FORT BRAGG AND POPE AIR FORCE BASE
BRAC
REGIONAL
TASK FORCE
COMMUNITY PLANNING FOR BRAC IMPLEMENTATION

Comprehensive Regional Growth Plan for the Fort Bragg Region

Assessment and Recommendations

Chapter 1
Economic Impact

September 2008

Submitted to the:

FORT BRAGG AND POPE AFB
BRAC REGIONAL TASK FORCE

www.bracrtf.com

Developed by:

TDA

www.tdainc.org

In Partnership with:

Corporation for a Skilled Workforce (Workforce)
Developmental Associates, LLP (Public Safety)
ERISS Corporation (Workforce)
The e-NC Authority (Information & Communication Technologies)
Health Planning Source, Inc (Health Care)
Hobbs, Upchurch & Associates (Water and Wastewater)
Kathi Beratan, PhD & James Helgeson, PhD (Editors)
Kenan Institute for Private Enterprise, UNC-Chapel Hill (Air Travel)
ICF International (Economic Modeling & Transportation)
Martin/Alexiou/Bryson, PLLC (Transportation)
Operations Research/Education Lab, N.C. State University (Education k-12)
PKF Consulting (Hospitality and Cultural Resources)
Richardson Smith Gardner & Associates (Solid Waste)

DISCLAIMER

This report is intended as an aid to planners, managers, elected officials, and other decision makers in the Fort Bragg region. Our aim is not to dictate what should be done, but to assist in ongoing efforts to achieve goals and objectives identified and valued by the residents of the region. The recommendations presented in this report are suggestions for how the region could work towards those goals and objectives, based on best available information and current understandings.

The information, projections and estimates in this report are based upon publicly available data and have been prepared using generally accepted methodologies and formulas. The projections and needs presented in this report are based upon best estimates using the available data. It is important to note that currently available information and understandings are incomplete and cannot account for the inevitable, but unpredictable, impacts of unexpected global, national, state, and/or local events. Actual results and needs may differ significantly from the projections of this report due to such unforeseen factors and conditions, as well as inaccuracy of available data, and/or factors and conditions not within the scope of this project. Persons using this information to make business and financial decisions are cautioned to examine the available data for themselves and not to rely solely on this report.

Neither the BRAC Regional Task Force, Training and Development Associates, Inc. nor its subcontractors guarantee or warrant that the projections set forth in this report will, in fact, occur. The BRAC Regional Task Force, Training and Development Associates, Inc. and its subcontractors disclaim any liability for any errors or inaccuracies in the information, projections and needs analysis, regardless of how the data is used, or any decisions made or actions taken by any person in reliance upon any information and/or data furnished herein.

Contents

Chapter 1: Economic Impact

Looking at the six months ending in August 2008, Moody's Economy.com reported that the region's economy has fallen into recession. The Cumberland County office of the Employment Security Commission indicated that the area has lost 2,500 jobs since March, and unemployment jumped from 6 percent to 7.1 percent in the past few months. The region's economic woes, however, will be lessened as a result of the military's significant presence in the area. Continued military investment in the area is expected to bring additional job opportunities and increase the area's population by over 40,000 by 2013.[1]

The economic analysis in this chapter was conducted in the first quarter of 2008 - prior to the present economic crisis. Although recent events would certainly influence the outcomes of this analysis, this chapter does confirm the significant impact of the military on the local economy. The expected number of new military-related jobs and projected construction expenditures by the military remains unchanged.

1. "Report Says Fayetteville in a Recession" published on October 9, 2008 in the Fayetteville Observer.

I. Military Investments in the Region

This chapter describes the anticipated regional economic impact of growth at Fort Bragg. In particular it includes an analysis of the economic changes in the eleven-county region that are associated with the substantial investment by the U.S. Department of Defense.

The *normal growth scenario* portrays the "status quo" baseline, an estimate of what would have happened if no military expansion occurred at Fort Bragg. In contrast, the *expected growth scenario* assumes an increase in military-related personnel from 2006 through 2013. In addition, the *expected growth scenario* includes expected construction expenditures for military projects managed by the Army Corps of Engineers, as well as privatized military housing projects managed by Picerne Housing.

The number of additional military-related personnel expected to relocate to the region from 2006 through 2013 is shown in **Table 1**.

Military construction expenditures total $1.3 billion[1] between 2006 and 2013, and privatized military housing construction totals $336 million[2] between 2006 and 2013.

The regional economic impacts for this report were estimated using the Regional Economic Models, Inc. (REMI) model. REMI is a dynamic model based on regional economic theory and uses features of input-output and econometric modeling techniques as well as region-specific datasets. REMI's dynamic modeling framework provides users with the option to "forecast how changes in the economy and

1. Estimates provided by Glenn Prillaman, Fort Bragg Directorate of Public Works
2. Estimates provided by Gary Knight, Picerne Housing

Table 1: Expected Number of Additional Military-Related Personnel[1]

	2006	2007	2008	2009	2010	2011	2012	2013	Totals
Active-Duty Army	2,242	129	1854	1,310	477	-700	153	143	5,608
Active-Duty Air Force	-309	-1088	-786	-579	-460	70	155	50	-3,247
Army Civilians	393	102	149	216	17	1,072	0	0	1,949
Air Force Civilians	23	257	-19	-85	-31	-3	0	0	142
Defense Contractors	1274	632	253	120	120	1,226	504	-27	4,102
Totals	3,623	32	1,451	982	123	1,615	762	116	8,704

Table 2. Total Population Projections

	2006	2005	2008	2009	2010	2011	2012	2013
Normal Growth	927,095	937,978	948,021	958,591	968,574	978,868	989,132	999,468
Expected Growth	936,808	951,776	970,740	986,293	997,638	1,012,252	1,026,555	1,040,283
Difference	9,713	13,798	22,719	27,702	29,064	33,384	37,423	40,815

adjustments to those changes will occur on a year-by-year basis."[3] The results of the REMI modeling are summarized in the following sections.

II. Population Growth

The total population for all the eleven affected counties is expected to grow to 1.04 million by 2013[4] (**Table 2**) as a direct result of job creation and significant military construction spending. While total population in this eleven-county region would grow significantly without the military initiatives, expansion at Fort Bragg is expected to lead to even higher population growth. At the beginning of the expansion process, increases in local population (over a normal growth baseline) range from 9,713 in 2006 to about 40,815 in 2013. For the first time, total population in the eleven-county region is expected to exceed one million.[5]

The 40,815 additional residents that will move to the region as a result of military-related growth consist of several major sub-populations: active-duty soldiers, civilian personnel employed by the Army, employees of private defense contractors, dependents of Army personnel and private contractor employees, and economic migrants. Dependents and economic migrants make up the largest sub-populations (**Figure 1**).

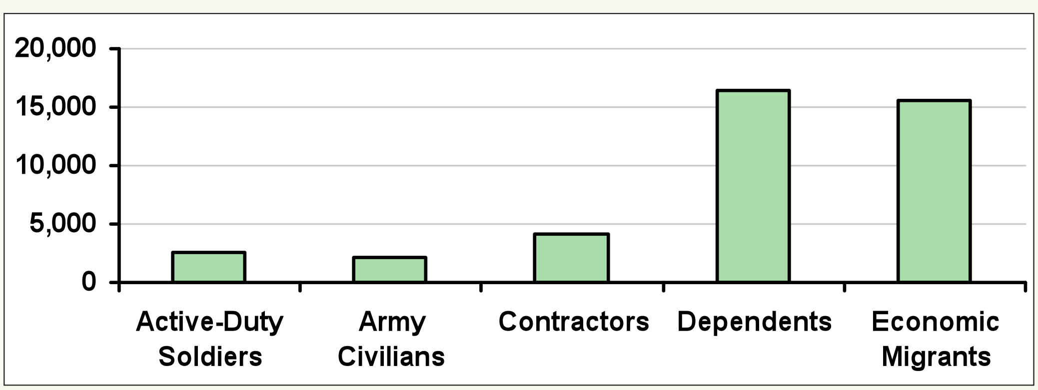
The following sections explore these sub-populations in more detail.

3. The specific modeling framework used for this study is a forecasting and analysis tool provided by REMI, "Policy Insight." For convenience, this model is referred to as simply REMI throughout this study. For more details on the REMI model, refer to the Policy Insight User Guide Version 9.5, available at www.remi.com.

4. Population projections for the region affected by the expansion have been developed using the North Carolina State Demographic Office's databases for each county. Because the REMI model relies primarily on census-based data sources, its population projections for the 11-county NC region were slightly different from the customized projections developed using North Carolina State Demographics Office data. As a first step in our modeling exercise, therefore, we calibrated the REMI model using the customized population projections by county to ensure that the baseline (normal growth) population projections obtained from REMI matched those provided by the North Carolina State Demographics Office, within bounds of modeling approximations.

5. Population estimate includes normal, direct, and indirect growth and is derived from REMI's Policy Insight.

Figure 1. Estimated Numbers of People Added to Different Sub-populations in 2013 in the Fort Bragg Region.



A. Active-Duty Soldiers and Army Civilians

Planned Moves to Fort Bragg

Although a substantial portion of the expected military transitions occurred in 2006 and 2007, other significant transitions are expected throughout 2008 and into the coming years. Major planned transitions[6] include:

2008

- The 108th Air Defense Artillery (ADA) Brigade was stationed at Fort Bragg in 2007. Another Battalion of the 108th ADA Brigade, with 610 soldiers from Fort Bliss, Texas, will relocate.
- *Grow the Army* initiatives will result in 112 additional soldiers.
- Army Special Operations Command (USASOC) transformation activities and the activation of the ninety-eight Civil Affairs Battalion will result in an additional 1,092 solders and seventy-one civilians.
- The ten Press Camp Headquarters with thirty-one soldiers will be relocated from Fort McPherson.

2009

- *Grow the Army* initiatives will result in 346 additional soldiers.
- Army Special Operations Command (USASOC) transformation activities will result in an increase of 795 soldiers and sixty-six civilians.
- Various other activations, inactivations, and unit conversions will result in a decrease of seventy-two soldiers and an increase of 205 civilians.

2010

- Grow the Army initiatives will result in 214 additional soldiers.
- Army Special Operations Command (USASOC) transformation activities will result in an increase of 170 soldiers and seventy-six civilians.
- Conversions will add 156 civilians to tactical units for family readiness support.
- Various other activations, inactivations, and unit conversions will result in a decrease of 296 soldiers.

2011

- FORSCOM and USARC will relocate from Fort McPherson, resulting in an increase of 1,176 soldiers and 1,041 civilians (discussed in following section).
- 7th Special Forces Group (SFG) will relocate to Fort Elgin Air Force Base, resulting in a decrease of 1,775 soldiers and seven civilians.

Once all of the transitions are complete in 2013, the number of full-time active-duty personnel at Fort Bragg is expected to be 50,947. Distribution among the ranks is outlined in **figures 2, 3 and 4**.[7]

FORSCOM and USARC

The U.S. Army Forces Command (FORSCOM) and the Army Reserve Command (USARC) will transfer from Fort McPherson in Atlanta to Fort Bragg by mid-September 2011. These relocations alone will bring nearly 3,000 active-duty personnel, Army civilian jobs and embedded contractor positions to the Fort Bragg region. Because FORSCOM and USARC include high-level Army decision makers who manage more than $30 billion of the annual Department Of Defense budget, many of these jobs are high-paying and require a bachelor's degree at a minimum (**Table 3**). It is estimated that only 30% of the people who presently hold these civilian jobs at Fort McPherson will relocate to Fort Bragg. The remaining positions will be filled by residents from the Fort Bragg region and others that may relocate from areas throughout the country. Although it is difficult to predict what kinds of individuals will be taking these jobs at Fort

6. Data provided by the Modular Force Integrator/Fort Bragg Garrison on 10/07/08. Given only major initiatives are included, totals in this section may not equal the totals in Table 1.

7. Data provided by the Modular Force Integrator/Fort Bragg Garrison on 08/12/08.

Figure 2. Expected Rank Distribution of Commissioned Officers at Fort Bragg in 2013 (# of personnel)

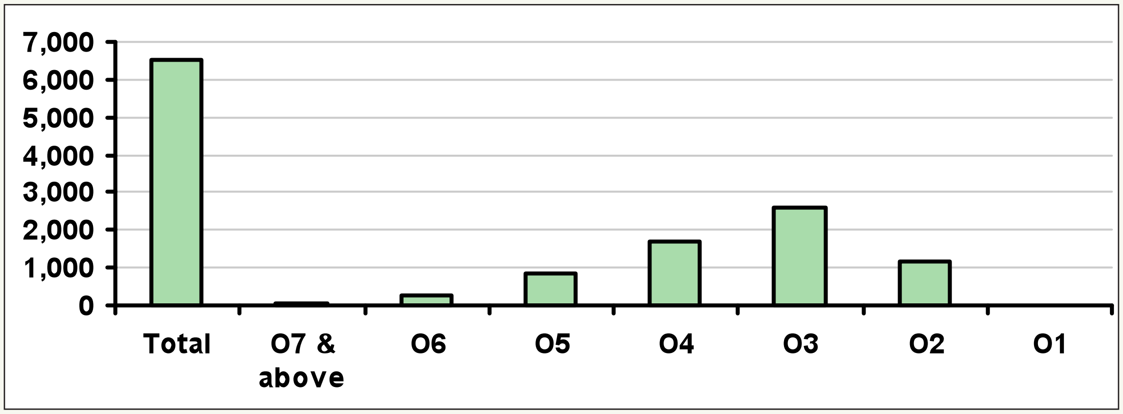


Figure 3. Expected Rank Distribution of Warrant Officers at Fort Bragg in 2013 (# of personnel)

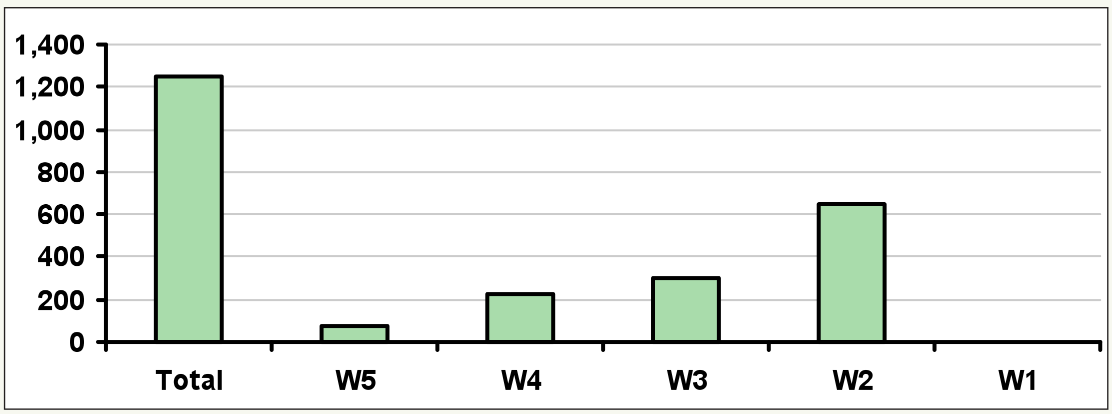


Figure 4. Expected Rank Distribution of Enlisted Personnel at Fort Bragg in 2013 (# of personnel)

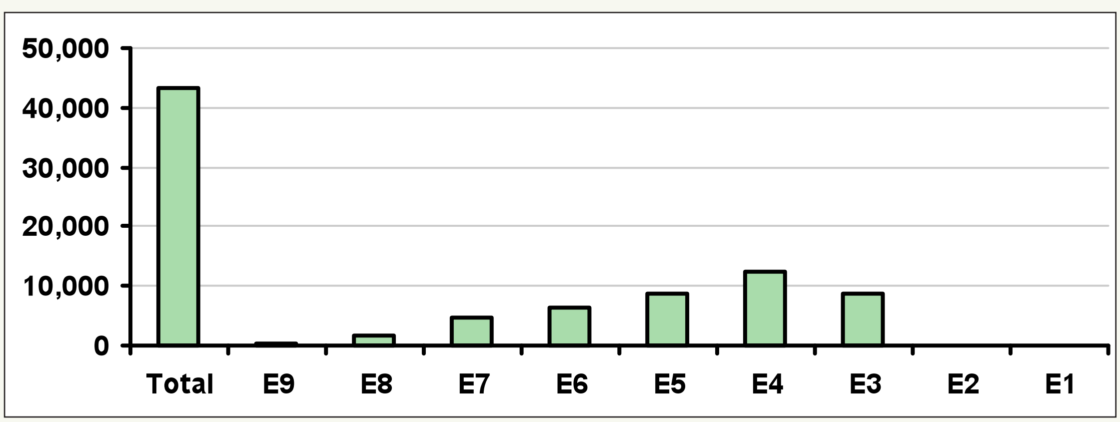


Table 3. Current Demographics of FORSCOM and USARC Personnel[1]

	FORSCOM	USARC
Military positions	470	705
Civilian positions	677	371
Male	61%	61%
Female	39%	39%
Average Civilian Age	53	53
Average Civilian Age at Retirement	59	59
Average Military Salary[2]	$75,000	$93,000
Average Civilian Salary	$75,000	$78,000
Bachelor's Degree or higher	62%	63%

1. FORSCOM BRAC Transition Update dated July 31, 2007

Bragg, information about those currently holding the jobs will be of use as the Fort Bragg region plans how to accommodate the newcomers.

B. Defense Contractors

Defense contractors are businesses that provide products or services to the U.S. Department of Defense. Products provided typically include military aircraft, ships, vehicles, weaponry, and electronic systems. Services can include logistics, technical support, and training and communications support. Embedded contractors are employees of private companies that have already secured defense contracts and will have offices on Fort Bragg when they are relocated to the region. Other contractors, which may or may not have existing contracts with the Department of Defense, are also expected to relocate to the Fort Bragg region.

The presence of defense contractors in the Fort Bragg region is expected to increase significantly by 2013. This rise is attributed to several factors. First, numerous defense contractors have found it beneficial to be near FORSCOM and USARC in the Fort McPherson area. It is likely that many of these contractors, in an effort to maintain their close proximity to key Army decision-makers, will relocate to the Fort Bragg area along with FORSCOM and USARC. Second, the addition of FORSCOM and USARC to the large population of military personnel already at Fort Bragg will provide opportunities for startup businesses with innovative technologies that seek to be close to key decision-makers and to thousands of soldiers needing training and other mission-focused products and services. Lastly, several of the largest Army contractors that have not historically had a significant presence at Fort Bragg or Fort McPherson may also recognize the post-transition opportunities at Fort Bragg and elect to expand existing operations or open new offices in the area.

Although the number of contractors that will establish a presence in the Fort Bragg area cannot be predicted with complete accuracy, our analysis indicates that it is reasonable to expect creation of an additional 1,000 new jobs with defense contractors in the Fort Bragg region by 2013. These new jobs are in addition to the 3,102 embedded contractors already scheduled to relocate to the region. This estimate was achieved by evaluating the companies that currently provide services to the Fort McPherson area and considering the likelihood of their relocation or expansion into the Fort Bragg region (**Appendix A**).

C. Dependents

Dependents of the active-duty military and civilians—spouses, children, and adult dependents—substantially outnumber heads of households. It is expected that there will be 1.67 dependents in every active-duty military household and two dependents in every civilian household (**Table 4**).

The rates of marriage among military personnel increase with grade. Marriage rates range from a low of 31% for junior enlisted personnel and 55% for company grade officers to a high of 97% for general officers. Approximately 85% to 87% of senior non-commissioned, warrant, and field grade officers are married. It should also be noted that approximately 10% of active duty soldiers are in a dual military marriage, with both husband and wife in the Army. On average 80% of civilians are married. Overall, 6,696 of the incoming personnel are married; 2,022 are single.

Table 4. Dependents of Incoming Active-Duty and Civilian Personnel

	Sponsors	Spouses	Children	Total
Active-Duty Military	2,511	1,731	2,348	6,590
Army Civilians	2,091	1,673	2,509	6,273
Defense Contractors (embedded)	3,116	2,493	3,739	9,348
Defense Contractors (off-base)	1,000	800	1,200	3,000
Total	8,718	6,696	9,802	25,216

Of the 9,802 children expected to move to the region, approximately 2,733 are not yet of school age, which means there will be an added demand for quality child care in the region. The remaining 7,069 children are school-aged, adding further demands on the local school systems.

D. Economic Migrants

The term Economic Migrants refers to people who relocate to another area to seek employment and other opportunities not available at their present location. Economic migrants are expected to relocate to the area to take advantage of the opportunities created by the expansion at Fort Bragg. The largest number of jobs will be created in the construction-related, retail trade, healthcare, social assistance, accommodation, and food services sectors. The qualifications and salaries for these jobs vary significantly among sectors. For instance, food services workers generally have no minimum education requirements and often make less than $20,000 annually, while healthcare workers require advanced training and often make in excess of $60,000 annually.

E. Population Distribution

Of the 40,815 additional residents that will move to the region by the close of 2013, approximately 2,736 will live in military housing. The following assumptions underlie this estimate:

- 282 junior-enlisted soldiers that are unaccompanied will live in base barracks.
- 244 senior non-commissioned officers that are single will live in new rental units under development by Picerne housing.
- 2,210 military service personnel and their families will live in privatized military housing owned by Picerne Housing. The majority of these families will live in Linden Oaks in the Northern Training area in Harnett County.[8]

The remaining individuals moving to the area will elect to live in one of the surrounding counties. The projected military and civilian population growth was allocated to each of the Tier One counties using the five weighted data layers described in **Appendix B**.

Figure 5 shows each Tier One county's percentage share of the total population growth and the expected growth in each county through 2013. The table includes the estimated 38,079 individuals who will elect to live off-base. **Appendix C** provides details on the county distribution calculations.

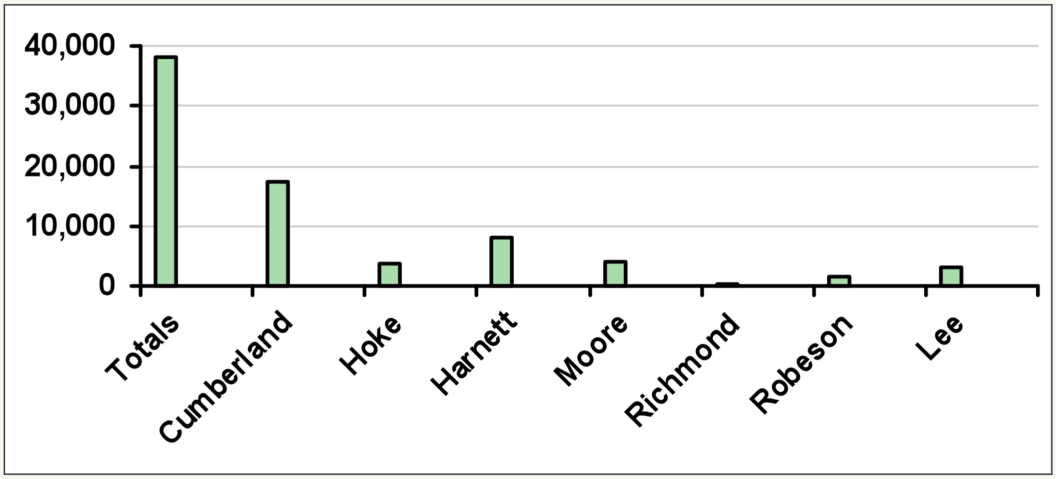
III. Economic Impacts of Growth

A. Employment

A total of 19,200 jobs will be created by 2013 as a result of additional military investment in the region. The biggest impact of the military growth in the region will be in government employment. In 2011, 6,450 government jobs will be sustained by military-

8. The net increase in privatized military housing at Fort Bragg is expected to be 850 units. This estimate accounts for all new construction, renovation and demolition activities on the base.

Figure 5. Expected Off-Base Population Distribution by County in 2013



related investments, bringing the total number of government-related jobs in the area to 134,872. Owing to the increased need for housing, the next largest impact of growth at Fort Bragg will be felt by the construction-related sectors. In the region, additional military-related demand for construction jobs will peak in 2011 at approximately 6,265. From 2013 onwards, as the demand for housing and related construction activities decreases, fewer jobs will be required in this sector, with only 1,860 military-related jobs sustained in 2013 and fewer than 1,500 in 2014 and beyond. The third biggest job gain is expected to be in the professional and technical services sector, reflecting the influx of supporting contractors. Near the peak of the expansion—that is, in 2013—the professional and technical services sector is projected to support an additional 2,965 military-related jobs in the region (**Table 5**).

Table 5. Projected Number of Military-Related Jobs Added in the Leading Growth Sectors

	2011	2013
Government	6,450	7,330
Construction	6,267	1,862
Professional & Technical Services	2,515	2,965
Retail Trade	1,617	1,353
Healthcare & Social Assistance	1,158	1,302
Administrative & Waste Services	851	814
Accommodation & Food Services	795	717

Other sectors expected to have significant job growth in the region include health care and social assistance, administrative and waste services, and accommodation and food services. Sectors that show small employment gains include finance and insurance; arts, entertainment, and recreation; and wholesale trade.

A more complete discussion of expected job growth is provided in the Workforce and Higher Education Chapter of the *Fort Bragg Regional Growth Assessment*.

B. Income, Gross Regional Product (GRP), Sales & Demand

Personal income is defined as the aggregate income received by all persons from all sources and is calculated as the sum of wage and salary disbursements, supplements to wages and salaries, proprietor's income, rental income, personal dividend income, personal interest income, and personal current transfer receipts, less contributions to government social insurance.[9] Personal income in the region is expected to increase in 2013 from around \$43.67 billion to \$45.14 billion, or by \$1.47 billion. Disposable income[10] in 2013 will likely grow significantly as a result of military growth from \$38.26 billion to \$39.53 billion, that is, by \$1.27 billion.

9. REMI Model Documentation, version 9.5.
10. Disposable income is equal to personal income less taxes

Gross regional product (GRP), the most commonly used metric for measuring value added to the regional economy, is analogous to the gross domestic product used for benchmarking activities in the national economy. In the region, the increase in GRP for 2013 resulting from the expected military growth is expected to be $1.11 billion (from $31.42 billion to $32.54 billion).

Total sales to local businesses (output) is affected by changes in industry demand, the local region's share of each market, and international exports from the local region. The increase in output in 2013 attributable to military growth is estimated to be $0.86 billion. Total demand is defined as the amount of goods and services demanded by the local region; it includes both imports and local supply. Under the Fort Bragg expansion, total demand for the region is expected to grow by about $1.69 billion in 2013 (from about $59.98 billion to $61.67 billion). **Table 6** summarizes these significant economic impacts.

Table 6. Economic Impact of Additional Military Investment

	2013
Personal Income	+ $1.47 billion
Disposable Income	+ $1.27 billion
Gross Regional Product	+ $1.11 billion
Total Sales (output)	+ $.86 billion
Total Demand	+ $1.69 billion

IV. Appendix A

A. Defense Contractor Supplement

During FY 2006, approximately $576 million[11] was awarded to defense contractors for work at or in close proximity to Fort McPherson. Although a large number of these contracts were for the maintenance of the local infrastructure, an estimated $100 million of the total contracts awarded were for management, scientific, and technical consulting services in support of Fort McPherson's Army Commands. It is expected that a large percentage of those defense contractors having the largest annual awards would be likely to open new operations in the Fort Bragg area. The resulting capture rate is estimated at 80%, which would translate into approximately $80 million in new contracts awarded in the Fort Bragg area annually. Based on this level of funding alone, it is reasonable to expect that 800 to 1,000 new jobs would be created by defense contractors by 2013. This conservative number does not include any new jobs that would be created by the innovative start-up companies and other private defense contractors listed in **Table 7**.

11. DoD Personnel and Procurement Statistics (http://siadapp.dmdc.osd.mil/index.html)

Table 7: Largest Fort McPherson Contractors (FY 2006)

Defense Contractor	Award Amount	NAICS Code
Alog, Corporation	$948,107	541614
Anteon Corporation	$15,793,108	541611
Booz Allen Hamilton Inc	$1,503,348	541611
Caci, Inc –Federal	$8,759,079	541611
Computer Sciences Corporation	$9,947,315	541611
Eagle Group International, LLC	$17,810,576	541614
Eagle Support Services Corporation	$4,130,441	541611
Envirotech Environmental Services	$1,203,202	541620
Ginn Group Inc	$647,240	541990
International Consultants, Inc	$17,481,388	541990
MTC Technologies, Inc	$1,378,140	541618
Radian Inc	$1,716,000	541611
Science Applications International	$1,290,263	541611
Stanley Associates Inc	$14,876,751	541614
Unified Consultants Group, Inc	$1,757,794	541618

V. Appendix B

A. Factors Influencing Population Distribution to Individual Counties

ADM Growth – Kindergarten through grade 5 Average Daily Membership (ADM) data were collected through the North Carolina Department of Public Instruction. The data captures the 20-day running average membership for each district. The layer was created by calculating the membership gain experienced by each elementary school district between the first months of the 2006-07 and 2007-08 school years. The gain from each district was then aggregated to the county level.

NC State Demographics – Data obtained from the North Carolina State Demographics Office forms the basis for this layer. The distribution by county of the projected general population in July 2015 was used.

Existing Subdivision – GIS data collected by the K-12 Education team during the course of comprehensive Land Use Studies are used for this layer. For each Tier One county, parcels in residential subdivisions were identified and classified as "developed" or "available." These data were combined with geocoded student data to produce a measure of potential student gain by elementary school district. Potentials were then aggregated to the county level to produce the layer.

Land Use Study (LUS) Subdivisions – In addition to GIS data, the Land Use Study also contains data on planned and approved subdivisions (see the individual county sections on Anticipated Residential Development). As in the Existing Subdivision layer, student data were combined with the number of approved subdivision lots to yield potential student gain from these subdivisions. The potential gain was aggregated to county level.

Federal Impact Aid (FIA) – North Carolina school districts annually collect data containing information on students having parents on active military duty. This data is the most accurate available indicator of the location of military families having school-aged children. Once again, data was aggregated to the county level for this layer.

VI. Appendix C

A. Calculations of Population Distribution to Individual Counties

County	Civilian	Military	Civilian	Military	Civilian Dependents	Military Dependents	Civilian Total	Military Total	GRAND TOTAL
Cumberland	43.2%	57.3%	4,659	1,239	9,319	2,032	13,978	3,270	17,249
Hoke	10.0%	8.7%	1,082	187	2,165	307	3,247	495	3,742
Harnett	21.6%	16.8%	2,325	363	4,651	596	6,976	959	7,936
Moore	11.5%	7.3%	1,238	157	2,475	258	3,713	415	4,128
Richmond	1.1%	0.7%	120	15	240	25	359	40	399
Robeson	3.9%	4.0%	424	87	848	143	1,272	230	1,502
Lee	8.7%	5.2%	942	113	1,884	185	2,826	298	3,124
TOTALS	100.0%	100.0%	10,791	2,162	21,582	3,545	32,372	5,707	38,079