

# A Strategy to Grow the Fort Bragg Region's Defense & Homeland Security Economy

January, 2010

FINAL REPORT

## Volume Eight Goals, Objectives, and Strategies



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Defense & Homeland Security Economy**

***Volume 8 – Goals, Objectives, and Strategies***

**Submitted to the:**

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## I. Goals, Objectives, and Strategies

The preceding chapters of this study have explored in depth the industries that show the most promise for forming the core of a D&HS industry cluster in the Fort Bragg region, the kinds of jobs those industries will need to support their growth, some of the unique labor pools available in the region to meet those needs and the assets and gaps that must be addressed and exploited to successfully build the cluster.

This final chapter of the study provides some concrete recommendations on how to bring the D&HS industry cluster into being. Based on the analysis provided in earlier chapters, a community stakeholder input session, and subject matter experts from economic and workforce development, specific, high priority goals were developed to guide the actions of regional stakeholders. In support of each goal, objectives were established and actionable strategies created that, taken together, define a clear path toward the realization of each goal. Additionally, suggestions have been provided for specific organizations to engage in strategy implementation.

The overarching goals include the following:

- **Goal 1:** Increase coordination and connectivity of the D&HS-related organizational infrastructure at state and regional levels.
- **Goal 2:** Develop innovative approaches to identifying opportunities and winning DoD and DHS business for North Carolina.
- **Goal 3:** Align and develop educational programs with emerging D&HS industry requirements.
- **Goal 4:** Retain and integrate groups with key defense-related skills into regional labor market.

It is important to emphasize that these goals, while they may address some issues at the state level, or mention other military regions, are oriented towards building a defense industry cluster in the Fort Bragg region. The ultimate focus of these goals is the economic growth of the eleven counties of the Fort Bragg region.

### A. ***Goal 1: Increase Coordination and Connectivity of the D&HS-Related Organizational Infrastructure at State and Regional Levels***

As previously discussed, successful economic development requires that relevant organizations be connected into an institutional or organizational infrastructure capable of aligning, coordinating, and leveraging assets to address and overcome gaps. This is especially true of economic development in the D&HS industry. Such coordination and connectivity is essential to incubating or attracting defense-related firms, and then keeping them anchored to the region for the long-term. Because the region's organizational infrastructure crosses institutional, political, and geographic boundaries—pulling in actors from the Governor to the local community college

and many stakeholders across that spectrum—we recommend addressing this goal through approaching organization-building at both the *state level* and the *regional level*. We envision this infrastructure as the primary vehicle through which stakeholders will approach the development and delegation of specific implementation steps.

It is essential to create a state-level infrastructure that provides plans and programs targeted at significantly increasing the D&HS industry statewide and that supports the work of regional organizations. There are clearly unique statewide and regional functions that must be addressed at each level. The state can provide overall strategy, workforce development programs, industrial incentive programs, strategic business intelligence and other functions that are impractical at a regional level. It is at the regional level where services are actually delivered and regional-specific plans must be developed. The organizational infrastructure at the state level must support D&HS industry development state-wide while each region to customizes approaches for their own specific needs and desires. In essence, a two-level structure allows a general alignment of state-level resources and polices towards the defense mission while allowing each region to design and implement specific strategies suited to their own unique needs.

## **1. Objective 1.1: Build State-Level Organizational Coordination and Connectivity**

Many of the agencies and organizations critical to advancing the state's D&HS mission are directed at the level of State government (e.g. the NC Commission on Workforce Development and Department of Commerce) or through a central body coordinating activities throughout the state (e.g. UNC and NC Community College system). Because of this arrangement, it is natural to create a state-level interface for promoting the D&HS mission at the state level and aligning state-level resources and groups. Once aligned in support of the defense mission, these organizations must coordinate their efforts instead of working in possibly misaligned, disconnected silos.

- **Strategy 1.1.1—Create an Office of Military Affairs (OMA) in the Governor’s Office** to coordinate the efforts of State agencies to support the quality of life of North Carolina based troops, promote economic development within the D&HS sectors and support the defense mission embodied by our many DoD installations. This includes aligning and coordinating agency work across many areas from transportation, economic development, education and workforce development.
- **Strategy 1.1.2—Operationalize the NC Center for Defense & Homeland Security (CDHS) currently under development to serve as state coordinating entity.** The proposed Office of Military Affairs will have a broad range of coordinating responsibilities but is not expected to have a large staff or to be directly responsible for executing key programs and functions needed to make the D&HS cluster a success. As this report was being completed, a CDHS was in the planning stages. This Center will be established within the UNC System and under the administrative oversight of Fayetteville State University.

As envisioned, this center will be resourced to take on certain key, statewide functions such as overall strategic planning and business intelligence focused on developing the

actual deals that will bring contracts and business to the state, including the Fort Bragg region. Many other organizations will play key roles in that overall process but none are currently performing the functions envisioned for this Center. Specifically, this organization would coordinate and align the efforts of industry and state-level partners in government, institutions of higher education (including the community college system), economic development actors, the workforce development system, and defense-related non-profits. The functions of the CDHS would include:

Strategic planning – Work with a broad array of stakeholders to develop a strategic plan that provides statewide direction on D&HS cluster development efforts.

Business intelligence – Identify and target leverage points within the federal funding process that can be used to gather strategic intelligence on upcoming procurements so that the state can position itself to out-compete other states for this business.

Workforce development – Work with 2- and 4-year higher education institutions to ensure that the state is well prepared with a workforce that is trained in the competencies associated with the D&HS industries.

Customer support – Maintain regular communications with DoD installations and regional planning groups in the Fort Bragg, Camp Lejeune, and other regions to ensure that the CDHS is responsive to local needs.

Research and development – Serve as a centralized coordinating organization for statewide R&D activities in the research universities and beyond

While the NC Military Business Center will continue to take the lead on preparing North Carolina firms to secure more federal contracts, and the DSTA will continue to promote the growth of technology and the connections between industry and university R&D, the CDHS will support those efforts through its strategic business intelligence activities and overall coordination of long-term opportunities. The CDHS will maintain close liaison with regional planning organizations such as the BRAC RTF and the Military Growth Task Force at Camp LeJeune to ensure that the efforts of the Center are supportive of the economic development and workforce development initiatives of these regional planning groups.

- **Strategy 1.1.3—Promote targeted focus on defense cluster within State Department of Commerce.** Given tight State budgets, we recommend that, within available resources, DOC sharpen its focus on the defense cluster, and work closely with the new CDHS to integrate economic incentives and other existing state programs in the overall pursuit of D&HS business for the state. .

## 2. Objective 1.2: Build Local-Level Organizational Coordination and Connectivity in Fort Bragg Region

Just as creating centralized interface points at the state level is essential to addressing the gaps in the state's organizational infrastructure, so it is equally important to replicate that organizational connectivity at the regional level. We are not recommending the duplication of state-level organizational roles and responsibilities at the regional level; rather, we are recommending regional counterparts to those roles and responsibilities. While the state-level entities set strategic direction and provide resources for the defense mission, it is the local organizations that will actually deliver the services—whether training services, separation-transition assistance, economic development incentives, technical assistance for spin-offs, or STEM-related educational programming for youth—to local recipients in support of that mission. Finally, as happened in Huntsville, building regional connectivity further embeds workers, military personnel, and firms into the region itself by creating institutional connections to which these groups become accustomed.

- **Strategy 1.2.1—Create a regional coordinating entity with the capacity to align all categories of organizational assets and address key gaps at an operational level.** The Fort Bragg region has already established a coordinating entity by the creation of the BRAC RTF. This organization has achieved remarkable cooperation across 11 counties and multiple municipalities over the past 4 years to address the challenges and opportunities associated with BRAC. While the BRAC move officially is complete by September 2011, the impact of BRAC growth will be felt for many years to come in the region and the need for a regional response will not diminish. As noted in the gaps section, some funding resources from the federal government will start to end by next year for the BRAC RTF. If the critical functions of this organization are to continue, alternate means of funding support will need to be addressed.
- **Strategy 1.2.2—Institutionalize stakeholder participation through formalized and substantive representation.** The BRAC RTF has worked closely with a wide array of local groups and stakeholders over the past 4 years to develop plans and programs in response to BRAC growth. As the region moves increasingly from a planning to an execution phase of BRAC-related actions, even greater collaboration will be necessary. To be effective, actions to transform the economy, strengthen the education system, grow the workforce and cope with the infrastructure issues surrounding growth will absolutely require heavy participation and buy-in from affected stakeholders in the region. This is especially true given the likely scarcity of resources to fund the RTF operations.

This stakeholder representation might be achieved through the use of local advisory boards and industry cluster working groups. In Huntsville (Appendix B), the Chamber of Commerce used targeted advisory boards to create institutionalized vehicles for synergy around R&D, bringing together the knowledge, practical skills, and financial resources required for developing new technologies, commercializing them, and spinning them off into new companies. While there is no limit to the focus and number of these groups, we recommend that BRAC RTF and CDHS begin by working with industry partners and higher education stakeholders (FORTCC, FSU, UNC-P) to create cluster working groups

for each of the specific industries targeted by the region. As discussed in greater detail in Goal #3, we also recommend the creation of a Subcommittee Advisory Board around the region's workforce development function to assist in coordinating industry specific workforce training and higher education programming.

As a final note, we recognize that the region's stakeholders are ultimately responsible for developing a governance model that best suits their specific needs. Regardless of which structural arrangement is adopted, we strongly recommend the use of local advisory boards that bring together a broad array of key stakeholders around target industries and issues

- **Strategy 1.2.3—Create an All American Defense Business Association (AADBA) to connect defense firm employees with each other.** This strategy is already underway in the Fort Bragg region with the new AADBA growing to over 100 members in just a few months. An association such as this can be extremely beneficial to a growing industry cluster in a region by organizing educational and networking functions and by serving as a source of information to firms outside the region seeking partners. This association can increase the opportunity for knowledge spill-overs and skill transference within industry firms, while simultaneously creating the kinds of relational connections among workers so essential to embedding them within the community. In turn, this works towards retaining white collar professionals—itsself a key objective of this plan. Key actors in implementation include the BRAC Regional Task Force, NC Military Business Center (NCMBC), and regional Chambers of Commerce. Finally, regional stakeholders must decide whether they envision this entity growing its role beyond professional networking to that of a stronger industry trade association which provides member services, technical assistance, and aggressive public policy functions.

## ***B. Goal 2: Prepare the Regional Economy to Compete More Effectively For D&HS Contracts***

Building a D&HS industry cluster naturally requires expanding the number of defense-related firms and workers in the region. Although much of the discussion by regional stakeholders has focused almost exclusively on recruiting defense-related firms to the region, it must be stressed that for defense contractors, work follows contracts. Therefore, any recruitment effort must be tied to an existing or potential contract that is to be performed in North Carolina. To ensure that more contracts are executed in the state, we recommend a more comprehensive approach to economic development as the primary means to build the region's D&HS industry cluster. Along with the recruitment of defense firms into the region, this approach emphasizes making existing firms more competitive, increasing the number and value of contracts won by regional firms; expanding the existing firms already established in the region; assisting in the creation of new, locally grown defense businesses; and the assessment and strategic upgrading of the region's physical and industrial infrastructure.

In proposing this approach, we outline a blue-print for leveraging the organizational assets recommended in the previous goal to achieve the overarching mission of a vibrant defense

industry cluster in the region. Many of the strategies proposed in this blueprint directly or indirectly address regional gaps highlighted in Section 3.

## 1. Objective 2.1: Win More Defense Contracts

A recent analysis for the NC Military Business Center showed that while North Carolina is home to the fourth largest number of military personnel in the nation, the state ranks 23<sup>rd</sup> in the nation in terms of military procurement. In light of this imbalance, one of the key elements in building the region's D&HS cluster is ensuring that the region's firms secure a larger share of the contracts offered annually by the Pentagon.

- **Strategy 2.1.1—Help the region's existing firms compete for prime contracts.** Not all DoD prime contracts are large and complex and many are set aside for certain categories of small or disadvantaged businesses. The BRAC RTF should work closely with the NC Military Business Center whose primary responsibility is to provide educational offerings on DoD and Federal contracting, notification to North Carolina firms on upcoming procurement opportunities and business development services for firms in North Carolina wishing to do business with the DoD to help firms secure prime contracts. The services offered by the DSTA in the R&D sector are also critical to improving the competitive advantage of the region.
- **Strategy 2.1.2—Help regional firms connect with established prime contractors for teaming on contracts.** A proven method for firms new to the defense industry to enter this market is through teaming with larger established firms. To do so will require that regional firms become familiar with DoD contracting practices as noted in the strategy above and skilled at presenting their capabilities to potential prime teammates. Another important factor in the formation of these teams is to have long-term strategic business intelligence on upcoming procurement actions. By developing advanced intelligence on future opportunities before prime contractors finalize their teams, regional firms greatly improve their chances to successfully partner on larger procurements.

We recommend that a joint approach that includes participation by the NC CDHS, NCMBC, NCMF, the DOC and the BRAC RTF work together to bring businesses in the Fort Bragg region together with major defense contractors on work to be done in the region. The new CDHS will be bringing its long-term strategic business intelligence resources to bear to identify opportunities well in advance of procurements and before prime contractors finalize their teaming arrangements. The NCMF with its prestigious membership is ideally suited to make connections at the highest levels within prime contractor organizations to broker teaming deals and the NCMBC, with its extensive network of North Carolina firms to call on can identify the best possible local firms to meet the needs of a particular DoD contract. Finally, the DOC can bring to bear the state's various industrial recruitment tools and incentives to help "close the deal.

- **Strategy 2.1.3—Work with state's Congressional delegation** to secure large-scale contracts and additional defense programs to Fort. Bragg. With several members on key

defense appropriations and authorizing committees, the state is well positioned to pursue this strategy.

- **Strategy 2.1.4—Work with the General Assembly, DOC, and county governments to ensure that business incentives are aligned to meet the specific needs of firms in the region’s targeted industries.** We recommend that the CDHS and DOC Military Affairs Office work directly with industry leaders to determine the scale and scope of these incentives (i.e., tax rebates, power savings, cash incentives, buildings, etc). We also recommend that both the State and the region’s local Economic Development Commissions (EDCs) base incentive levels on capital investment and not just on job creation, since many technology-based defense contractors have relatively small employment numbers. This will be especially true for the initial wave of contractors, many of which will be competing for smaller pieces of larger, multi-partner contracts. We do not recommend disadvantaging large-scale job creators like Boeing or Lockheed-Martin, but we do want to make sure that incentive options exist for high-investment, low employment firms as well.
- **Strategy 2.1.5—Ensure that business incentives are aligned to needs of firm retention/expansion, and not just geared towards recruitment.** We recommend that DOC and the General Assembly include this expansion/retention focus in their development of State-level defense-specific incentives. Likewise, we recommend that all County EDCs update their incentive policies where necessary to include retention/expansion provisions, and to market existing incentive policies to existing industry.

## **2. Objective 2.2: Pursue Entrepreneurship to Promote Locally-Grown Defense Businesses**

Since small businesses account for the largest percentage of the nation’s employment, entrepreneurship forms the third pillar of building a D&HS cluster in the region. Opportunities for new spin-off companies are especially important within the R&D functions of the region’s target industries.

- **Strategy 2.2.1—Leverage NCMBC and the DSTA to provide small business start-up support services like technical assistance and initial financing.** We further recommend that these partners also engage with local CDHS Subcommittee Advisory Boards to ensure potential entrepreneurs are aware of and connected to the services provided by these assets.
- **Strategy 2.2.2—Facilitate patenting, commercialization of research, and the spin-off of new companies.** We recommend that the DSTA work in collaboration with the CDHS to pursue commercialization of relevant research. We further recommend that the CDHS leverage assistance from the NCMBC to provide start-up assistance for new spin-off companies. These two recommendations will help research centers secure more investment in patenting and commercialization activities and address identified gaps in the region’s R&D commercialization efforts. As part of this, **securing access to capital**

**for defense-related start-ups** is critical, and as a result, we recommend the creation of a regional entrepreneurial committee under the auspices of the BRAC RTF to network together potential entrepreneurs, members of the region’s banking community, and representatives from DOC, the Rural Center’s venture capital fund and loan funds, and other sources of defense-related venture capital. BRAC RTF should identify such sources and invite them to join this committee.

### **3. Objective 2.3: Assess and Strategically Upgrade Physical and Industrial Infrastructure to Support Defense Industry Expansion**

Currently, the region is lacking a comprehensive assessment of its physical infrastructure and likewise is lacking a single inventory of available industrial sites in all eleven counties. Building the region’s defense industry will require understanding and upgrading its physical/industrial infrastructure as much as developing its organizational infrastructure

- **Strategy 2.3.1—Address immediate air transportation gap through short-term partnerships with airlines and Fayetteville Airport.** Notwithstanding the importance of a comprehensive assessment to frame a long-range strategic upgrading of the region’s infrastructure, it is clear from existing research that the lack of air transportation is an immediate, critical problem for defense contractors who need efficient air travel to military command centers in Washington, DC. This is a challenge that can be addressed immediately, while a broader assessment is being completed. In light of this, we recommend the immediate development of short-term partnerships with airlines to provide additional direct flight services between Fayetteville and Washington. Alongside the BRAC RTF, the state’s Congressional delegation may also be useful in implementing this strategy.
- **Strategy 2.3.2 – Address critical capital needs in the region.** The Comprehensive Regional Growth Plan developed by the BRAC RTF outlines several critical gaps in the areas of transportation, water/sewer, public safety, communication technologies, and k-12 education. Capital improvements in these areas continue to be a prerequisite to a successful regional D&HS cluster. Funding shortfalls in these areas however are a significant challenge and efforts to secure additional funding should continue to be pursued.
- **Strategy 2.3.3—Assess industrial infrastructure in the region.** While lists of available industrial sites are scattered across multiple economic development entities, including a state-wide inventory at NCSiteSearch.com, there is no single, comprehensive inventory focused directly on this region. Specifically, there is no single, readily available portal to viewing the defense-related industrial infrastructure improvements in the 11-county footprint covered by BRAC RTF. To address this gap, we recommend that the local CDHS hire a site selection consultant with defense industry experience to provide a comprehensive industrial infrastructure assessment for the region, with special attention to identifying shovel-ready sites that are already connected to water/sewer lines and have Interstate frontage. New and emerging military-centered business parks such as the All-

American Military Business Park in Fayetteville and Freedom Center in Spring Lake are indicative of the needs of defense contractors.

**C. *Goal 3: Align and Develop Educational and Workforce Development Programs With Emerging D&HS Industry Requirements***

In order to build a successful defense cluster around the high-skill industries targeted by regional stakeholders, the region clearly must address its shortcomings in educational attainment and job skills. Without sufficient education and specialized skills in its workforce, the region will face significant barriers to attracting, retaining, and creating high-skill defense firms, many of which have very specific training needs. In terms of addressing these human capital and educational gaps, the challenge for the region is two-fold: 1) upgrade the general educational levels of citizens, especially in Science, Technology, Engineering, and Math; and 2) ensure that businesses have access to workers with specialized skills and skill-development programs customized to the specific needs of those businesses. In order to address both of these challenges, the region needs to align its organizational assets in K-12 education, higher education, workforce development and develop the programming infrastructure necessary to meet the skill needs of businesses in these industries.

In this section, four key objectives for accomplishing this goal are outlined: 1) Align higher education curricula and research programs to better support the D&HS industry in the region; 2) Institutionalize a coordinated workforce development structure for the Fort Bragg region; 3) Align K-12 programs with industry needs; and finally, 4) Increase overall skill-base of the region's workforce in Science, Technology, Engineering, and Math (STEM)—a key skill-set for businesses in D&HS industries.

**1. *Objective 3.1: Align Higher Education Curricula and Research Programs to Better Support the D&HS Industry in the Region***

With dozens of universities, community colleges, and university-based training programs and research centers scattered across the region, it is imperative to ensure that these assets are adequately connected and coordinated to maximize their benefit to the region's efforts to build a D&HS industry. Programs and curricula across the state should be coordinated to avoid unnecessary duplication and to ensure that the courses that are needed to support industry are available where needed.

There are some four-year and two-year programs already established or under development in the region to help meet industry demand. For example, Campbell University has established a new degree in management information and security and Sandhills Community College and FTCC have programs in modeling and simulation.

- **Strategy 3.1.1—Create a higher education defense advisory committee to work with the CDHS to ensure that the curricula offered within the university and community college systems supports the workforce needs of the emerging D&HS cluster.** This advisory committee should serve as a clearinghouse for keeping relevant higher education stakeholders around the state aware of each others activities with respect to the

defense mission. The board's membership should consist of senior leadership at the system and university levels. Initiatives to make curricula D&HS- relevant, are already being pursued at FSU and Campbell University. Similar efforts should continue.

- **Strategy 3.1.2—Provide a centralized source to coordinate the pursuit of R&D funding from DoD and DHS.** The CDHS, as part of its mission of developing business intelligence on DoD and DHS funding, should identify opportunities for obtaining R&D grant funding for educational institutions in North Carolina. The UNC system currently does not have a comprehensive program to identify and pursue DoD R&D funding.
- **Strategy 3.1.3—Develop collaborative partnerships between regional higher education institutions and major research universities outside the region.** Examples might include research partnerships around the new Electron Microprobe at FSU and the Advanced Visualization Center at FTCC.
- **Strategy 3.1.4—Higher education institutions in the region should consider expanding and creating appropriate coursework to better meet the needs of cluster industries.** Certificates, majors, and specializations are needed in information assurance and security, the federal acquisition process, security studies, modeling and simulation, and logistics. Specific initiatives might include:

Information assurance and security. Four-year schools might consider adding a concentration within their existing computer science programs to focus on computer security. Within the region, Campbell University's new Information Technology and Security undergraduate degree is a good example of the focused coursework that is needed in the region's four-year institutions. Schools outside the regions such as NCSU, UNC-CH and ECU already offer such specialized courses. Partnerships with these institutions would provide local availability and ready resources. Further targeting of coursework to include DoD-specific competencies such as knowledge of the Federal Information Security Management Act and OMB Circular A130 - Management of Federal Information Resources is also needed. More information on DoD-specific knowledge areas can be found at <http://iase.disa.mil>.

Federal acquisition process. Coursework that deals with the federal acquisition process – particularly in the Department of Defense - as contract administration, cost/price analysis, bidding protocols, proposal development, etc. is needed. The N.C. Military Business Center (NCMBC) already has a successful record of providing seminars on “Getting Work with the Federal Government” and “Doing Work with the Federal Government”. The region would be well served to also have more intensive and distance-based learning opportunities similar to those provided by the University of Alabama-Huntsville (UAH) (<http://www.coned.uah.edu>). UAH offers non-credit certificate programs in contracting essentials and certain contracting specialties through their continuing education division.

Security studies. Coursework which combines traditional disciplines like criminal justice with more recently established disciplines such as environmental health and emergency planning and information security could serve as a needed foundation for

students interested in the defense and homeland security industries. Increased awareness of programs such as the East Carolina University graduate certificate and degree programs in security studies (<http://www.ecu.edu/cs-cas/securitystudies/>) would be beneficial. Likewise, similar coursework – not presently available in the region – should also be provided on a continuing education or undergraduate level.

Modeling and simulation. Coursework which focuses on mimicking the operation of a real system, such as a warrior on the battlefield will dominate military training efforts. Efforts such as the Advanced Visualization and Interactive Design Center at Fayetteville Technical Community College and a new program in simulation and gaming at Sandhills Community College are indicative of this type of valued training.

All of these programs should incorporate internships with appropriate D&HS firms, research centers, and Fort Bragg offices.

- **Strategy 3.1.5—Foster cooperation to create clearly defined educational pathways and to maximize workplace value.** There is a need to establish educational pathways that make clear the knowledge and skill requirements and job opportunities available for workers at all levels. The Regional Talent Platform, PipelineNC.com, is specifically designed to provide these clear pathways for students or workers at all levels to guide their efforts to improve their job skills and match up with desirable careers. In addition, higher education partners can work together to ensure that prospective workers who enter defense-related training programs at 2-year colleges with a minimal skill-set can progress through the educational pathway to increasingly higher levels of training to gain an Associates or Bachelor’s degree in targeted competencies.

To maximize the value of education, we also recommend that higher education partners develop strong credit transfer programs, and attempt to integrate these transfers with professional licensing and certifying systems like those with the North Carolina State Board of CPA Examiners, Defense Acquisition University, National Contract Management Administration (NCMA), and the North Carolina Chapter of the Project Management Institute.

## **2. Objective 3.2: Institutionalize a Coordinated Workforce Development Program for the Fort Bragg Region**

- **Strategy 3.2.1—Create a single workforce development advisory board (WDAB) in the Fort Bragg region to coordinate the various workforce training programs, including those offered by the region’s higher education institutions.** Since there is no single Workforce Board representing the complete eleven-county region, a WDAB under the umbrella of the BRAC RTF could play this role for the region. There is currently a Workforce Demonstration Program Steering Group in place under the sponsorship of the BRAC RTF to coordinate efforts in Workforce and Education, which has region-wide representation. This group could evolve to become a permanent coordinating organization for the region. Through regular meetings and staff contact, this board will

create a venue for stakeholders to collectively monitor industry workforce needs and regional training gaps on an ongoing basis.

### 3. **Objective 3.3: Align K-12 Programs with Industry Needs**

In order to increase the relevance of curriculum and comprehensively address the region's skill gaps, it is important to involve K-12 educators with partners from the D&HS industry.

- **Strategy 3.3.1—Include K-12 stakeholders in workforce development process.** There is currently a K-12 Steering Group under the sponsorship of the BRAC RTF that seeks to align K-12 programs with the needs of regional industry. We recommend that this group be continued under the BRAC RTF to ensure that the elementary and secondary systems are involved in the development of regional workforce training strategies, are connected to the needs of private industry, and have the information necessary to develop and align their own programs in support of the overall defense mission.
- **Strategy 3.3.2—Develop career and technical education programs in partnership with industry.** These programs can address the region's skill gaps, especially those related to the manufacturing-related target industries, through targeting these challenges earlier in a future worker's life. Additionally, K-12 stakeholders should consider models such as D&HS magnet schools in Maryland. It is important for all programs to promote the importance of gaining security clearances for work in the defense industry.

### 4. **Objective 3.4: Increase Overall Skill-Base of the Region's Workforce in Science, Technology, Engineering, and Math (STEM)**

Given the critical shortfall of STEM-educated workers in the region, it is essential for K-12 and higher education institutions to increase the number of STEM teachers and students proficient with STEM-related skills. It is worth noting that a similar focus on STEM from K-12 through higher education is often credited by Huntsville's stakeholders in explaining the success of their own defense cluster.

- **Strategy 3.4.1—Seek funding support from State, Federal, and private industry sources to provide scholarships and programming resources** for college-level majors in STEM subjects and for education majors to receive specialized training in STEM subjects. This can be modeled on the State's existing Burroughs Wellcome Fund Scholars Program and leverage existing NOYCE Grant funding. The Burroughs Wellcome Fund Scholars Program is a "fast track" to teacher licensure for science and math majors. We recommend that UNC General Administration make this a priority in its member schools, and the General Assembly provide additional State funds to support this effort. Finally we recommend that the state-level CDHS and the BRAC RTF Workforce Demonstration Steering Group coordinate the lobbying and promotional efforts around this initiative.
- **Strategy 3.4.2—Develop and deploy Distributed Learning Curriculum supporting STEM.** A distributed learning pilot program is underway in the region and should be

evaluated to determine its effectiveness. If results are positive, this program should be extended to other schools in the region.

**D. Goal 4: Retain and Integrate Groups with Key Defense-Related Skills into the Regional Labor Market**

Along with strategies to develop the existing labor pool with new skills vital to the D&HS industry, it is imperative for the region to find ways of retaining and integrating those untapped or underutilized segments of the labor market already in possession of key occupational skills related to the region's targeted defense industries. There are two such untapped and underutilized labor market segments in the Fort Bragg region, 1) the civilian spouses of active-duty military personnel stationed in the region, 2) military personnel who have recently separated from active duty. In addition, there is a shortage of white collar professionals with management and technical skills critical to defense contractors.

**1. Objective 4.1: Retain Separated Military Personnel in the Region**

As previously discussed, separating military personnel are a significant and untapped resource for the region's labor market. Aside from highly relevant skills in defense-related fields, many of these former military personnel already have security clearances and outstanding soft skills such as leadership and experience working in teams, making them of exceptional value to contractors. Since many of these soldiers and airmen leave the region upon separation from service, retaining them—and their skills—is a high priority for the region. As with white-collar professionals, the region must address this challenge not only in terms of facilitating job creation and placement, but also in terms of addressing their desire for “a great place to live.”

- **Strategy 4.1.1—Expand web-based job connection platforms for separating military personnel.** A job connection platform, PipelineNC.com, is currently under development with launch expected in January 2010. This Web 2.0 talent platform will have special features for targeting separating military and military spouses, will help them translate their military skills and experiences into civilian equivalents and will match them with regional employment opportunities.
- **Strategy 4.1.2—Enhance the region's image as a great place to live.** The Regional Partnerships, local economic development commissions, and county tourism offices should collaborate to continue efforts to market the region as an attractive place for white collar professionals.

**2. Objective 4.2: Integrate the Civilian Spouses of Active-Duty Military Personnel into the Regional Labor Market**

As previously discussed, the civilian spouses of active-duty soldiers and airmen provide a valuable and underutilized pool of potential workers with higher educational attainment levels than are average in the region. For those that want to work, the region needs to ensure that these spouses can be brought into the workforce. In order to do so, the region must provide

employment and training information that is readily accessible, current, and efficient. It is worth noting that embedding civilian spouses into the region's labor market can also serve the additional benefit of further anchoring and retaining separated military personnel in the region.

- **Strategy 4.2.1—Identify and track spouses when active-duty personnel arrive at Fort Bragg and are initially processed into service on the base.** Since entry is the easiest access point in which to start this process, we recommend that base personnel include spouses in initial intake processing and then provide their skills, education, and experience information to the JobLink and new PipelineNC platform. Their generic profiles should then be included in the Worker Skills database for use in training program development and contractor recruitment efforts. It is worth noting that spouses may be required to sign a waiver due to privacy concerns.
- **Strategy 4.2.2—Conduct outreach to local defense firms promoting military spouses as potential employees.** Feedback from military spouses indicates that regional firms are reluctant to hire spouses based on the prevailing view that they are too transient to merit employment. The Fort Bragg community has made major strides over the past 5 years to improve the quality of life for service member families and, as a result, many spouses do not leave the area when their spouse is deployed. In many cases, this results in spouses remaining in the area for extended periods. This information, along with information on the high levels of education possessed by spouses should be communicated more effectively to the business community. An aggressive, “Hire a Military Spouse” outreach and marketing effort could be targeted at businesses in the region, perhaps through partnerships with local chambers of commerce, public service announcements in local media, etc.. An essential part of this pitch is that these spouses genuinely have highly marketable training, education, and skills and, as a result, have the potential to add significant value to their prospective employers.

### **3. Objective 4.3: Attract and Retain White Collar Professionals Essential to High-Technology Defense Contracting Businesses**

One of the region's greatest weaknesses is its shortage of educated, white collar professionals needed to fill management positions in defense firms. Without this base, new businesses will be hesitant to locate in the region. It is, therefore, imperative to develop methods for attracting and retaining this kind of talent. According to separate studies recently completed by the Southeastern Economic Development Commission and UNC Chapel Hill, one of the greatest challenges to this may be the region's perceived lack of amenities and negative image associated with the quality of life in rural areas and near military bases. Many white collar professionals are not just looking for a job; they are looking for an attractive place to live and raise their families, places that have good schools, quality housing, a variety of entertainment and recreation options as well as high-end retail and fine dining options. The Fort Bragg region needs to address the quality-of-life factors if the goal of attracting and retaining white collar professionals is going to be achieved.

## II. Conclusions

This comprehensive list of goals and strategies for building a D&HS cluster in the Fort Bragg region was based on community input, existing research by BRAC consultants, best practices in comparison areas, and new research conducted for this study. Four overarching goals were recommended : Building an organizational infrastructure capable of facilitating key aspects of the region's transformation; Increasing the actual presence of the industry in the region through sound economic development practices; Aligning the workforce development efforts of state and regional stakeholders in higher education; and Integrating underutilized segments of the labor market into the regional employment base. These goals, taken together, provide a roadmap for the development of the D&HS industry cluster that will require the sustained efforts of many stakeholders over an extended time horizon. In addressing this challenge, a key dimension of success involves the creation of lasting organizational connections which can facilitate an ongoing, interactive process directed and implemented by local, regional and state stakeholders. This report is the beginning, not the end of such a process.

**III. Appendix A**

<b>Goals, Objectives, &amp; Strategies Implementation Matrix</b>  <b>Key:</b> <b>R – Responsible:</b> Those who do the work to achieve the task <b>C – Consulted:</b> Those whose opinions are sought	CDHS	NCMF	DOC	BRAC RTF	DSTA	NCMBC	AADBA	FSU	UNC System	FTCC	NC DPI	Regional School Boards	Gov’s Office of Military Affairs	General Assembly	NC Congressional Delegations	Reg. Chambers of Commerce
<b>Goal 1: Increase coordination and connectivity of the D&amp;HS-related organizational infrastructure at state and regional levels.</b>																
<b>Objective 1.1: Build State-Level Organizational Coordination and Connectivity</b>																
<i>Strategy 1.1.1—Create an Office of Military Affairs (OMA) in the Governor’s Office</i>													R	C		
<i>Strategy 1.1.2—Operationalize the NC Center for Defense &amp; Homeland Security (CDHS) currently under development to serve as state coordinating entity</i>	R	C	C	C	C	C		R	C	C			C	C		
<i>Strategy 1.1.3—Promote targeted focus on defense cluster within State Department of Commerce.</i>	C		R										C	C		
<b>Objective 1.2: Build Local-Level Organizational Coordination and Connectivity in Fort Bragg Region</b>																
<i>Strategy 1.2.1—Create a regional coordinating entity with the capacity to align all categories of organizational assets and address key gaps at an operational level.</i>				C									R			
<i>Strategy 1.2.2—Institutionalize stakeholder participation through formalized and substantive representation.</i>	R			C				C	C							
<i>Strategy 1.2.3—Create an All American Defense Business Association (AADBA) to connect defense firm employees with each other.</i>			C	R		C	R									
<b>Goal 2: Develop innovative approaches to identifying opportunities and winning DoD and DHS business for North Carolina.</b>																
<b>Objective 2.1: Win More Defense Contracts</b>																
<i>Strategy 2.1.1—Help the region’s existing firms compete for prime contracts.</i>	R	R	R	R	R	R	C						C			
<i>Strategy 2.1.2—Help regional firms connect with established prime contractors for teaming on contracts.</i>	R	R	R	R	R	R	C						C			
<i>Strategy 2.1.3—Work with state’s Congressional delegation</i>	R	R											R		R	

<b>Goals, Objectives, &amp; Strategies Implementation Matrix</b>  <b>Key:</b> <b>R – Responsible: Those who do the work to achieve the task</b> <b>C – Consulted: Those whose opinions are sought</b>	CDHS	NCMF	DOC	BRAC RTF	DSTA	NCMBC	AADBA	FSU	UNC System	FTCC	NC DPI	Regional School Boards	Gov's Office of Military Affairs	General Assembly	NC Congressional Delegations	Reg. Chambers of Commerce
<i>Strategy 2.1.4—Work with the General Assembly, DOC, and county governments to ensure that business incentives are aligned to meet the specific needs of firms in the region's targeted industries.</i>	R		R										R			
<i>Strategy 2.1.5—Ensure that business incentives are aligned to needs of firm retention/expansion, and not just geared towards recruitment.</i>			R										R	R		
<b>Objective 2.2: Pursue Entrepreneurship to Promote Locally-Grown Defense Businesses</b>																
<i>Strategy 2.2.1—Leverage NCMBC and the DSTA to provide small business start-up support services like technical assistance and initial financing.</i>	C				R	R										
<i>Strategy 2.2.2—Facilitate patenting, commercialization of research, and the spin-off of new companies.</i>	C			C	R	C		C	C	C						
<b>Objective 2.3: Assess and Strategically Upgrade Physical and Industrial Infrastructure to Support Defense Industry Expansion</b>																
<i>Strategy 2.3.1—Address immediate air transportation gap through short-term partnerships with airlines and Fayetteville Airport.</i>			C	R									C		C	C
<i>Strategy 2.3.2 – Address critical capital needs in the region.</i>				R									R			
<i>Strategy 2.3.3—Assess industrial infrastructure in the region.</i>	R			C												
<b>Goal 3: Align and develop educational programs with emerging D&amp;HS industry requirements.</b>																
<b>Objective 3.1: Align Higher Education Curricula and Research Programs to Better Support the D&amp;HS Industry in the Region</b>																
<i>Strategy 3.1.1—Create a higher education defense advisory committee to work with the CDHS to ensure that the curricula offered within the university and community college systems supports the workforce needs of the emerging D&amp;HS cluster.</i>	R							R	R	R						
<i>Strategy 3.1.2—Provide a centralized source to coordinate the pursuit of R&amp;D funding from DoD and DHS.</i>	R							C	C							

<b>Goals, Objectives, &amp; Strategies Implementation Matrix</b>	<b>CDHS</b>	<b>NCMF</b>	<b>DOC</b>	<b>BRAC RTF</b>	<b>DSTA</b>	<b>NCMBC</b>	<b>AADBA</b>	<b>FSU</b>	<b>UNC System</b>	<b>FTCC</b>	<b>NC DPI</b>	<b>Regional School Boards</b>	<b>Gov's Office of Military Affairs</b>	<b>General Assembly</b>	<b>NC Congressional Delegations</b>	<b>Reg. Chambers of Commerce</b>
<b>Key:</b> <b>R – Responsible:</b> Those who do the work to achieve the task <b>C – Consulted:</b> Those whose opinions are sought																
<i>Strategy 3.1.3—Develop collaborative partnerships between regional higher education institutions and major research universities outside the region.</i>	R							C	C	C						
<i>Strategy 3.1.4—Higher education institutions in the region should consider expanding and creating appropriate coursework to better meet the needs of cluster industries.</i>	C			C				R	R	R						
<i>Strategy 3.1.5—Foster cooperation to create clearly defined educational pathways and to maximize workplace value.</i>	R															
<b>Objective 3.2: Institutionalize a Coordinated Workforce Development Program for the Fort Bragg Region</b>																
<i>Strategy 3.2.1—Create a single workforce development advisory board (WDAB) in the Fort Bragg region to coordinate the various workforce training programs, including those offered by the region's higher education institutions.</i>			C	R	C	C	C									C
<b>Objective 3.3: Align K-12 Programs with Industry Needs</b>																
<i>Strategy 3.3.1—Include K-12 stakeholders in workforce development process.</i>				R				R		R		R				
<i>Strategy 3.3.2—Develop career and technical education programs in partnership with industry.</i>				R								R				
<b>Objective 3.4: Increase Overall Skill-Base of the Region's Workforce in Science, Technology, Engineering, and Math (STEM)</b>																
<i>Strategy 3.4.1—Seek funding support from State, Federal, and private industry sources to provide scholarships and programming resources</i>	R			R				C	C	C		R				
<i>Strategy 3.4.1—Seek funding support from State, Federal, and private industry sources to provide scholarships and programming resources</i>				R				C	C	C		R				
<b>Goal 4: Retain and integrate groups with key defense-related skills into regional labor market.</b>																
<b>Objective 4.1: Retain Separated Military Personnel in the Region</b>																

<b>Goals, Objectives, &amp; Strategies Implementation Matrix</b>  <b>Key:</b> <b>R – Responsible: Those who do the work to achieve the task</b> <b>C – Consulted: Those whose opinions are sought</b>	CDHS	NCMF	DOC	BRAC RTF	DSTA	NCMBC	AADBA	FSU	UNC System	FTCC	NC DPI	Regional School Boards	Gov's Office of Military Affairs	General Assembly	NC Congressional Delegations	Reg. Chambers of Commerce
<i>Strategy 4.1.1—Expand web-based job connection platforms for separating military personnel.</i>	R			R												
<i>Strategy 4.1.2—Enhance the region's image as a great place to live.</i>				R			C						R	C	C	R
<b>Objective 4.2: Integrate the Civilian Spouses of Active-Duty Military Personnel into the Regional Labor Market</b>																
<i>Strategy 4.2.1—Identify and track spouses when active-duty personnel arrive at Fort Bragg and are initially processed into service on the base.</i>				R			C									
<i>Strategy 4.2.2—Conduct outreach to local defense firms promoting military spouses as potential employees.</i>				R			C									
<b>Objective 4.3: Attract and Retain White Collar Professionals Essential to High-Technology Defense Contracting Businesses</b>																

**IV. Appendix B**

# **Huntsville: Best Practices Relevant for the Fayetteville-BRAC Region**

## **1. Introduction**

In the most recent round of the Base Relocation and Closure Commission, two key installations in the Fayetteville region—Ft. Bragg and Pope Air Force Base—received significant expansions to their roles, missions, and functions. Already home to the U.S. Army's 82nd Airborne Division, 44th Medical Command, 20th Engineering Brigade, and 18th Soldier Support Group, Ft. Bragg will also house the headquarters of the U.S. Army Forces Command ("FORSCOM") and the headquarters of the U.S. Army Reserve Command (USARC) beginning in 2011. Additionally, Pope Air Force Base will welcome a new active-duty Air Operations Group, the 440th Air Reserve Component Wing (relocating from Detroit) and a newly established Air Force reserve/active-duty associate unit. With these new functions—especially the new force commands at Bragg—the Fayetteville region is expected to receive thousands of active duty personnel and their dependents, along with the hoped-for addition of thousands more civilian contractors seeking geographic proximity to the business opportunities presented by the new commands. All told, recent economic impact studies have revealed that the region is expected to experience population growth of nearly 25,600 by 2011.

Recognizing the long-term challenges and opportunities presented by this kind of growth, military, civilian, and governmental stakeholders throughout the region decided to develop an integrated, multi-partner strategic planning effort to leverage the new commands for the long-term economic transformation of the region. As part of this process, stakeholders contracted with TDA Associates and the School of Government at the University of North Carolina at Chapel Hill to provide several key services, including case study research on Huntsville, Alabama (and its primary defense facility, Redstone Arsenal). Huntsville was selected because it is considered to be a national model for leveraging Federal Defense programs for economic growth, especially in the Defense and Homeland Security industry cluster.

Based on several phone interviews with stakeholders and archival research, this case study attempts to analyze Huntsville's success in search of possible economic development best practices that could be transferred to the Fayetteville region, in its efforts to build a vibrant defense sector in the counties surrounding Ft. Bragg. The study includes five sections:

- A brief overview of the Huntsville region;
- Background on the importance of the military to the region;
- Key similarities and differences between the Huntsville and Fayetteville regions;
- Identification of transferable best practices; and
- Obstacles to and opportunities for implementing strategies in the Fort Bragg region.



degree or higher), in turn fostering a relatively high household income and a comparatively young population as seen in Exhibit 2.2.

**Exhibit 2.2 Demographic Summary**

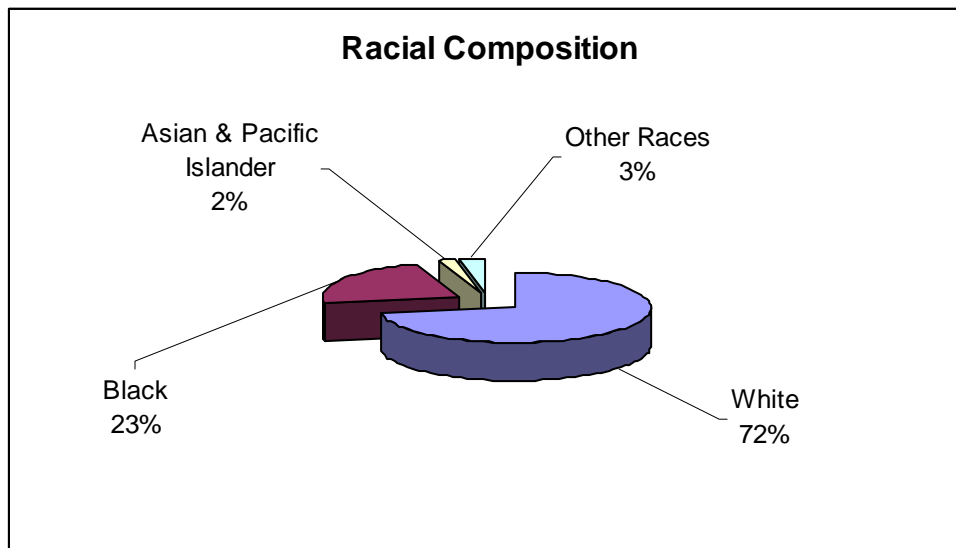
	Madison County	City of Huntsville	Huntsville Metro Area <sup>1</sup>
<b>POPULATION</b>			
1980 Census	196,966	145,604	242,971
1990 Census	238,912	159,789	293,047
2000 Census	276,700	158,216	342,376
2007 Estimate	312,734	171,327	386,632
% Growth 2000-2007	13.0%	8.3%	12.9%
<b>INCOME &amp; AGE (Census 2000)</b>			
Average Household Income	\$57,220	\$55,856	\$55,343
Per Capita Income	\$23,091	\$24,015	\$22,073
Median Age	35.7	36.7	35.7

Source: U.S. Census Bureau ([www.census.gov](http://www.census.gov))

<sup>1</sup> Includes Madison and Limestone counties.

In terms of racial composition, the metro area has a smaller African American population than the state as a whole (a racial composition similar to that of the entire Tennessee Valley), while a comparatively higher percentage of Asian Americans. See Exhibit 2.3.

**Exhibit 2.3. Huntsville Metro Area Racial Composition.**



### **3. Importance of Military to Huntsville: Past and Present**

Since its founding as a munitions facility during the 1930s, Redstone Arsenal has played a critical role in the community and economic life of Huntsville and the surrounding region. This section provides both a historical overview of this impact and a current snapshot of the important role by played by the Arsenal as a hub for defense-related research and development efforts.

The story of the Arsenal's influence in Huntsville (and the corresponding story of the City's commitment to the Arsenal) largely mirrors the arrival and growth of specific Federal defense, space, and aviation programs over a sixty-year period following the end of World War II. In the late 1940s, the Army initiated plans to eliminate the Arsenal's munitions activities and close down the facility, but then reversed course in 1950 due a unique confluence of factors. First, then-U.S. Senator John Sparkman, a powerful figure on the Senate Defense Committee whose district included Huntsville, became actively engaged at the behest of Huntsville's business community in a successful attempt to keep the base open by securing defense-related programs in the newly emerging Cold War military environment.

This effort dovetailed with a second major event, one which ultimately set the long-term strategic direction of the facility as a hub for research & development: in 1950, the community succeeded in convincing the Army to relocate its new rocket program from Ft. Bliss, TX to Huntsville. In late 1950, the Army officially launched the Army Ballistic Missile Agency at Redstone Arsenal, composed of a team led by Wernher von Braun—the German scientist responsible for inventing the V-2 rocket during World War II. This team focused on missile research and development throughout the 1950s, ultimately succeeding in launching the rockets that put American satellites and astronauts into orbit.

In 1960, the Arsenal's work on missiles and rockets led the newly established NASA to select Redstone as the site for what would become the George C. Marshall Space Flight Center. Over the next ten years, Marshall played an essential role in the Space Race, its teams eventually developing the mammoth Saturn V rocket that sent astronauts to the moon. During this period, the space and missile programs at the Arsenal generated significant spill-over effects in the broader community. First, the University of Alabama-Huntsville (established in the early 1950s at the behest of Huntsville community leaders as part of the state's Cooperative Extension Program) began establishing a training curriculum and research centers that mirrored the needs of Arsenal programs. Second, a public-private partnership established the Cummings Research Park in 1962 targeted towards contractors working on Arsenal programs. Third, and in response to these other two developments, major space contractors like Boeing and Raytheon moved to the Huntsville area, sparking the long-term expansion of the defense and space industries that play such an important role in the region's current economy.

By the late 1960s, NASA had effectively declared victory in the Space Race following successful moon landings, and accordingly, the agency turned its attention to other efforts. This had enormous impacts on the Arsenal and the Huntsville region. Although Marshall remained open, the flow of defense research and development funding shifted away from rockets towards other activities, leaving many of the scientists, contractors, and development teams without work opportunities at the Arsenal or with surrounding companies. As a result, anecdotes from the late

1960s and early 1970s tell of underemployed rocket scientists bagging groceries at local supermarkets for lack of opportunities in their fields. Incidentally, these anecdotes reinforce the connection between the Arsenal and the community—these rocket scientists and contractors could easily have moved to other areas where their skills were more in demand, but many nonetheless decided to stay because they loved the Huntsville community.

In the face of these challenges, the region's leaders made two strategic decisions in the early 1970s. The first was to diversify their economic development efforts into other sectors in order to avoid over-reliance on Federal contracting. Manufacturing, technology, and healthcare were three of the early targets during this period. Secondly, leaders made the conscious choice to keep pursuing the defense sector and base their defense-related economic development efforts around the recruitment of specific Federally-funded space, defense, and aerospace programs to the Arsenal. In other words, they made an explicit strategic choice to recruit defense *programs* (based on the Arsenal's existing strengths), and then to use the programs as an asset to recruit the contracting firms most relevant to those programs.

Additionally, the changing nature of NASA programs reinforced and magnified the role of Marshall in particular and the Arsenal in general as a major recruitment asset. Following the conclusion of the Space Race, many of the programs gained by Marshall involved *managing* R&D projects actually conducted by contractors. In effect, Marshall shifted from a research facility to an R&D *management* facility, which naturally attracted defense/space R&D contractors (who actually performed the R&D activities) to create a large-scale presence in the community, thus creating more defense/space jobs. The resulting presence of a highly skilled R&D workforce reinforced the attractiveness of the Arsenal for defense/space programs and the region for defense/space contractors—a virtuous cycle which fostered significant employment growth in these sectors.

This strategy has played out over the past several decades and has yielded significant success for the region's defense base. In the 1970s, the Arsenal went after and secured programs related to SKYLab and the Space Shuttle (on the space side) and missiles on the defense side. The 1980s saw the location of high-budget, high-priority missile defense programs related to the Strategic Defense Initiative (popularly known as Star Wars). Based on this work and the Arsenal's legacy of missile and rocket programs, the Department of Defense merged its aviation and missile command in the 1995 round of BRAC and moved that merged program from St. Louis to Huntsville. This brought the military's entire aviation program management and engineering function to the region, ensuring dramatic expansion in the aviation sector—an expansion reinforced by the 2005 round of BRAC, which brought aviation testing to the region. Also in 2005, the Army decided to move its material command (known as AMCOM) to Huntsville, creating a huge opportunity for the region's manufacturing and wholesaling industries.

As programs have come and gone from the Arsenal over the course of its history, the defense sector has grown in importance for the region's economy. Today, Huntsville has a strong research and development economy that generates a high number of spin-offs and commercial activity in technology-oriented industries. In terms of aviation, nearly every major U.S. aerospace corporation is represented, with more than 90 companies employing a total of more than 11,000 people in the local aerospace industry. Combined with its aerospace function, the

Arsenal's key role in the U.S. Army's technology development programs, foreign weapons sales, and procurement programs have generated over 32,000 jobs in military and support contract. More than 300 international and domestic corporations in Huntsville/ Madison County are involved in the design and production of electronics and computer-related technology. Additionally, Cummings Research Park is the country's second largest research and technology park, containing 225 companies and employing 23,000 people involved in technology research and development, virtually all of which is tied to Arsenal programs. Finally, the importance of the Arsenal to the community can be seen by the fact that Redstone is the county's largest single employer (with three times the number of employees as the next largest employer, the regional hospital system) and that 25 of the county's top 40 employers are in industries directly connected to the Arsenal's programs.

#### **Section 4. Huntsville and Fayetteville: Fertile Ground for Transferring Practices?**

While Huntsville certainly provides a compelling story of innovation-based economic development, the ultimate point of this case study is to explore possible best practices that can be transferred from the Huntsville experience to Fayetteville's regional efforts. Such transference cannot occur in a vacuum, however, so it is critical to put both regions in their proper context by examining their similarities and differences. This section attempts to outline these comparisons, with a special focus on those elements which make Huntsville's experience most relevant to Fayetteville. After a brief comparison of the region's demographic and economic conditions, the section will explore in more detail the contrasting institutional arrangements which frame economic development efforts in the defense industry.

In terms of demographics, the two regions are somewhat similar on the surface. Both Cumberland County and the City of Fayetteville are comparable in population to their counterparts in Madison County and the City of Huntsville. Like Huntsville, Fayetteville is culturally embedded in a broader, coherent region—in this case, Eastern North Carolina. And also like Huntsville's Redstone Arsenal, Ft. Bragg is Cumberland County's largest employer. Below the surface of these basic similarities, however, the regions have significant demographic and economic differences. In contrast to the strong growth in Huntsville/Madison, both Cumberland County and the City of Fayetteville experienced population loss and a decrease in total employment between 2000 and 2006. Moreover, Fayetteville/Cumberland have median household incomes roughly \$20,000 below those of Huntsville/Madison, and even more critically, only 19% of the population in the Fayetteville region have a college degree or higher, contrasted with the 35% college degree-holding workforce in Huntsville/Cumberland. This last indicator will present both challenges and opportunities for transferring Huntsville's strategies to Fayetteville. These basic vital statistics reveal that the two regions are actually very different in terms of their economic structure.

Beyond the vital statistics, the regions offer highly relevant comparisons in terms of their institutional and policy approaches to economic development. In terms of similarities, both regions have military bases important to the economic and cultural fabric of their surrounding communities, as well as the presence of defense-related firms in proximity to the facilities, forming the basis for defense industry clusters (although, obviously, Huntsville's is much more developed than Fayetteville's). Additionally, both regions have business parks connected to the

main functions and activities of their military bases in an effort to harness the commercial spill-over benefits of activities inside the bases—the Cummings Research Park in Huntsville and the All American Military Business Park in Fayetteville. Finally, both regions have a single entity coordinating defense-related economic development—the Huntsville Chamber of Commerce and the BRAC Regional Task Force—ensuring greater cooperation and alignment of resources. Interviews with Huntsville stakeholders revealed the perceived importance of this central coordinating role in the region’s success.

Despite these somewhat superficial similarities, the two regions actually have significant differences that will naturally shape the transference of Huntsville’s best practices to Fayetteville in the way most suited to the region’s economic development strengths and weaknesses. Perhaps the most significant of these differences involves the function of the facilities themselves. Since 1950, Redstone Arsenal has focused almost exclusively on R&D to the point where today virtually the entire workforce at the facility is composed of scientists and research managers, not soldiers. Ft. Bragg, on the other hand, has traditionally been a forces command installation, a function that will only grow after FORSCOM and USARC complete their move by 2011. The result is a facility heavy on soldiers and management personnel, and light on the scientists and researchers that drove Huntsville’s technology-oriented clusters of defense, space, and aerospace contracting firms. As a result, Bragg’s different function and different programs will probably attract different types of contractor firms to the surrounding area—less R&D, more management, and perhaps more manufacturing to meet the base’s procurement needs. In effect, the synergy between Ft. Bragg and its nascent defense cluster will look much different than the R&D-oriented synergy between Redstone and its defense cluster. Fortunately, this difference creates a powerful opportunity for Fayetteville to develop a defense cluster most suited to Bragg’s specific functional needs, just as Huntsville developed an R&D cluster around Redstone’s specific needs.

The differences in function are also largely mirrored by differences in the communities surrounding the facilities. Redstone’s R&D mission has greatly benefitted from the presence of a world-class science/engineering research institution several miles from the installation. Since its inception in the 1950s, the University of Alabama at Huntsville has structured its research and teaching curriculum specifically to meet the R&D and workforce training needs of the Arsenal. Although the higher education institutions in the Fayetteville region are not focused around R&D to the same extent as UAH, schools like Fayetteville Technical College, Fayetteville State University (minutes away from the base) and UNC Pembroke (a 45-minute drive down I-95) are well suited to meet the workforce development and training needs of the types of defense firms that are likely to locate in the region. Their missions and specializations may differ from those of UAH, but they are similarly equipped to deploy their resources in support of Ft. Bragg and a regional defense cluster targeted to Bragg’s needs and opportunities.

In another, related difference, the Huntsville region’s workforce is significantly more educated than Fayetteville’s, as seen in the attainment indicators discussed above—Huntsville has more Ph.D.’s, has more people with a college degree, and has a higher high school graduation rate. This educational disparity has significant implications for building a defense cluster in Fayetteville, as a highly educated workforce is a key ingredient for attracting the kinds of contractors located in Huntsville.

Additionally, the two regions vary somewhat in terms of infrastructure, including the fact that they have different types of business parks—Huntsville’s Cumming Research Park is targeted towards a single type of firm (R&D) and was originally developed in partnership with specific contractors, while Cumberland County’s new Military Business Park (which is still in development) appears to be focused on a range of defense-oriented business activities and appears developed largely by Cumberland County and its regional Chamber of Commerce. This type of dispersed focus may have implications for developing focused synergy around firms in key clusters. Aside from the focus of the parks themselves, the regions have somewhat different access to basic transportation and shipping infrastructure. The Huntsville region has several four-lane highways and two major interstates, access to the Tennessee River system (which is one of the largest shipping waterways in the country), and the presence of an international airport with sufficiently long runways to support the heaviest of cargo and transport planes. As discussed previously, Fayetteville on the other hand, is at the moment somewhat lacking in four lane highways, river access, and comparable air transportation resources as exists within Huntsville proper. In terms of air, however, Global TransPark is only 80 miles away from Fayetteville and accessible by I-95, so while not as conveniently located in Huntsville, there is major air shipping infrastructure in proximity to Bragg.

As Fayetteville works to upgrade its infrastructure and develop its business park, it is worth noting that Huntsville also differs from its North Carolina counterpart one important respect—Huntsville has actively used zoning to keep its business park targeted solely to firms in its chose sector and to reduce the kind urban sprawl which makes a region less attractive to the types of highly educated workers employed by technology contractors—the types of workers and firms fleeing high-traffic, sprawling suburbs in other hi-tech competitor regions like Southern California. In effect, Huntsville used zoning to improve the City’s quality of life, which in turn enhanced the region’s ability to attract firms and workers. In Fayetteville, on the other hand, zoning and anti-sprawl city planning are somewhat more controversial.

## **Section 5. Huntsville’s Best Practices**

This section lays out the key reasons for Huntsville’s success with an eye to transferring these best practices to Fayetteville’s own circumstances.

According to stakeholder interviews and secondary research, the fundamental force behind Huntsville’s success in defense-oriented economic development was the *deliberate alignment of the community’s interests with the Arsenal’s interests*. Beginning with the von Braun missile project in the early 1950s, a cohesive group of the town’s business, civic, and elected leadership (including Senator Sparkman)—known to many in the Huntsville community as the “Town Fathers”—identified the Arsenal as a key asset for the Huntsville region and embarked upon a decades long effort to ensure that the community worked to benefit the Arsenal and the Arsenal to benefit the community. As was often the case in post-war Southern communities, this same group of Town Fathers held sway through the 1970s, and consistently worked over that 30-year period to leverage this asset: they partnered with the University Alabama and the Arsenal to train the engineering/scientific workforce needed for Redstone’s programs (this partnership eventually became UAH); they held community meetings to build public support for the Arsenal; they went to Washington to lobby Congress and the Pentagon for key programs; they built a research park

within steps of the Arsenal's gates to attract contractors, and they zoned it to ensure that nothing but defense-related companies could locate there. During and after the time of the Town Fathers, this alignment was held together by an active network of relationships among the Town Fathers, local businesses, Arsenal commanders, and community leaders. Arsenal commanders served on Chamber of Commerce Committees and University boards; civic leaders hosted listening sessions for community members to dialogue with Arsenal commanders about town-base relations; university officials worked with school teachers and Arsenal leaders to structure curricula suited for Arsenal needs; community members were invited to participate in long-term regional planning efforts. These relationships ensured that "alignment" could actually work—the community and Arsenal felt that they were "on the same team," and that working for the other's benefit would actually benefit themselves. In sum, Huntsville effectively aligned community and facility interests and then held that alignment together through institutionalized communication, cooperation, and creative partnerships.

A second key best practice presented by Huntsville involves the core strategic approach of *pursuing Federal defense programs as the driver for regional economic development*. In essence, Huntsville's economic development stakeholders recognize that the programs drive the recruitment, expansion, and retention of contractors—the ultimate targets. Working together with Arsenal leaders and elected officials, Huntsville's community leaders have developed a successful model for leveraging the Arsenal's past program assets to secure new programs during regular and periodic rounds of base realignment or program creation. This is mostly an "inside" approach to lobbying the Pentagon, Congress, and the relevant BRAC Commission officials for specific programs, functions, and commands that align with the Arsenal's existing and historic areas of program strength. The strategic assumption—proven successful since the days of von Braun's rocket team—is that contractors will follow programs, with a generous assist by an active and accomplished Chamber economic development team. From this comes the region's success in building its defense cluster.

A third key best practice involves the *creation of a world-class business research park* only steps away from the Arsenal's main gate, focused exclusively on defense/space/aerospace R&D. Created in 1962 at the behest of von Braun and several business leaders through an innovative public-partnership model, the Cummings Research Park has been instrumental in attracting defense contractors to the region and once there, harnessing the synergy in their work with the Arsenal to create all the positive spill-overs associated with industry clusters. These spill-over effects are magnified by the proximity of the park to the Arsenal and key partnerships with UAH research centers—factors stakeholders cite as major contributors to the park's success. Another factor in the major role by of the park in stimulating the region's defense industry involves the innovative form of governance used to manage the park for its first 20 years. Instead of turning the park over to the City, the County, or the local industrial authority, the Town Fathers who first developed the park established a nonprofit entity, later known as the UAH Foundation, to manage the park's long-term operations. In doing so, they effectively insulated the park from political and economic pressures to change the park's mission, to allow non-R&D business inside the park's boundaries, or to rezone certain parcels for residential development. This ensured that the park could remain focused around the Arsenal's core programs without succumbing to politically motivated distractions, thus ensuring a stable and long-term base for expanding the region's defense industry. As a result, the CRP is today the second largest

research park in the nation (after RTP) and the fourth largest in the world. After an expansion in the early 1980s, the park today consists of 3,843 acres, 175 buildings, and 9.5 million square feet of office space; in these buildings, it hosts 285 companies (a mix of Fortune 500 and start-ups), and employs over 25,000 workers.

A fourth best practice relevant to Fayetteville involves the *significant partnerships between Redstone and UAH*. Aside from playing a key workforce development role for firms and Arsenal personnel, the university has consistently created research centers that mirror the programs at the Arsenal, allowing for strong partnerships between Redstone's and university scientists and researchers in the Arsenal's core mission areas. Magnifying this synergy, many of these centers also play a role in assisting private sector R&D among the region's contractors by filling research gaps which neither the Arsenal nor the contractors typically fill. For example, the university's objectivity allows them to conduct key supply chain research involving proprietary business activities among competing firms; this research then allows contractors to gain a more complete picture of how to efficiently develop their products along the most suitable supply chains. In doing so, the university plays a vital bridging role between private companies and the Arsenal.

Finally, Huntsville's economic development stakeholders also implemented a practice that while not directly related to defense, has helped ensure the long-term stability of the defense industry and the broader regional economy—*diversification*. In order to reduce over-reliance on Federal programs (which may vanish like many of the Space Race programs), the region's economic development stakeholders pursued a broad diversification strategy in their recruitment and retention efforts. In recent years, they have targeted healthcare, energy, and advanced manufacturing—all sectors that reinforce the strong R&D base already in place—in an effort to ensure a broader-based regional economy. In the long run, a broader based economy ensures greater stability—always a net positive for business growth—and increases the likelihood of cross-sector spill-overs and innovation, a hallmark of dynamic regional economies.

## **Section 6. Transferring Best Practices to Fayetteville: Challenges and Opportunities**

As with any effort to apply best practices from one region to another, there are a handful of challenges to transferring Huntsville's successful strategies to Fayetteville. This section briefly examines some of these challenges and the opportunities they represent for regional economic growth and development.

Perhaps the single greatest challenge to replicating Huntsville's success story—founded on regional strengths in building a cluster of R&D contractors—is the fact that Redstone Arsenal actually has predominantly R&D-focused functions, while Ft. Bragg does not. While doubtless some of the programs associated FORSCOM and USARC will involve R&D functions, the commands are largely management oriented, and as a result, the thrust of the region's contracting base will likely revolve rather more around meeting these needs, and rather less around providing R&D services. Baldly put, Bragg will be full of soldiers, not scientists. For Fayetteville, this limits the kind of research-oriented synergy Huntsville experienced between its programs, contractors, and university research centers: fewer opportunities for high-wage, high-value contractors and fewer opportunities for technology transfer, commercialization, and spin-

off companies, the types of catalysts most common in an R&D-focused cluster. Absent the special catalyzing force of R&D, Fayetteville has the opportunity to develop *different* synergies customized to Bragg's key functions.

In fact, the educational and training levels of the available workforce point away from R&D toward other aspects of the industry. And it is the somewhat low educational attainment levels in the region that present another obstacle to building these other aspects of the defense industry. High-tech defense contractors need highly educated people; and having educated individuals already in place is highly desirable for most of these contractors. In the face of this challenge, the region is faced with a wonderful opportunity to fully improve and leverage a whole range of community assets in its efforts to recruit high-wage, highly educated people to the region, many of whom want a nice place to *live*, as well as a high-wage job. In turn, the presence of educated workers attract the types of high-wage firms that need highly educated workers. Moreover, these educational challenges also create the opportunity for the region to assist its current workforce by upgrading its job training programs, developing vocational education initiatives, and strengthen ties between regional higher educational institutions and private firms.

In a related challenge, the lack of a major research institution in close proximity to Bragg presents obstacles to replicating Huntsville's success. Without UAH, its research centers, and its training programs, much of Huntsville's synergy around R&D would have been lost. Likewise, without high-level research functions and targeted training programs shaped by research, Fayetteville may find it challenging to develop a successful defense cluster of the kinds of high-wage firms most desired in the region. By the same token, however, these challenges also create the opportunity to develop institutionalized relationships between Bragg and the UNC system and defense/aerospace-oriented research centers at the state's major research universities.

## **Section 7. Conclusions**

This case study has sought to identify and discuss many of the factors which made the Huntsville experience so successful in developing a vibrant defense industry in its region. Perhaps the greatest lesson that can be transferred to the Ft. Bragg area is that Fayetteville's stakeholders must ensure that the facility's interests and the community's interests are aligned, and that this alignment reflects two-way communication and cooperation. A second key lesson is that Fayetteville's lower educational attainment levels, lack of a major research university, and the types of military functions located at Bragg probably preclude the development of regional defense industry focused around R&D; in turn, however, this leaves the door open for the region to build this industry around the particular functions and assets that actually are in place at Bragg. In conclusion, Huntsville provides a series of best practices that can guide—but not directly replicate in—the Fayetteville region.