, wine, & liquor stores	8.1		0.1			
446110	Pharmacies & drug stores	3.8					
448100	Clothing stores	5.4					
448200	Shoe stores	3.1					
451110	Sporting goods stores	2.5	0.1				

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FIGURE 52 - CONTINUED

OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES

	Number separating from service in related MOC	149	57	19	15	13	12
	Median hourly rate, Fort Campbell Region	$10.28	$17.89	$18.21	$33.77	$30.02	$35.17
	SOC code and description	43-5081	43-4161	43-9011	13-1081	15-1142	11-3121
NAICS	Description	Stock Clerks & Order Fillers	HR Asst., Except Payroll & Timekeeping	Computer Operators	Logisticians	Network & Computer Systems Admin.	Human Resources Managers
451200	Book, periodical, & music stores	3.0				0.1	
452100	Department stores	**15.8**	0.4				
452900	Other general merchandise stores	**16.2**	0.3				
453200	Office supplies, stationery, & gift stores	2.5				0.1	
453300	Used merchandise stores	**10.6**					
453900	Other miscellaneous store retailers	2.1				0.1	
454100	Electronic shopping & mail-order houses	4.1	0.2	0.2	0.1	0.7	0.1
454200	Vending machine operators	2.1					
488100	Support activities for air transportation	1.1	0.1	0.1	0.2	0.2	
488900	Other support activities for transportation	1.1			0.3	0.3	
493000	Warehousing & storage	7.7	0.2	0.2	0.3	0.1	0.1
511200	Software publishers	0.1	0.2	0.1	0.1	1.5	0.3
515200	Cable & other subscription programming	0.3	0.1			2.0	0.2
517100	Wired telecommunications carriers	0.6	0.1	0.1	0.1	2.3	0.1
517200	Wireless telecommunications carriers (except satellite)	0.1	0.1		0.2	1.4	0.1
517400	Satellite telecommunications				0.5	2.9	
517900	Other telecommunications	0.2	0.1		0.3	3.0	0.1
518000	Data processing, hosting & related services	0.2	0.1	1.7	0.1	3.1	0.2
519000	Other information services		0.2			1.3	0.2
521000	Monetary authorities-central bank					2.4	0.3
541500	Computer systems design & related services	0.1	0.1	0.2	0.3	3.5	0.2
541710	R&D in the physical, engineering, & life sciences	0.1	0.1		0.4	1.1	0.3
551000	Management of companies & enterprises	0.6	0.5	0.2	0.5	1.1	0.8
561200	Facilities support services	1.6	0.2		0.3	0.1	0.1
561320	Temporary help services	1.5	0.2	0.1		0.5	0.1
561900	Other support services	5.0	0.1	0.1	0.1	0.2	0.1
624200	Community food, housing, & emergency/other relief services	1.2	0.1			0.1	0.1
624300	Vocational rehabilitation services	1.5	0.3			0.1	0.1
999100	Federal government, excluding postal service	0.3	0.5		1.3		0.1

Source: TIP Strategies analysis of data from the Fort Campbell Survey of Post Military Intent, administered to Soldiers separating from service during the latter half of 2016; MOC-SOC crosswalk from O-NET supplemental files; US Bureau of Labor Statistics, National Industry-Occupation Employment Matrix.

FIGURE 53. MISCELLANEOUS OCCUPATIONS

OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES

	Number separating from service in related MOC	121	74	73	53	18
	Median hourly rate, Fort Campbell Region	$13.42	$11.11	–	$19.17	$17.18
	SOC code and description	29-2041	35-2012	27-4013	33-3051	27-3091
NAICS	Description	Emergency Medical Techs. & Paramedics	Cooks, Institution & Cafeteria	Radio Operators	Police & Sheriff's Patrol Officers	Interpreters & Translators
311700	Seafood product preparation & packaging		0.2			
454200	Vending machine operators		0.5			
483100	Deep sea, coastal, & great lakes water transportation		0.8			
483200	Inland water transportation		1.8			
485900	Other transit & ground passenger transportation	0.9				
488300	Support activities for water transportation		0.4			
515110	Radio broadcasting			0.2		
531100	Lessors of real estate		0.3			
561200	Facilities support services		0.9			
561900	Other support services	0.8	0.1			
611102	Elementary & secondary schools; state		0.7			0.4
611103	Elementary & secondary schools; local		1.6			0.1
611105	Elementary & secondary schools; private		0.7			
611202	Junior colleges; state		0.1		0.3	0.1
611203	Junior colleges; local		0.2		0.4	0.4
611302	Colleges, universities, & professional schools; state		0.2		0.5	0.1
611305	Colleges, universities, & professional schools; private		0.3		0.3	0.1
611502	Technical & trade schools; state		0.4			
611503	Technical & trade schools; local		0.6			
611505	Technical & trade schools; private	0.1	0.1			
611703	Educational support services; local					0.7
621390	Offices of all other health practitioners	0.4	0.1			
621420	Outpatient mental health & substance abuse centers		0.2			
621910	Ambulance services	**70.0**				
621990	All other ambulatory healthcare services	0.5				
622102	General medical & surgical hospitals; state	0.4	0.4			0.1
622103	General medical & surgical hospitals; local	1.4	0.8			0.1
622105	General medical & surgical hospitals; private	0.7	0.6			0.1
622202	Psychiatric & substance abuse hospitals; state		0.9		0.1	
622205	Psychiatric & substance abuse hospitals; private	0.2	1.3			
622302	Specialty (except psychiatric/substance abuse) hospitals; state		0.6			
622305	Specialty (except psychiatric/substance abuse) hospitals; private	0.2	0.9			0.1
623100	Nursing care facilities (skilled nursing facilities)		2.9			
623210	Residential intellectual & developmental disability facilities		0.4			

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FIGURE 53 - CONTINUED

OCCUPATIONS' SHARE OF EMPLOYMENT IN SELECTED INDUSTRIES

	Number separating from service in related MOC	121	74	73	53	18
	Median hourly rate, Fort Campbell Region	$13.42	$11.11	–	$19.17	$17.18
	SOC code and description	29-2041	35-2012	27-4013	33-3051	27-3091
NAICS	Description	Emergency Medical Techs. & Paramedics	Cooks, Institution & Cafeteria	Radio Operators	Police & Sheriff's Patrol Officers	Interpreters & Translators
623220	Residential mental health & substance abuse facilities		1.7			
623300	Continuing care retirement & assisted living facilities (elderly)		4.3			
623900	Other residential care facilities		1.3			
624120	Services for the elderly & persons with disabilities		0.6			0.1
624200	Community food, housing, & emergency/other relief services		2.2			0.2
624300	Vocational rehabilitation services		0.3			
624400	Child day care services		2.2			
711200	Spectator sports	0.4				
712000	Museums, historical sites, & similar institutions					0.2
713100	Amusement parks & arcades	0.3				
713200	Gambling industries (except casino hotels)	0.2	0.5			
721120	Casino hotels		0.3			
721200	RV (recreational vehicle) parks & recreational camps		1.5			
721300	Rooming & boarding houses		7.6			
722300	Special food services		8.3			
813300	Social advocacy organizations		0.5			0.1
813400	Civic & social organizations		0.4			
999100	Federal government, excluding postal service		0.1		0.6	
999200	State government, excluding education & hospitals	0.1	0.2		2.7	0.1
999300	Local government, excluding education & hospitals	1.2	0.2		**10.3**	

Source: TIP Strategies analysis of data from the Fort Campbell Survey of Post Military Intent, administered to Soldiers separating from service during the latter half of 2016; MOC-SOC crosswalk from O-NET supplemental files; US Bureau of Labor Statistics, National Industry-Occupation Employment Matrix.

FIGURE 54. CROSSWALK OF MILITARY OCCUPATIONS TO CIVILIAN (SOC) CODES
FOR 25 OCCUPATIONS SHOWN IN FIGURE 49

SOC CODE	DESCRIPTION	CORRESPONDING MILITARY CODE	NUMBER SEPARATING FROM SERVICE AT TIME OF ANALYSIS
49-3011	Aircraft Mechanics & Service Technicians	15B	16
		15D	5
		15E	6
		15G	11
		15H	1
		15R	22
		15S	4
		15T	41
		15U	26
		66H	6
		66T	1
		67A	11
		TOTAL	150
43-5081	Stock Clerks- Stockroom, Warehouse, or Storage Yard	92A	80
		92Y	69
		TOTAL	149
49-3023	Automotive Master Mechanics	63B	2
		91B	120
		TOTAL	122
29-2041	Emergency Medical Technicians & Paramedics	68W	121
		TOTAL	121
35-2012	Cooks, Institution & Cafeteria	68M	1
		92G	73
		TOTAL	74
27-4013	Radio Operators	25C	4
		25Q	13
		25U	54
		35N	2
		TOTAL	73
43-4161	Human Resources Assistants, Except Payroll & Timekeeping	3A171	1
		42A	56
		TOTAL	57
47-4099	Construction & Related Workers, All Other	12B	55
		TOTAL	55
33-3051	Police Patrol Officers	31B	53
		TOTAL	53
53-3032	Heavy & Tractor-Trailer Truck Drivers	88M	50
		TOTAL	50
53-7072	Pump Operators, Except Wellhead Pumpers	92F	45
		TOTAL	45

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FIGURE 54 - CONTINUED

SOC CODE	DESCRIPTION	CORRESPONDING MILITARY CODE	NUMBER SEPARATING FROM SERVICE AT TIME OF ANALYSIS
49-2091	Avionics Technicians	15F	5
		15J	8
		15N	8
		15Y	16
		94R	3
		TOTAL	40
53-2012	Commercial Pilots	152C	3
		152D	6
		152E	1
		152H	5
		153A	1
		153D	1
		153E	6
		153M	6
		154E	7
		154F	2
		TOTAL	38
49-1011	First-Line Supervisors of Mechanics, Installers, & Repairers	151A	2
		15K	2
		15Z	11
		25W	4
		25X	1
		91X	11
		91Z	2
		94W	3
		TOTAL	36
47-5031	Explosives Workers, Ordnance Handling Experts, & Blasters	89A	1
		89B	16
		89D	17
		TOTAL	34
47-4041	Hazardous Materials Removal Workers	74D	31
		TOTAL	31
47-1011	First-Line Supervisors of Construction Trades & Extraction Workers	12A	12
		12N	16
		12Z	1
		TOTAL	29
49-9099	Installation, Maintenance, & Repair Workers, All Other	15A	3
		91F	21
		TOTAL	24

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FIGURE 54 - CONTINUED

SOC CODE	DESCRIPTION	CORRESPONDING MILITARY CODE	NUMBER SEPARATING FROM SERVICE AT TIME OF ANALYSIS
49-2094	Electrical & Electronics Repairers, Commercial & Industrial Equipment	35D	7
		35T	3
		63A	1
		63D	1
		94A	3
		94M	4
		94T	3
		94Y	1
		TOTAL	23
49-3031	Bus & Truck Mechanics & Diesel Engine Specialists	65B	1
		91D	17
		91H	2
		TOTAL	20
43-9011	Computer Operators	25B	19
		TOTAL	19
27-3091	Interpreters & Translators	35M	6
		35P	12
		TOTAL	18
13-1081	Logisticians	90A	15
		TOTAL	15
15-1142	Network & Computer Systems Administrators	255N	1
		25N	12
		TOTAL	13
11-3121	Human Resources Managers	420A	1
		42B	11
		TOTAL	12

Source: TIP Strategies analysis of data from the Fort Campbell Survey of Post Military Intent, administered to Soldiers separating from service during the latter half of 2016; MOC-SOC crosswalk from O-NET supplemental files.

APPENDIX D: FORT CAMPBELL ECONOMIC IMPACT ANALYSIS

SUMMARY

Fort Campbell is the catalyst for $1.75 billion of economic output in the six-county region, and is responsible for $2.46 billion of household earnings and the employment of nearly 50,000 workers inclusive of 33,885 military personnel, civilian employees, and contractors based at Fort Campbell.

FIGURE 55. ECONOMIC IMPACT CALCULATION IN SIX-COUNTY REGION

RIMS II CATEGORY		AMOUNT	IMPACT		
			Economic Output	Earnings	Employment
2211A0	Utilities	$4,716,397	$6,235,077	$1,151,744	19.4
2332C0	Construction	$168,539,057	$276,589,446	$95,056,028	2,106.6
484000	Truck transportation	$106,841	$169,386	$50,493	1.2
532400	Commercial & industrial machinery & equipment rental & leasing	$320,523	$435,238	$99,362	1.7
561600	Investigation & security services	$213,682	$336,506	$142,504	5.4
561900	Other support services	$213,682	$351,336	$116,798	3.1
624100	Individual & family services	$106,841	$171,223	$67,288	3.0
517A00	Satellite, telecom. resellers, & all other telecommunications	$106,841	$161,479	$54,991	1.1
722A00	All other food & drinking places	$1,602,613	$2,366,579	$488,637	19.9
Households	Payroll	$1,920,716,830	$1,463,010,009	$437,155,151	13,398.1
	Total	**$2,096,643,306**			
		Subtotal – Indirect & Induced Effects	$1,749,826,279	$534,382,997	15,559.6
		Initial Change		$1,920,716,830	33,885.0
		Total Impact	**$1,749,826,279**	**$2,455,099,827**	**49,444.6**

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

To get a better sense of the impacts, the following results index the impact for each of the 27,869 active military personnel at Fort Campbell:

- The Post supports $63,000 in economic output or sales of goods and services in the local region for each active military person.
- The Post supports roughly 1.8 workers in the local region for each active military person.
- The Post supports $88,000 in household earnings in the local region for each active military person inclusive of their own pay as well as the pay of workers in supported industries.

OVERVIEW

Impact DataSource, an Austin, Texas economic consulting, research, and analysis firm, conducted an economic analysis of Fort Campbell (the "Post") to understand the ripple effect that military spending has in the immediate six-county region and in Kentucky and Tennessee. This analysis estimates the economic impact of the Post and identifies the industry sectors impacted by the Post and its active duty and civilian personnel.

BACKGROUND

Fort Campbell is located on the Tennessee-Kentucky state line and the 106,700-acre installation possesses a unique capability to deploy mission-ready contingency forces by air, rail, highway and inland waterway. Fort Campbell is home to the 101st Airborne Division and the 160th Special Operations Aviation Regiment. In order to investigate the impact of military spending in the region, the Post provided the FY 2015 information shown in Figures 56 and 57.

The payroll amounts indicated above support approximately 34,000 active-duty, civilian, and contractor personnel. In addition, the Post supports 67,508 retired military.

FIGURE 56. POST EXPENDITURES

CATEGORY	AMOUNT
Active Military Payroll	$1,627,698,450
Civilian Payroll	$293,018,380
Retired Military Payroll	$1,645,303,668
Appropriated Fund Contracts for supplies/services from Local Businesses	$10,684,088
Utilities Purchased from Local Providers	$4,716,397
Major Construction Projects	$160,525,991
Total	**$3,741,946,974**

Source: Fort Campbell, FY 2015

FIGURE 57. PERSONNEL

PERSONNEL	COUNT
Full-time Military	27,869
Full-time Government Civilians	4,036
Full-time Contractors	1,980
Total	**33,885**

Source: Fort Campbell, FY 2015

ECONOMIC IMPACT

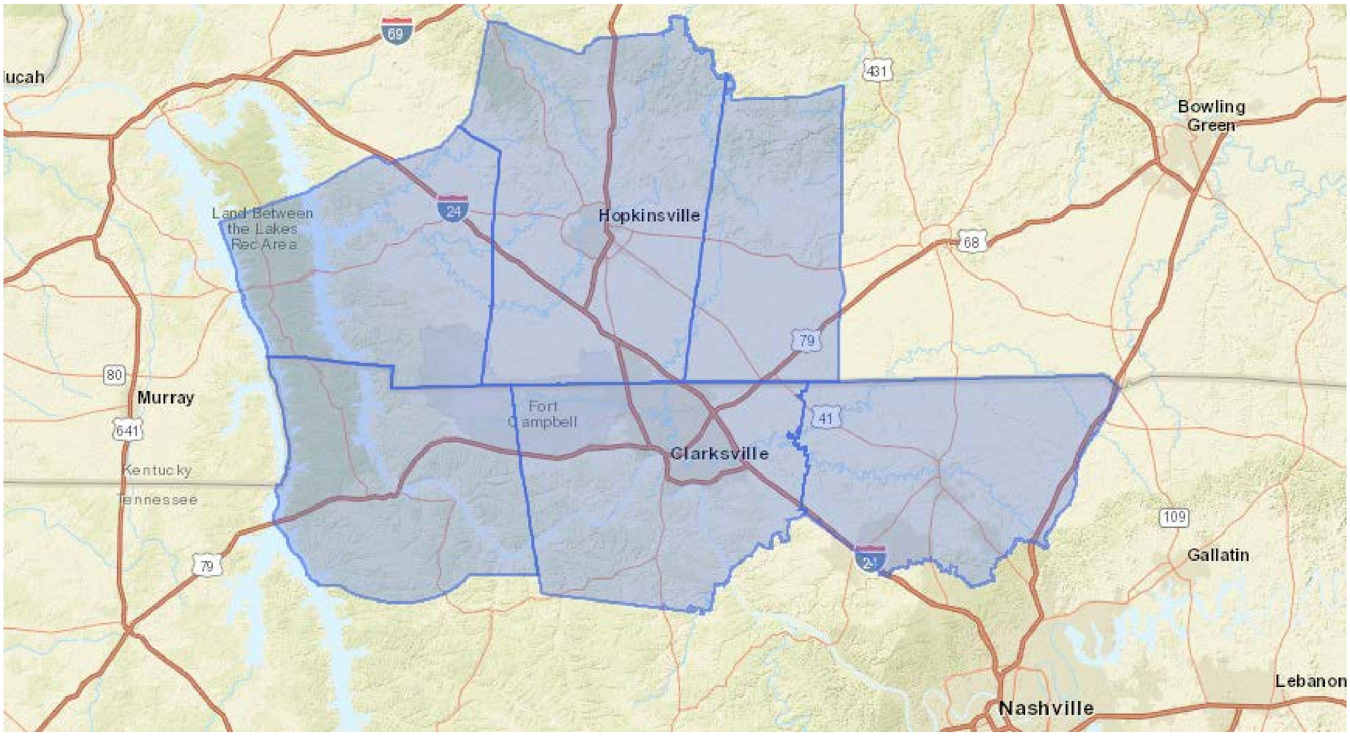
METHODOLOGY

To estimate the spin-off economic impact of Fort Campbell's presence in the region, this report uses the Regional Input-Output Modeling System (RIMS II) economic multiplier program developed by the U.S. Bureau of Economic Analysis. This methodology is a widely respected tool which assigns specific multipliers to specific categories of spending. These multipliers estimate the "ripple" effect that military spending has in the region. The resulting calculations are estimates, but they provide a reliable measure of the indirect and induced economic impact of the Post. For further discussion of the RIMS II methodology, please see the Methodology section. This analysis uses the expenditures by category as the input to the RIMS II model to estimate the total economic impact of the Post.

IMPACT REGION

The economic impacts will be estimated by applying industry-specific and region-specific multipliers to the amount of expenditure made in the region. For the main part of this analysis we focus on the expenditures made in the local region which is defined as Christian, Todd, and Trigg Counties in Kentucky and Montgomery, Robertson, and Stewart Counties in Tennessee. Additional tables are provided in an appendix to this report that show the impact of spending specifically in Kentucky and Tennessee, respectively. A map of the six-county local impact region is shown on the following page.

FIGURE 58. LOCAL IMPACT REGION



In total, this six-county region encompasses nearly 97,000 workers excluding military and other federal employees.

IMPACT OF PAYROLL

This analysis assumes the consumption habits of military personnel, civilian employees, and contractors are similar to those of the average consumer so that the RIMS II household multiplier can be used to estimate the impact of spending of these personnel and employees. Consumer expenditure data for the Post's personnel is not available but Impact DataSource believes the overall economic impact would be very similar if more accurate expenditure detail data were available. The retiree payroll has been excluded from this economic impact analysis based on the assumption that most of the retirees are located outside of the region.

FIGURE 59. LOCAL EMPLOYMENT EXCLUDING MILITARY AND FEDERAL EMPLOYEES (2014)

COUNTY	WORKERS
Christian County, KY	25,163
Todd County, KY	2,103
Trigg County, KY	3,030
Montgomery County, TN	43,645
Robertson County, TN	20,884
Stewart County, TN	1,961
Total	**96,786**

Source: U.S. Census Bureau. 2016. OnTheMap Application. Longitudinal-Employer Household Dynamics Program.

IMPACT OF OTHER LOCAL OPERATING EXPENDITURES

The spending for construction and utilities will be applied to the appropriate industry category of the RIMS II model. The expenditures labeled "Appropriated Fund Contracts for supplies/services" have been divided across several industry categories based on detailed contract information for Fort Campbell in 2015. Relying on data from the Federal Procurement Data System–Next Generation[1] (FPDS-NG), Impact DataSource evaluated the NAICS

[1] https://www.fpds.gov/fpdsng_cms/index.php/en/

categories of contracts paid to local firms. A significant amount of these contracts was for construction activities and food services/catering. A small portion were for other categories like transportation, machinery/equipment leasing, individual and family services, and telecommunications.

FIGURE 60: EXPENDITURES BY CATEGORY

RIMS II CATEGORY		AMOUNT
2211A0	Utilities	$4,716,397
2332C0	Construction	$168,539,057
484000	Truck transportation	$106,841
532400	Commercial & industrial machinery & equipment rental & leasing	$320,523
561600	Investigation & security services	$213,682
561900	Other support services	$213,682
624100	Individual & family services	$106,841
517A00	Satellite, telecom. resellers, & all other telecom.	$106,841
722A00	All other food & drinking places	$1,602,613
Households	Payroll	$1,920,716,830
	Total	**$2,096,643,306**

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

IMPACT CALCULATIONS

Figure 61 shows the expenditures by category and the final-demand multipliers used in the analysis for the local region. The employment multiplier is measured based on a $1 million change in output delivered to final demand meaning that for each $1 million of utility output, 4.2073 jobs are created in the region[2].

FIGURE 61: EXPENDITURE AND MULTIPLIERS

RIMS II CATEGORY		AMOUNT	TYPE II FINAL-DEMAND MULTIPLIER		
			Output	Earnings	Employment
2211A0	Utilities	$4,716,397	1.3220	0.2442	4.2555
2332C0	Construction	$168,539,057	1.6411	0.5640	12.8993
484000	Truck transportation	$106,841	1.5854	0.4726	11.3395
532400	Commercial and industrial machinery & equipment rental & leasing	$320,523	1.3579	0.3100	5.4141
561600	Investigation & security services	$213,682	1.5748	0.6669	25.8740
561900	Other support services	$213,682	1.6442	0.5466	15.1825
624100	Individual & family services	$106,841	1.6026	0.6298	28.6029
517A00	Satellite, telecommunications resellers, & all other telecommunications	$106,841	1.5114	0.5147	10.9363
722A00	All other food & drinking places	$1,602,613	1.4767	0.3049	12.8220
Households	Payroll	$1,920,716,830	0.7617	0.2276	7.1988
	Total	**$2,096,643,306**			

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

[2] The expenditure amounts are first deflated to 2013 dollars before applying the employment multipliers because the employment multipliers are based on 2013 data.

In Figure 62, the multipliers are applied to the expenditure categories as indicated to calculate the indirect and induced economic impacts resulting from the Post. In total, the Post is the catalyst for $1.75 billion of economic output in the six-county region, and is responsible for $2.46 billion of household earnings and the employment of nearly 50,000 workers inclusive of the 33,885 military personnel, civilian employees, and contractors based at Fort Campbell.

FIGURE 62: ECONOMIC IMPACT CALCULATION IN SIX-COUNTY REGION

RIMS II CATEGORY		AMOUNT	IMPACT		
			Economic Output	Earnings	Employment
2211A0	Utilities	$4,716,397	$6,235,077	$1,151,744	19.4
2332C0	Construction	$168,539,057	$276,589,446	$95,056,028	2,106.6
484000	Truck transportation	$106,841	$169,386	$50,493	1.2
532400	Commercial & industrial machinery & equipment rental & leasing	$320,523	$435,238	$99,362	1.7
561600	Investigation & security services	$213,682	$336,506	$142,504	5.4
561900	Other support services	$213,682	$351,336	$116,798	3.1
624100	Individual & family services	$106,841	$171,223	$67,288	3.0
517A00	Satellite, telecom. resellers, & all other telecommunications	$106,841	$161,479	$54,991	1.1
722A00	All other food & drinking places	$1,602,613	$2,366,579	$488,637	19.9
Households	Payroll	$1,920,716,830	$1,463,010,009	$437,155,151	13,398.1
	Total	**$2,096,643,306**			
		Subtotal – Indirect & Induced Effects	$1,749,826,279	$534,382,997	15,559.6
		Initial Change		$1,920,716,830	33,885.0
		Total Impact	**$1,749,826,279**	**$2,455,099,827**	**49,444.6**

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

Fort Campbell and its operation is a significant contributor to the local six-county economy, supporting more than 16% of the region's employment through indirect and induced impacts. These indirect and induced economic impacts benefit a wide range of industries in the local economy.

Based on the initial direct impact, the RIMS II model can be used to estimate the direct, indirect, and induced impacts on economic output, value added, earnings, and employment in a given region. **Economic output** is gross output and is the sum of the intermediate inputs and final use. This is a duplicative total in that goods and services will be counted multiple times if they are used in the production of other goods and services. Economic output can be thought of as the value of goods and services sold in the economy or revenues for businesses in the economy. **Value added** is defined as the value of gross output less intermediate inputs. **Household earnings or earnings** consist of wages and salaries, employer-provided benefits, and proprietors' income. **Employment** consists of a count of jobs that includes both full-time and part-time workers.

FIGURE 63: ECONOMIC IMPACT BY INDUSTRY SECTOR

INDUSTRY TITLE	JOBS	EARNINGS	OUTPUT	VALUE ADDED
Agriculture, forestry, fishing, & hunting	72.2	$2,509,664	$9,748,691	$4,427,729
Mining	4.1	$261,150	$1,150,243	$793,940
Utilities	93.3	$8,812,113	$58,012,056	$31,870,246
Construction	1,415.8	$70,978,886	$186,252,162	$108,158,722
Durable goods manufacturing	176.7	$7,869,710	$46,810,092	$15,761,328
Nondurable goods manufacturing	188.6	$8,651,853	$50,715,547	$20,427,782
Wholesale trade	343.2	$21,334,920	$75,208,306	$49,491,223
Retail trade	2,904.9	$79,503,332	$250,903,271	$161,751,789
Transportation & warehousing	376.6	$17,452,657	$52,252,133	$26,007,580
Information	144.5	$7,563,708	$38,636,661	$22,078,084
Finance & insurance	425.2	$22,133,829	$91,992,696	$49,640,141
Real estate & rental & leasing	1,564.6	$37,439,955	$237,670,316	$162,109,772
Professional, scientific, & tech svcs	272.1	$15,083,678	$34,941,148	$20,796,073
Management of companies	20.8	$1,888,350	$4,424,812	$2,644,390
Administrative & waste mgmt. svcs	595.5	$15,294,812	$36,069,557	$23,527,796
Educational services	580.0	$15,597,316	$33,206,541	$19,771,325
Health care & social assistance	2,790.7	$124,620,808	$311,303,622	$179,761,043
Arts, entertainment, & recreation	297.7	$4,608,270	$15,240,816	$7,580,459
Accommodation	155.2	$3,821,559	$14,485,657	$8,779,262
Food services & drinking places	1,734.3	$30,179,153	$96,314,899	$49,369,547
Other services	1,044.3	$35,375,932	$104,487,051	$52,028,266
Households	359.3	$3,401,343	$0	$3,297,287
Total	**15,559.6**	**$534,382,997**	**$1,749,826,279**	**$1,015,646,055**

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

Figure 64 illustrates the value-added impact by industry. Value added is defined as the value of gross output less intermediate inputs. The figure shows the activity's contribution to gross area product. The sectors seeing the largest impact from Fort Campbell's presence include health care & social assistance, real estate & rental and leasing, retail trade, and construction.

FIGURE 64. CONTRIBUTION TO GROSS AREA PRODUCT BY INDUSTRY SECTOR (IN MILLIONS)

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

RIMS II METHODOLOGY

The economic impact estimates in this report are based on the Regional Input-Output Modeling System (RIMS II), a widely used regional input-output model developed by the U. S. Department of Commerce, Bureau of Economic Analysis. The RIMS II model is a standard tool used to estimate regional economic impacts. The economic impacts estimated using the RIMS II model are generally recognized as reasonable and plausible assuming the data input into the model is accurate or based on reasonable assumptions. The RIMS II model is described in basic detail below.

Generally speaking, input-output modeling attempts to estimate the changes that occur in all industries based on a change in the demand for the output of an industry. An input-output model allows an analyst to identify the subsequent changes occurring in various industries within a regional economy in order to estimate the total impact on the economy. Total economic impact is the sum of three components: (1) direct, (2) indirect, and (3) induced impacts.

If the demand for the output of an industry, measured by industry sales or revenue, increases by $1 million, total regional output increases by $1 million. This initial change in output is called the change in direct economic output and referred to as the direct expenditure effect. The change in total economic output in the region resulting from the initial change does not stop with the change in direct economic output. Businesses in a variety of industries within the region will be called upon to increase their production to meet the needs of the industry where the initial increase in demand occurs. Further, other suppliers must also increase production to meet the needs of the group of initial supplier firms to the industry. This increase in expenditures by regional suppliers is considered the indirect economic impact of the initial $1 million in sales, and is classified as indirect expenditures of the total economic impact or the change in indirect economic output.

The total economic impact of the $1 million in sales includes one more component, the induced impact. All economic activity, whether direct or indirect, that results from the initial increase in demand of $1 million, requires workers, and these workers must be paid for their labor. This means that part of the direct and indirect expenditures is actually in the form of wages and salaries paid to workers in the various affected industries. These wages and salaries will in turn be spent in part on goods and services produced locally in the region. This spending is another part of the regional economic impacts referred to as induced impacts and is classified as induced expenditures or the change in induced economic output.

Based on the initial direct impact, the RIMS II model can be used to estimate the direct, indirect, and induced impacts on economic output, value added, earnings, and employment in a given region. Economic output is gross output and is the sum of the intermediate inputs and final use. This is a duplicative total in that goods and services will be counted multiple times if they are used in the production of other goods and services. Value added is defined as the value of gross output less intermediate inputs. Household earnings or earnings consist of wages and salaries, employer provided benefits, and proprietors' income. Employment consists of a count of jobs that include both full-time and part-time workers.

The RIMS II model is based on regional multipliers, which are summary measures of economic impacts generated from changes in direct expenditures, earnings, or employment. Multipliers show the overall impact to a regional economy resulting from a change in demand in a particular industry. Multipliers can vary widely by region. Multipliers are higher for regions with a diverse industry mix. Industries that buy most of their materials from outside the state or region tend to have lower multipliers. Multipliers tend to be higher for industries located in larger areas because more of the spending by the industry stays within the area.

The RIMS II model generates six types of multipliers for more than 400 industrial sectors for any region in the United States. The multipliers include four "final-demand" multipliers and two "direct-effect" multipliers. Final demand multipliers indicate the impact of changes in final demand for the output of a particular regional industry on total regional output, earnings, employment, and value added. Direct-effect multipliers indicate the impact of changes in regional earnings or employment within a particular industry on total employment or earnings within a region.

Final-demand output multipliers indicate the total regional output (direct, indirect, and induced expenditures) that results from an increase in direct expenditures for a good produced by a particular regional industry. For example, if an industry in a particular region is said to have a final demand output multiplier of 2, this tells us that a $1 increase in final demand for the good produced by that industry results in a $2 increase in total output or expenditures within the regional economy. Final-demand earnings multipliers indicate the impact of an increase in final demand for the good of a particular regional industry on the total earned income of households within the region. Final-demand employment multipliers indicate the increase in total regional employment that results from a $1 million increase in final demand for the good produced by a particular regional industry. Final-demand value-added multipliers indicate the increase in total regional value added that results from a $1 million increase in final demand for the good produced by a particular regional industry. Direct-effect earnings multipliers indicate the impact of a $1 change in earnings within a particular regional industry on total earnings in all industries within a region. Direct-effect employment multipliers indicate the impact of a change in employment in a particular regional industry on total employment in all industries within a region.

Theoretically, changes in final demand drive the total change in economic output, earnings, and employment. However, these multipliers relationships can be used to estimate impacts in other ways if only limited information is known about a project. For example, the multiplier relationships can be used to estimate the increase in direct economic output based on a given level of employment in a specific industry.

IMPACT FOR KENTUCKY AND TENNESSEE

In addition to the local impact summarized in the main text of this report, Impact DataSource estimated the impact of these expenditures on the state of Kentucky and state of Tennessee individually. The impacts below illustrate these state-level impacts. The amounts spent specifically in Kentucky and Tennessee serve as the expenditure amounts and the state-specific multipliers are applied to estimate the impact in each respective state.

FIGURE 65: ECONOMIC IMPACT CALCULATION IN KENTUCKY

RIMS II CATEGORY		AMOUNT	IMPACT		
			Economic Output	Earnings	Employment
2211A0	Utilities	$4,282,017	$6,986,539	$1,334,276	24.9
2332C0	Construction	$133,398,664	$282,431,651	$98,781,710	2,348.2
484000	Truck transportation	$84,565	$180,283	$48,515	1.2
532400	Commercial & industrial machinery & equipment rental & leasing	$253,694	$401,470	$93,029	1.8
561600	Investigation & security services	$169,129	$330,478	$131,464	5.2
561900	Other support services	$169,129	$346,275	$111,862	3.6
624100	Individual & family services	$84,565	$168,216	$64,810	2.6
517A00	Satellite, telecom. resellers, & all other telecommunications	$84,565	$153,163	$48,608	1.1
722A00	All other food & drinking places	$1,268,468	$2,767,671	$593,516	21.0
Households	Payroll	$672,250,891	$775,911,978	$221,103,318	6,616.1
	Total	**$812,045,685**			
		Subtotal – Indirect & Induced Effects	$1,069,677,724	$322,311,109	9,025.5
		Initial Change		$1,920,716,830	33,885.0
		Total	**$1,069,677,724**	**$2,243,027,939**	**42,910.5**

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

FIGURE 66: ECONOMIC IMPACT CALCULATION IN TENNESSEE

RIMS II CATEGORY		AMOUNT	IMPACT		
			Economic Output	Earnings	Employment
2211A0	Utilities	$434,380	$696,659	$140,218	2.5
2332C0	Construction	$35,140,393	$80,285,257	$28,656,991	615.2
484000	Truck transportation	$22,276	$47,798	$13,410	0.3
532400	Commercial & industrial machinery & equipment rental & leasing	$66,829	$114,050	$27,527	0.5
561600	Investigation & security services	$44,553	$95,512	$38,039	1.3
561900	Other support services	$44,553	$102,119	$33,508	0.8
624100	Individual & family services	$22,276	$49,453	$18,991	0.8
517A00	Satellite, telecom. resellers, & all other telecommunications	$22,276	$44,325	$14,313	0.3
722A00	All other food & drinking places	$334,145	$748,952	$171,182	5.7
Households	Payroll	$1,248,465,940	$1,696,165,825	$496,889,444	13,374.4
	Total	**$1,284,597,621**			
		Subtotal – Indirect & Induced Effects	$1,778,349,952	$526,003,622	14,001.8
		Initial Change		$0	0.0
		Total	**$1,778,349,952**	**$526,003,622**	**14,001.8**

Source: Application of the RIMS II model by Impact DataSource using Fort Campbell local expenditures.

CONDUCT OF THE ANALYSIS

This analysis was conducted by Impact DataSource using information from Fort Campbell, the results of research conducted by Impact DataSource, and some estimates and assumptions.

Impact DataSource is a 23-year-old Austin, Texas economic consulting, research and analysis firm. The company has conducted over 2,500 economic impact analyses of firms, projects, and activities in most industry groups and in Texas and 26 other states. Impact DataSource has completed economic analyses for several successful regional center projects under the USCIS EB-5 program.

In addition, Impact DataSource has prepared and customized over 50 economic impact models for its clients to perform their own analyses of economic development projects. These clients include the New Mexico Economic Development and the Tennessee Department of Economic Community and Development.

The New Mexico Department of Economic Development uses Impact DataSource's computer model to project the economic impact of new or expanding firms in the state and costs and benefits for the State of New Mexico and each local taxing district. The model also calculates the amount of eligible state and local incentives and calculates a rate of return.