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COMMONWEALTH of VIRGINIA
Office of the Governor

Mark R. Warner
Governor

April 21, 2005

Admiral Harold W. Gehman, Jr., U.S. Navy-Ret.
Member
Base Realignment and Closure Commission
2521 South Clark Street
Arlington, Virginia 22202

Dear Admiral Gehman:

The Commonwealth of Virginia remains committed to maintaining its historic and strong partnership with the Department of Defense on all issues critical to the security of the nation and the success of the military. Accordingly we seek to ensure that the Base Realignment and Closure Commission possesses comprehensive information about Virginia to accurately inform its decision making process. We are confident this information will underscore Virginia's military advantage in the BRAC process, as well as efforts to "transform" our nation's military.

Virginia is proud of its historic role as a core state for placement of key national defense activities. The range of defense functions, commands and installations located in Virginia are clearly a testament to the Commonwealth's strategic military advantage and its commitment to assisting the Department of Defense with successfully achieving its objectives. Because of Virginia's strategic positioning, it remains the principle foundation for growth and support of both the nation and our military.

Virginia is the center for military thought and gateway for people, equipment and technology necessary to effectively defend our nation and its interests at home and abroad. This preeminent role has evolved because of the state's many natural attributes, including its geographic location in relation to the U.S and the world, terrain and climate, in addition to an outstanding economy and quality of life. These attributes are underscored by the Commonwealth's consistent attention to the needs of the military installations, defense-related businesses and the thousands of men and women in both the military and private sectors who work to protect America and its interests.

Situated mid-point along the U.S. East Coast, Virginia offers unparalleled strategic and tactical military advantages, including one of the finest natural ports in the world. Ready access to vital ocean training and weapons systems testing areas coupled with similar land-based activities allow military activities to achieve maximum readiness. Positioned strategically at the mouth of the Chesapeake Bay and protected from coastal weather elements, the Hampton Roads region exemplifies Virginia's military value. It epitomizes the concept of "jointness" with key

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components of all military services geographically co-located. This proximity achieves synergy that cannot be replicated elsewhere. Significant naval, aviation and army infrastructures established in Hampton Roads have used this region to prosecute military operations abroad and protect us at home. The Hampton Roads area also offers superior cargo capacity, with new privately operated facilities under construction which will nearly double overall logistics handling capacity.

With the increasingly important role of private industry in supporting military operations, transformation demands efficient access to a very broad array of military contactors and businesses who can respond in compressed timelines. Most already have Virginia-based operations. Additionally, more than 35 percent of the nation's manufacturers are within a day's drive to Virginia's port, enhancing coordination and enabling more efficient movement of resources essential to military operations.

Virginia serves as a point of synergy for efforts to transform the services to a more joint operational culture. Joint operations and supportive industries have naturally developed or relocated here creating Virginia's Military Crescent, which carves a wide swath from Northern Virginia to Hampton Roads where the Air Combat, Atlantic Fleet, Training and Doctrine, Joint Forces and NATO Supreme Allied commands are located, as is the Virginia Modeling Analysis and Simulation Center (VMASC) which offers the largest battle laboratory in the world for critical joint training. The VMASC exists to foster innovative concept development and experimentation through war gaming and simulations identified as one of the four pillars of force transformation.

An environment supportive of innovative processes is key to transformation. Virginia has a rich tradition of sound governing practices sensitive to the needs of those entities either conducting or seeking to do business here. The only state to achieve straight A's in all four management categories – Money, People, Information and Infrastructure – of the "Government Performance Project" conducted recently by *Governing Magazine*, Virginia offers streamlined regulations, coordinated state-supported workforce training and export assistance which combined create an innovative economic strategy for the Commonwealth and one of the most prosperous business environments in the world.

Virginia's rich and diverse economy has strong roots in manufacturing and service industries. As the birthplace of the Internet, originally designed to support the Department of Defense, and one of the leading centers of software development, Virginia's high-technology economy continues to excel. It is one of the four U.S. states currently licensed and capable of launching communications satellites and other commercial payloads into Space. Virginia is a leader of the information age. More than 10,400 high-tech companies operate in Virginia. To

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support this rapidly expanding segment of its economy, Virginia develops and attracts a highly trained, skilled and technologically proficient work force. Virginia's colleges, universities and community colleges annually produce more than 57,000 degreed students a year and are key assets in training and developing this high technology work force.

Virginia has the highest concentration of engineers and doctoral scientists in the Southeast. More than 20,000 engineers and scientists live and work in Virginia. Its nationally recognized research and development facilities provide the means necessary for the U.S. military to ensure the nation's strategic advantage on the land and sea, as well as in aerospace and cyberspace.

The Commonwealth's diverse climate offers the U.S. Military training opportunities in all four distinct seasons, while also providing natural protection from the destructive effects of severe weather experienced in other south coastal and western states. For example, hurricane damage in Florida last year resulted in \$20 billion in insured losses. As a result, Virginia offers a lower cost environment for its military installations. The military's critical training venues in Virginia also benefit from the rapid recovery rate of the natural environment that results from the state's moderate and supportive weather conditions.

In addition to the state's beneficial weather conditions, other circumstantial factors benefit Virginia's military presence. With the increasing demands on the U.S. soldier, sailor, airman and marine who must meet the escalating service challenges at home and abroad, quality of life issues can play a pivotal role in mitigating the resulting stress on military personnel and their families, directly impacting force readiness. Virginia offers excellent primary and secondary schools. Its 39 public and 35 private institutions of higher education are recognized globally as models of excellence in learning, leadership and research. The state is committed to affordable, quality higher education, last year providing an additional funding of \$278 million to higher public education in its biennium budget.

Virginia also offers the highest quality health care, affordable housing, transportation choices, award-winning statewide recreational areas and a rich historic setting to explore our nation's past. These quality of life attributes are routinely enjoyed by military families who welcome Virginia assignments.

Virginia is uniquely poised to provide for the future of the U.S. military. As the Department of Defense seeks ever more creative and innovative approaches to the evolving national security challenges at home and abroad, Virginia already possesses the needed resources to contribute to the successful transformation of our nation's military.

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Sincerely,

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Mark R. Warner

Enclosure



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Enclosure



VIRGINIA

“HOME TO THE NATION’S MILITARY”

YESTERDAY, TODAY & TOMORROW

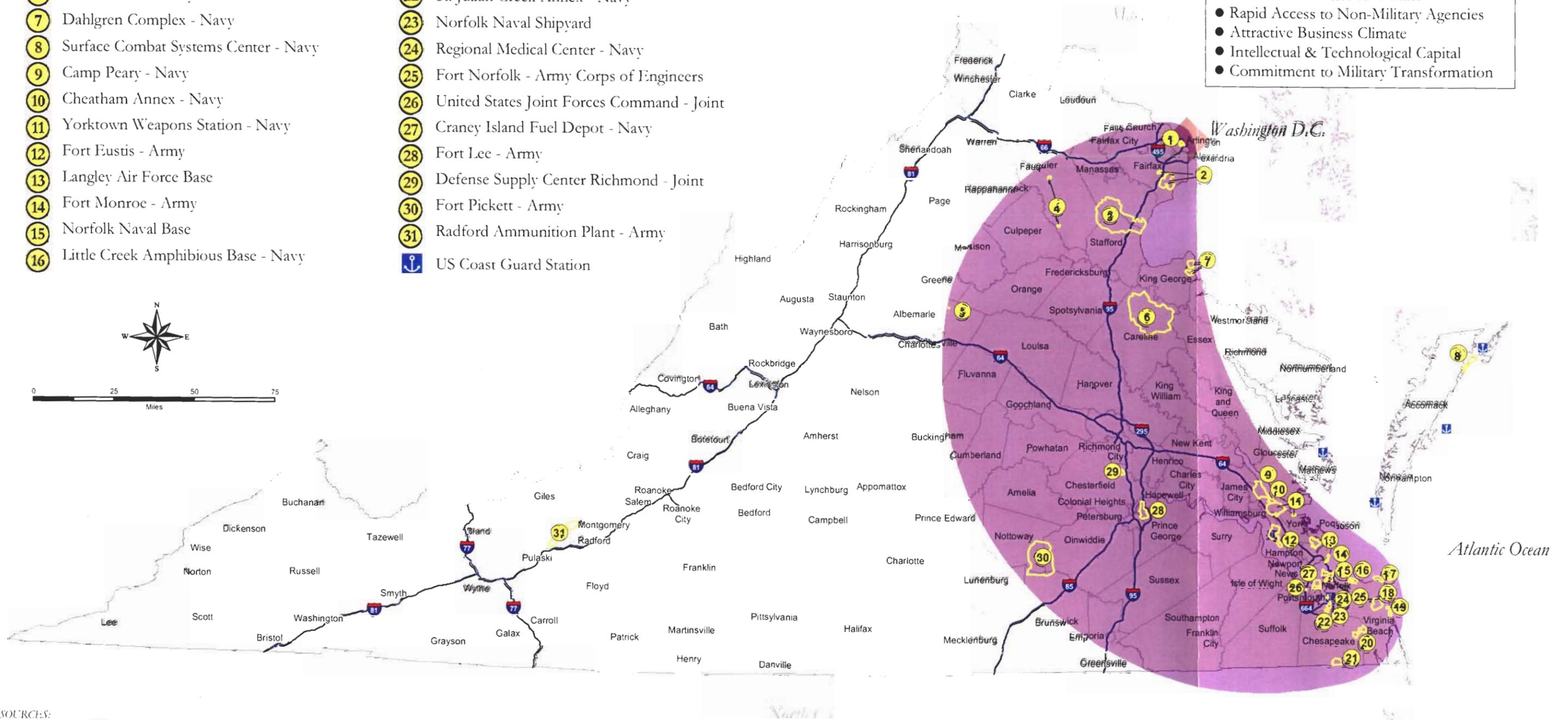
The Virginia Military Crescent

U.S. Military Installations

- | | |
|--|--|
| 1 The Pentagon/Fort Myer/Marine Headquarters | 17 Fort Story - Army |
| 2 Fort Belvoir - Army | 18 Oceana Naval Air Station |
| 3 Quantico Marine Corps Base | 19 Dam Neck Combat Training Center - Navy |
| 4 Warrenton Training Center - Army | 20 Fentress Auxiliary Landing Field - Navy |
| 5 National Ground Intelligence Center - Army | 21 NSA Northwest Annex - Navy |
| 6 Fort AP Hill - Army | 22 St. Julian Creek Annex - Navy |
| 7 Dahlgren Complex - Navy | 23 Norfolk Naval Shipyard |
| 8 Surface Combat Systems Center - Navy | 24 Regional Medical Center - Navy |
| 9 Camp Peary - Navy | 25 Fort Norfolk - Army Corps of Engineers |
| 10 Cheatham Annex - Navy | 26 United States Joint Forces Command - Joint |
| 11 Yorktown Weapons Station - Navy | 27 Craney Island Fuel Depot - Navy |
| 12 Fort Eustis - Army | 28 Fort Lee - Army |
| 13 Langley Air Force Base | 29 Defense Supply Center Richmond - Joint |
| 14 Fort Monroe - Army | 30 Fort Pickett - Army |
| 15 Norfolk Naval Base | 31 Radford Ammunition Plant - Army |
| 16 Little Creek Amphibious Base - Navy |  US Coast Guard Station |

The Virginia Military Advantage

- Strategic Mid-Atlantic Location
- Host to National Command Center
- ★ Headquarters Concentration
- Command and Operational Jointness
- Robust Training Venues
- Surge Capabilities of Hampton Roads
- East Coast Naval Base & Ports of Virginia
- Favorable Weather & Climate
- Rapid Access to Non-Military Agencies
- Attractive Business Climate
- Intellectual & Technological Capital
- Commitment to Military Transformation



SOURCE:
 Virginia Department of Transportation 2004
 Virginia Economic Development Partnership 2004
 Environmental Systems Research Institute 2004

MAP PREPARED BY: Virginia Economic Development Partnership
 January 2005

★ Headquarters Concentration

| Command | Location | Rank |
|--|--------------|------|
| Chairman, Joint Chiefs of Staff | Pentagon | ★★★★ |
| Chief of Staff, US Army | Pentagon | ★★★★ |
| Chief of Staff, US Air Force | Pentagon | ★★★★ |
| Chief of Naval Operations | Pentagon | ★★★★ |
| Commandant, US Marine Corps | Pentagon | ★★★★ |
| US Joint Forces Command | Norfolk | ★★★★ |
| US Army Training and Doctrine Command | Fort Monroe | ★★★★ |
| US Air Force Air Combat Command | Langley AFB | ★★★★ |
| US Army Materiel Command | Fort Belvoir | ★★★★ |
| US Fleet Forces Command | Norfolk | ★★★★ |
| Defense Logistics Agency | Fort Belvoir | ★★★ |
| Defense Information Systems Agency | Arlington | ★★★ |
| Defense Threat Reduction Agency | Fort Belvoir | ★★★ |
| DoD Missile Defense Agency | Arlington | ★★★ |
| US Army Space & Missile Defense Command | Arlington | ★★★ |
| US Army Accessions Command | Fort Monroe | ★★★ |
| US Army Combined Arms Support Command | Fort Lee | ★★★ |
| Naval Network Warfare Command | Norfolk | ★★★ |
| Naval Submarine Forces, Atlantic Fleet | Norfolk | ★★★ |
| US Marine Corps Combat Development Command | MCB Quantico | ★★★ |
| US Marine Corps Forces, Atlantic | Suffolk | ★★★ |
| National Guard Bureau | Pentagon | ★★★ |
| Air National Guard | Pentagon | ★★★ |
| Army National Guard | Pentagon | ★★★ |
| Army Reserve | Arlington | ★★★ |

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I. Virginia's Strategic Location and Geography

The Commonwealth of Virginia offers a strategic location along the Eastern Seaboard that provides unique military operational advantages. Situated at the mid-point along the East Coast, Virginia offers some of the finest natural ports in the world, having quick and easy access to vital ocean training and weapons systems' testing areas, key manufacturers, as well as efficient access to the mid-Atlantic Ocean's sea lanes to Europe, the Middle East, Africa and other North American ports. Further, Virginia's proximity to Washington, D.C. has allowed the state to become a source of support for the National Capital Region, Department of Defense (DoD) and National Command Authority. Virginia has evolved as a point of synergy for military personnel and material moving from the Eastern half of the United States.

Virginia's place in the military history of the United States of America took shape with its founding by English settlers in 1607 at Jamestown on the James River. The English settlement at Jamestown was a place chosen based on the original instructions to the colony:

"But if you choose your place so far up as a bark of fifty tuns [sic] will float, then you may lay all your provisions ashore with ease, and the better receive the trade of all the countries about you in the land; and such a place you may perchance find a hundred miles from the river's mouth, and the further up the better. For if you sit down near the entrance, except it be in some island that is strong by nature, an enemy that may approach you on even ground, may easily pull you out; and if he be driven to seek you a hundred miles (in) the land in boats, you shall from both sides of the river where it is narrowest, so beat them with your muskets as they shall never be able to prevail against you."

It is clear these instructions were based on principles and methods intended to defend the fledgling colony and its natural resources from attack by enemies. There was certainly reason to be concerned about attack as the constant international conflicts between European nations were a key factor in determining both the location and the defenses of the new English colony halfway around the world. It turned out that the Jamestown settlement was not able to survive its early years without regular support and re-supply from England. Virginia's strategic location, responsibility as the defender of the largest English colony in the New World and its foundation of military principles, augmented by both natural and manmade defenses, began a tradition of support to the nation's military forces that endures today.

Virginia's strategic military advantage has evolved through the creation of a nation and rise as a world power. The move from a military simply capable of defending its home soil to one that can project its strength globally has, at its cornerstone,

Chapter I: Virginia's Strategic Location and Geography

Virginia. Today, Virginia is both the center of military thought and the gateway for people, equipment and technology to defend our soil and project our strength overseas.

The Commonwealth's location and geography form natural "defense" attributes central to the colonies' - and country's - security for over 200 years. Virginia's geography is diverse and is divided into five, distinct geographical regions; the Atlantic Coastal Plain (Tidewater), the Piedmont, the Blue Ridge Mountains, the Appalachian Mountains, and the Shenandoah Valley.

The Atlantic Coastal Plain (Tidewater) was initially the most important military asset to the new colony and has become home to some of the nation's most significant military infrastructure. Tidewater runs from north to south along the Atlantic Ocean and its lowlands stretch about 100 miles inland. Covered with salt marshes and swamps, it is called the "Tidewater" because its waters flow up and down the coastal inlets and bays as the tide moves in and out. The Plain is divided into a mainland on its western side and a peninsula - separated from the main part of Virginia - to the east that lies between the Chesapeake Bay and the Atlantic Ocean. This peninsula is called the "Eastern Shore." Tidewater is cut by four great tidal rivers - the Potomac, the Rappahannock, the York and the James - all of which empty into the Chesapeake Bay.

The Eastern Shore's orientation and ability to protect the Chesapeake Bay, and the rivers that empty into it, from coastal weather elements remain key to Virginia's military role. These natural characteristics allowed a naval military presence to be established from which the defense of the homeland could be waged and, in later years, prosecution of "surged" military confrontations abroad could successfully be supported. In recognition of the military value of this area, significant United States naval and supporting aviation infrastructure was built over the years in the region now known as Hampton Roads. Because of their critical role in our nation's defense, these facilities have been retained through many eras of realigning military infrastructure to support the nation's evolving military force structure and national defense plans. Military experts continue to underscore that the Commonwealth's coastal regions contain some of the finest natural ports in the world and provide quick and easy access to vital ocean training and weapons systems' testing areas. Virginia's location in the central part of the United States on the East Coast also provides rapid and efficient sea access to the mid-Atlantic Ocean and shipping and sea lanes to Europe, the Middle East, Africa, other North America ports, and Central and South America.

Beyond the Tidewater area's distinct naval advantage, there are other beneficial attributes that support all services. The region offers topographical advantages for construction of air bases with rapid access to water, low-land and mountainous training areas. The coastal region offers an abundance of other readily accessible training venues ranging from beaches and rivers to marshland and swamps.

Inland from Tidewater, the rolling and fertile land of the Piedmont region broadens gradually as it extends south to the North Carolina line. The Piedmont's location, usually mild climate and long growing season provide the ability to use the Commonwealth to support and train military forces close to the seaports - and airports -

Chapter I: Virginia's Strategic Location and Geography

that transport them around the globe. The creation of many military camps and forts throughout the Piedmont provides training centers and locations for significant military forces for the new nation that continue to support today's land, sea and air forces. Among the benefits of this region is the rapid ability for foliage in training areas to regenerate quickly, allowing pristine training opportunities. This allows repetitive use, absent of tracks and paths, ensuring that trainees experience conditions more like those they will find in combat zones.

The mountains and high plateaus of the remaining regions – Blue Ridge, Appalachian, and Shenandoah Valley – provided natural barriers to attack of the Commonwealth and Washington from the west. Today they add important geographic and topographic characteristics that are valued for training by the military services and their operational forces. These features include heavy forests, rocky terrain, isolated communities, and distinct features such as underdeveloped roads, lakes, rivers, and bridges.

The climate throughout the Commonwealth provides military training opportunities to ensure force readiness in many types and extremes of weather and terrain conditions. This includes access to training venues with four distinct seasons. Military training is also facilitated by access to significant, irreplaceable land and river ranges, ocean surface and subsurface military operating areas and special use airspace over land and sea.

As noted, the natural assets of Virginia that helped protect the nation in its formative years, has evolved into a robust transportation capability essential to projecting United States forces globally when needed. Virginia offers immediate access to highway, rail, sea and air lines that enable a very aggressive response to moving both assets within Virginia and those throughout the eastern and central United States. The Port of Hampton Roads, one of the most successful commercial shipping ports in the United States, links Virginia and the mid-Atlantic region to more than 250 ports in over 100 countries. Two major rail carriers, Norfolk Southern Corporation (headquartered in Hampton Roads) and CSX Corporation provide rail connections to approximately half the United States and, with connections to every Class I freight railroad and their short line partners, provide easy access to all of North America and Mexico. Virginia is also linked to the rest of the United States through its modern interstate and state highway system and is located within a two-day drive – approximately 750 miles – to 75% of the United States population and approximately 300,000 manufacturers. The state capital, Richmond, is equal distance from Boston in the northeast and Atlanta in the southeast.

Another example of the significance of Virginia's geography and strategic location is the establishment of the nation's capital in Washington, DC, between the states of Maryland and Virginia. Washington was built between the upper Potomac and Anacostia Rivers because it offered defensible terrain from both water and overland attack. Establishing the United States Capital as a neighbor to Virginia provided the Commonwealth easy access to, and permitted it to be a significant source of support for the National Capital Region (NCR), National Command Authority (NCA), Department of Defense (DoD) and military Service headquarters throughout the country's history.

Chapter I: Virginia's Strategic Location and Geography

The Commonwealth's strategic location and geography has fostered infrastructure development and maritime commerce, making Virginia central to national defense efforts for nearly 400 years. These same foundations remain critical in the 21st century as the U.S. military transforms to operate better and more efficiently.

Virginia's Strategic Mid-Atlantic U.S. Location

The Port of Virginia

Outstanding Transportation Infrastructure

- 2 international airports within 15 miles.
- Interstate highway and railroad access onsite.
- Direct Intracoastal waterway access.

Superior Cargo Capacity with Land to Grow

- Currently handles the 2nd largest port market share on the East Coast - exceeded only by the Port of New York/New Jersey.
- New 26 TEU "super cranes" and 50-foot water depth makes The Port of Virginia the only east coast port capable of accommodating the world's largest fully laden super cargo ships.
- New private terminal to be completed in 2007 will increase capacity by approximately 50%.
- Additional proposed development of adjacent land will increase capacity from 1.5 million containers to 4.0 million containers per year by 2032.

Resources within 1 day's drive

- 106 of 355 or 30% of identified military supply manufacturers including those supplying ordnance and missile components.
- 115,000 or 37% of U.S. manufacturers.
- 114 million people or 37% of the U.S. population

- ★ The Port of Virginia
- ☆ Select U.S. Army and Marine Corps Facilities
- Other U.S. Army and Marine Corps Facilities
- Military Arms Manufacturer
- - - 10-Hour Drive from The Port of Virginia

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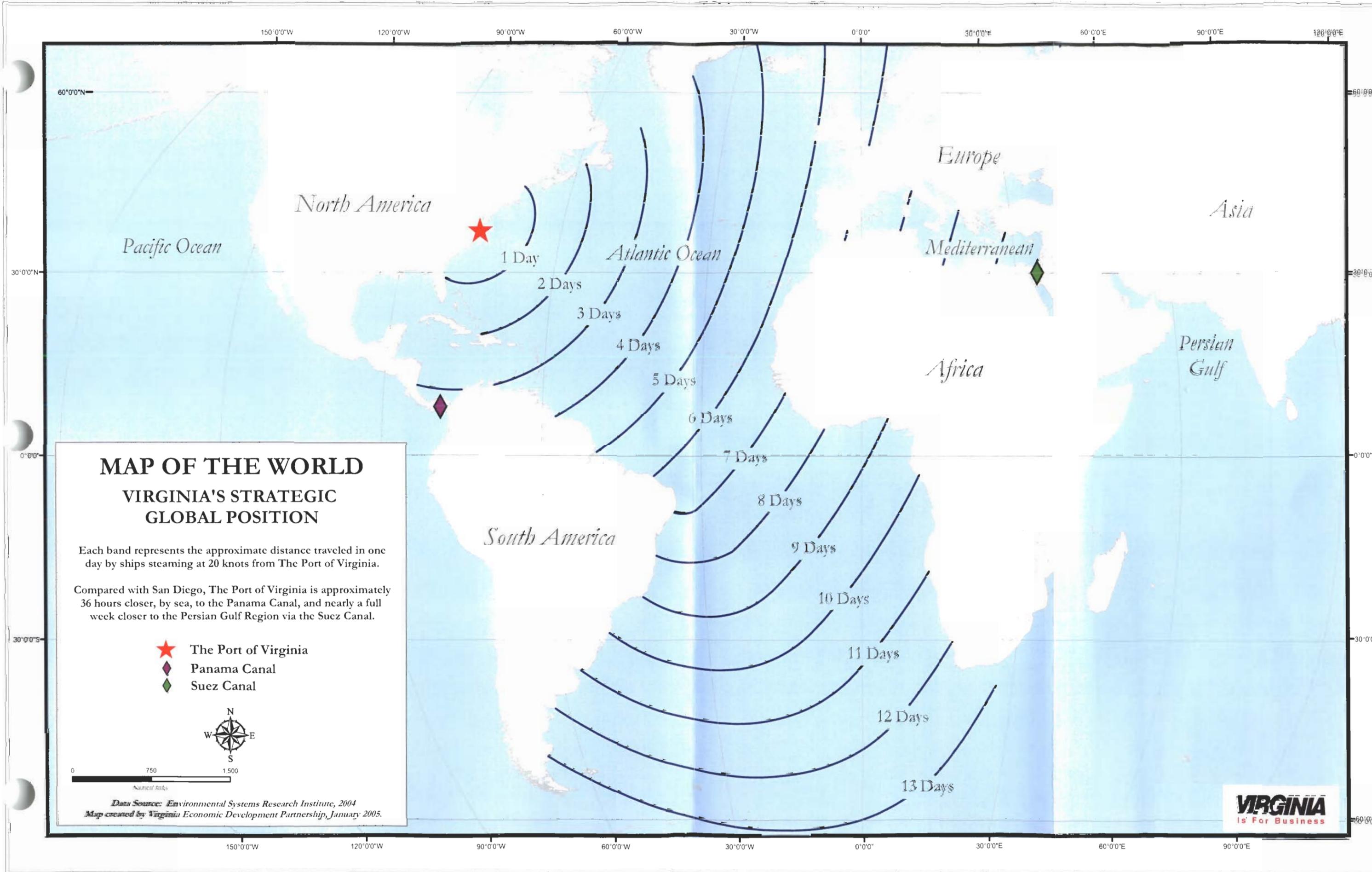
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VIRGINIA
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Project V-COMB support

1/12/2005





MAP OF THE WORLD VIRGINIA'S STRATEGIC GLOBAL POSITION

Each band represents the approximate distance traveled in one day by ships steaming at 20 knots from The Port of Virginia.

Compared with San Diego, The Port of Virginia is approximately 36 hours closer, by sea, to the Panama Canal, and nearly a full week closer to the Persian Gulf Region via the Suez Canal.

- ★ The Port of Virginia
- ◆ Panama Canal
- ◆ Suez Canal



Data Source: Environmental Systems Research Institute, 2004
Map created by Virginia Economic Development Partnership, January 2005.



II. Business Climate

The Virginia Economy - A Stable Environment for Defense Related Commerce

As the Department of Defense continues to develop organizational and operational concepts through the transformation process, it naturally seeks a healthy economic environment supportive of its efforts to respond to and affect the changing nature of military doctrine and cooperation. Virginia's rich and diverse economy offers a strong technology and manufacturing base so critical to military growth and innovation. As the birthplace of the internet, Virginia is recognized as a leading center of software development fed by an ever-expanding high-technology economy. Increasingly important to the evolution of our nation's defense, private industry thrives in Virginia, the only state to achieve straight A's in all four management categories – Money, People, Information and Infrastructure – of the "Government Performance Project" conducted recently by *Governing Magazine*.

The Virginia economy can be characterized as diverse, modern, and healthy – key attributes to support DoD missions and transformation objectives. Virginia's diversity is reflected in the shares of employment and income provided by its major economic sectors. The service industries, which include business and professional services, data processing, and other research and development activities, provide more than 40% of total employment. Government and trade /transportation/utilities provide 18% each. Service firms employed 1.4 million workers in 2003 while the professional and business service sector, the state's fastest growing industry employed 550,000 in 2003. The trade, transportation and utilities sector is the second largest employer in Virginia with nearly 635,000 workers in 2003.

Virginia has been able to accommodate the rapid growth in the service industries while maintaining viability in its older traditional industries such as agriculture, manufacturing, mining, and fisheries. While these industries have experienced employment declines over the past 30 years, they still remain important sectors of Virginia's economy and reflect its continuing diversity. For example, agriculture produces \$2.5 billion in cash receipts from farm marketing annually. Manufacturing activity contributes \$2 billion annually and accounts for 305,000 employees working in 6,000 establishments in a diverse mix of industries and mineral production - primarily coal. In addition, Virginia's geographic location along the Atlantic Coast and Chesapeake Bay provides for a healthy seafood industry with over 100 commercially valuable species caught in its waters, including blue crab, flounder, sea

scallops, striped bass, and menhaden. In recent years the total catch has averaged 80 million pounds with a market value of more than \$101 million.

Other evidence of the strength and diversity of Virginia's economy includes the number of major corporations headquartered in Virginia, the large and growing number of foreign-affiliated firms located in the Commonwealth, and the growing export sales being generated by Virginia manufacturers. For instance, in 2003, there were 105 major corporations each with annual revenues of \$200 million or more headquartered in Virginia. Eighteen of these firms were included in the Fortune 500 List. There are approximately 760 foreign affiliated firms currently located in Virginia that have over 100,000 employees and represent a capital investment of more than \$10 billion. In addition, Virginia has a strong and growing base of manufactured merchandise exported to foreign markets that amounted to \$8.51 billion in 2003.

The diversity of Virginia's economy has been a major factor in maintaining an unemployment rate which, over the past ten to fifteen years, has regularly been 20 to 30 percent below the national average. This economic diversity has also helped protect Virginia from the impacts of recession and to maintain economic stability.

Virginia has become a leader among the states in developing a modern economy, managing to maintain a viable core of its older and traditional industries, while at the same time modernizing its economy by developing a strong and growing base of high-technology industries. Currently, Virginia has one of the largest concentrations of high-technology industries in the nation with over 175,000 persons employed in 6,100 establishments.

The two largest categories of high-technology products and services are computer/data processing services and electronic/other electrical equipment manufacturing that together account for 100,000 employees. Other advanced technology products and services include silicon computer chips, night vision devices, robotics, flight simulators, rocket motors, electronic warfare systems, and advanced telecommunications equipment. Approximately half of Virginia's high-technology establishments and employment are located in Northern Virginia, one of the leading high-technology centers in the nation. Other major concentrations of high-technology activities are in the Hampton Roads and Richmond areas. The great majority of Virginia's high-technology activities and facilities are located in close proximity to military installations, creating excellent synergy for future technology development, support for military transformation, and utilization.

Evidence of Virginia's transition to a "Modern Economy" can also be found in its rankings in nationwide indicators that measure and compare the concentration of high-technology activities and workers. The success that Virginia has experienced in attracting and sustaining high-technology growth sectors can be attributed to many factors that define a state as "a good place for business." The most significant factor is access to technology workers specializing in computer applications, science, and

engineering. Ranked 2nd in the nation for concentration of computer and information systems specialists per 1,000 employees, Virginia has a distinct competitive edge over many other states. The availability of technical employees in Virginia provides support to - and stimulates growth in - the technology, defense and bioscience sectors.

Virginia's ranking in the New Economy Index further underscores the Commonwealth's position as a high-technology with a modern economy. The New Economy Index is a comparison of 21 indicators divided into five categories: Knowledge Jobs, Globalization, Economic Dynamism and Competition, Transformation to a Digital Economy, and Technological Innovation Capacity. In 2002, Virginia ranked 8th in the nation with a 72.1 Index Score. This ranking acknowledges the high concentration of managers, professionals, and college educated residents working in "Knowledge Jobs." It reflects a state where a large share of its institutions and residents embrace the digital economy and where a solid "Innovation Infrastructure" exists to support the development of new technology.

Virginia's nationally ranked colleges and universities provide a major link to the digital economy and the state's solid "Innovation Infrastructure". The Commonwealth's institutions of higher education, including its community colleges, provide the necessary training for engineers, scientists and technicians who make up the high-technology workforce necessary for continued advancements. Ten universities located in Blacksburg, Charlottesville, Fairfax, Hampton, Lexington, Newport News, Norfolk, and Richmond offer engineering programs and grant over 2,700 degrees annually. Virginia's continuing support of new technology development can be found in the numbers of engineering and science graduate students at the state's colleges and universities which numbered 12,193 in 2001. The number of doctoral scientists and engineers residing in the state in 2001 was 20,360.

Virginia has maintained a healthy economy over the past three decades despite major changes in its industry mix. The health of the Virginia economy is validated by a number of economic indexes and measures, comparing the nation and /or other states. Employment growth, considered the best measure of economic growth at the regional level, has remained strong in Virginia and outpaced the nation and all but seven states. For example, in the twelve month period through October 2004:

- Virginia's employment level grew by 2.3%, compared to 1.6% for the nation;
- Virginia was ranked 7th in the nation in nonagricultural employment growth;
- Most of Virginia's industries experienced growth, led by professional and business services (5.2%) and construction (5.0%);
- Virginia ranked 3rd nationally in net job creation in professional and business services; and.
- Job growth was consistent across the state as employment grew in every metropolitan area of the state, led by a strong 3% growth in Northern Virginia.

Another important indicator of the health of the Virginia economy is the unemployment rate of 3.3% in October 2004, significantly lower than the national

rate of 5.5% and the 2nd lowest unemployment in the U.S, with only Vermont lower at 3.1%. The low unemployment rate was also consistent across the state with each of the metropolitan areas below 5% - except Danville in Southside Virginia - and led by Northern Virginia with a low of 2%.

Per capita personal income in the state is a clear measure of Virginia's economic health. In 2003, per capita personal income in Virginia was \$33,671, which is 7% higher than the nation's per capital personal income level of \$31,632. This positive differential continued a long-term trend in which Virginia's per capita personal income has exceeded that of the nation in every year since 1980. In comparison to the other states, Virginia's per capita personal income ranked 9th among all states, excluding Washington DC, in 2003.

As Virginia's economy continues to grow and diversify, it will remain competitive nationally and continue to steadily improve in comparative rankings with the nation and other states in major economic indicators and indexes. This will continue to spur private sector investment that will directly support DoD as it transforms.

Attractive Features for Business Development

Virginia has a number of features that make the state attractive for business development. These features cover a broad range of activities, institutions, facilities, programs, and laws. The most significant elements of the attractive business climate are discussed in the following sections.

LOCATION AND TRANSPORTATION ADVANTAGES

Virginia's central location on the U.S. East Coast allows the Commonwealth to easily provide goods and services to customers any place in the world, making Virginia a major force in international trade. Virginia's central location also makes it possible to reach the more than 50% of the U.S. population that live within a 750 mile radius. The state's geographic advantages are enhanced by an extensive intermodal transportation system of highways, railroads, airports and seaports. The Port of Virginia is especially noteworthy because it offers world-class shipping facilities and is the largest intermodal facility on the East Coast, handling more materials and exports than any other port in the nation. The Port of Virginia has a schedule of more than 5,100 sailings annually to over 250 ports in 100 foreign countries. It has 19% of the East Coast market share and handled 12.8 million tons of cargo in 2002.

ADVANTAGES OF A RICH, DIVERSE AND MODERN ECONOMY

As discussed previously, Virginia's economy can be characterized as diverse, modern, and healthy. Virginia's businesses and industries provide a wide range of products and services to domestic and international consumers – in 2002, it exported \$18.8 billion of merchandise. Over the last three decades, the Virginia economy has successfully transformed from one based on traditional industries of manufacturing and agriculture into a leader in the high-technology sector. Currently, Virginia is home to more than 10,400 high-technology companies; ranks 12th in the nation in venture capital investments; 2nd in federal research and development funding; and 4th in research and development funding per capita.

ADVANTAGEOUS BUSINESS ENVIRONMENT

Virginia has traditionally sustained a strong pro-business environment that offers many advantages to businesses. This strong business climate has been enhanced over the years as new and innovative business assistance programs were developed and adopted. The Commonwealth's business assistance programs include streamlined business regulations; moderate corporate and sales and use taxes; the lowest unemployment insurance taxes in the nation; and coordinated, state supported workforce training programs and assistance in developing export markets. Specifically, Virginia sponsors and funds a number of programs that benefit business including a streamlined environmental permitting process; worker recruitment and training programs to help new businesses become operational faster; low or no cost programs to help businesses increase international sales; and the operation of 27 publicly funded and non-profit small business incubators.

Institutional and legal factors in Virginia act to maintain and enhance the Commonwealth's strong business climate. For example, Virginia has a Right-to-Work law that allows individuals the right to work regardless of membership in a labor union or other organization. Virginia's "AAA" bond rating is another indicator of the state's economic strength. **In fact, the Commonwealth is one of only seven states to hold a AAA Bond Rating from all three national rating agencies (Standard & Poor's, Moody, & Fitch) and has held the AAA rating longer than any other state in the nation.** Virginia has enjoyed stable and moderate to low tax rates for many years - the corporate income tax rate of 6% is ranked 15th lowest in the nation and has not been increased since 1972. The state sales and use tax of 5.0% is ranked 7th lowest in the nation, while the unemployment insurance tax paid by employers is 0.1%, the lowest in the nation. The state personal income tax, based on a sliding scale of income, is also considered moderate-to-low compared to other states and has not been raised since 1972. Other tax related factors which contribute to Virginia's strong business climate include; tax credits for job creation and investment in economically stressed areas; the absence of a franchise or net worth tax; and the

provision that manufacturers do not pay taxes on purchases used for production and distributors do not pay taxes on items purchased for resale.

The Commonwealth's rankings in national business climate scores indicate a strong, pro-business climate. Virginia recently received high marks from several national studies that grade states for their business climate and economic development efforts. In December 2003, "Plant Sites & Parks" magazine ranked Virginia 1st in its yearly survey of top business locations. This survey analyzes various criteria affiliated with new, relocation, and expansion projects, including job creation and amount of capital investment, a ranking that indicates where companies are thriving, growing and moving. The Commonwealth also earned a first-place ranking in the "*Pollina Corporate Top 10 Pro-Business States for 2004*." This study examines 25 factors (all controlled by state government) that can positively impact business and job development. The Washington metro area, which includes Northern Virginia, ranked 1st among the ten largest urban areas and 11th overall in the Milken Institute's "*November 2004 Study of the Best Performing Cities: Where America's Jobs are Created and Sustained*." The study's evaluation elements include measures of job, wage and salary, and technology output growth.

In March 2004, the U.S. Chamber of Commerce announced that Virginia was ranked 3rd in the nation in the "*2004 State Liability Systems Ranking Study*" reflecting the Commonwealth's fair and reasonable litigation environment, as evaluated by corporate America.

COST AND COMPETITIVE ADVANTAGES

Virginia enjoys many cost and competitive advantages over other states. These advantages include; lower taxes on business (discussed in the previous section); lower workers compensation for manufacturers; lower average healthcare costs for businesses; lower construction costs; and less expensive, but more reliable, electric utilities.

The following statistical rankings, which compare Virginia to the nation, point out the cost and competitive advantages enjoyed by Virginia businesses.

- Average workers compensation insurance costs are 43% lower than the average for the nation, and lower than all but three states.
- Manufacturing wages are significantly lower than the national average.
- Unemployment compensation tax paid by employers is 68% below the national average.
- Average annual healthcare payments by business per family are 26% below the national average.
- Construction costs are 20% lower than the national average.

Another important cost advantage for Virginia businesses is the cost of utility services, incorporating electric power, water, and telecommunications facilities. The

average cost of a unit of electricity for the industrial sector in Virginia in 2002 was 4.0 cents while the comparable cost for the nation was 4.9 cents - a difference of almost 20%. Although water is not a major source of power in Virginia, the state is well served by its 50,000 miles of rivers and a fresh water flow of 25 billion gallons per day. Virginia is an industry leader in telecommunications with more than 950,000 miles of fiber optic cable that has been installed by its telephone and utility companies, much of it built to sustain defense activities. A \$12 million initiative is underway to create an additional 700 miles of fiber optic cable to allow Southern and Southwest Virginia access to the latest broadband technology. This initiative is being funded by tobacco litigation settlement proceeds and a \$6 million grant from the Economic Development Administration. This unique initiative is viewed as a national model for rural economic development and is scheduled for completion by 2006. This will create additional lower cost, highly committed workforces to support defense industries.

LABOR RESOURCE ADVANTAGES

Virginia has significant advantages in labor resources in comparison to many other states. This is the result of a high quality educational system and the strength and adaptability of its workforce and economy. The Commonwealth's institutions of higher education are nationally recognized among the leading colleges and universities. The University of Virginia and the College of William & Mary were ranked 2nd and 6th, respectively, in the "U.S. News and World Report's 2003 Ranking of the Top National Public Colleges and Universities."

The Commonwealth's colleges, universities and community colleges played a major role in the modernization of Virginia's economy by providing education and training for the engineers, scientists and technicians that make up the high-technology workforce. Factors contributing to Virginia's labor force advantages are the high productivity of its workforce (which ranks in the top ten in the nation in labor force productivity); the number of scientists and engineers, attracted to, and residing in Virginia (numbering more than 20,000 in 2001); strong occupational and technical training programs, designed specifically to meet the needs of nearby industries including defense, offered by the Virginia Community College System through its 23 colleges across the state; and a highly skilled pool of military retirees (17,000) annually separating from active service in Department of Defense (DoD) activities located in Virginia.

Virginia's position in the National Ranking of High-Tech Employment provides further evidence of its labor force advantages. In 2001 - the most recent rankings available - the Commonwealth ranked 2nd in the nation in internet service providers, custom computer programming services, and computer design services. The state ranked 4th in the nation in engineering services and 6th in the nation in total high-tech employment and wired communications carriers.

RESEARCH AND DEVELOPMENT PROGRAM ADVANTAGES

Virginia's nationally recognized research and development facilities serve as incubators for innovation and are considered essential for the continued prosperity of the state's businesses. Federally funded research and development facilities and cutting-edge research at Virginia's colleges and universities provide businesses access to leading researchers and innovative new technologies. There are 13 federal research and development centers (FRDCs) in Virginia, including some considered to be "national treasures," such as the Federal Bureau of Investigation (FBI) Forensic Laboratory, the National Aeronautics and Space Administration (NASA) Langley Research Center, the NASA Wallops Island Flight Facility, the Energy Efficiency and Renewable Energy Clearing House, and the Thomas Jefferson National Accelerator Facility. The NASA Langley facilities include the only wind tunnels in the nation capable of testing structures in winds up to 17,500 miles per hour. The Wallops Island Flight Facility located on Virginia's Eastern Shore is NASA's principal center for management and implementation of suborbital research programs. The Energy Efficiency and Renewable Energy Clearing House provides publications to answer technical and business questions and referrals to energy organizations. A complete listing of the 13 federal research and development centers appears below.

FEDERAL CENTERS

1. Ballistic Missile Defense Organization
2. Defense Advanced Research Projects Agency
3. Defense Technical Information Center
4. Energy Efficiency and Renewable Energy Clearinghouse
5. Environmental Protection Agency Technology Innovation Office
6. Joint Training, Analysis and Simulation Center
7. NASA Langley Research Center
8. NASA Wallops Flight Facility
9. Naval Surface Warfare Center, Dahlgren Division
10. Office of Naval Research
11. Turner-Fairbank Highway Research Center
12. Thomas Jefferson National Accelerator Facility
13. FBI Forensic Laboratory

Virginia is also home to seven university research parks that offer private companies cooperative relationships and assist companies in meeting their research needs. Research parks are located at the University of Virginia, Virginia Tech, Virginia Commonwealth University's Medical College of Virginia, Old Dominion University, George Mason University, and the College of William & Mary. In addition, the renowned Howard Hughes Medical Institute recently broke ground in Northern Virginia in Loudon County. Researchers at the campus will focus on collaborative research requiring the development and interdisciplinary application of

cutting-edge technological tools. Also located in the Manassas area, is the American Type Culture Collection (ATCC), a private, non-profit and global bioscience organization dedicated to the authentication, preservation, and distribution of biological reference standards.

*INCENTIVE, FINANCIAL ASSISTANCE, AND TRAINING PROGRAMS
AVAILABLE TO BUSINESSES*

Virginia works with new and expanding employers to create a higher standard of living for Virginians, enhance state and local economies and increase revenues to state and local governments. Incentives represent Virginia's investment in the economic future and the Commonwealth offers a variety of performance-based incentives designed to meet private sector needs and support local and state development plans.

Virginia's business assistance programs cover a very broad range of activities geared to the complexity and varying needs of the many different types of businesses operating in the state, including those supporting defense industries. The state's business assistance programs include tax exemptions and tax credits; various types of loan and grant programs; bond programs; a variety of financial assistance programs, including export financing; free recruitment and training programs for employees of new and expanding companies; state funding for industrial and rail access roads and the establishment and operation of Enterprise Zones, Technology Zones, and Foreign Trade Zones.

QUALITY OF LIFE ADVANTAGES

Virginia enjoys an outstanding quality of life that is enhanced by the diversity of its natural landscape – from the mountains in the western part of the state to the Atlantic beaches and the Chesapeake Bay. The Commonwealth is blessed by exceptional outdoor and cultural activities and one of the nation's highest concentrations of historic resources. The value of lifestyle considerations in business location decisions has been increasingly recognized as a crucial aspect of where companies decide to locate. The lifestyle variable can often be the primary factor in the ability of business to attract and retain a skilled and valuable workforce.

The popularity of Virginia's lifestyle and desirability of its outdoor, cultural, and historic attractions is reflected in the number of tourists and "tourism dollars" attracted to the state annually. Travelers spent an estimated \$15.2 billion in Virginia in 2003. The attractiveness of the lifestyle is underscored by the 17,000 military personnel who separate from active military duty in Virginia annually and chose to remain in the state. Virginia's lifestyle advantages are documented in the "*Morgan Quitno Press Lifestyle Rankings of States*" – in 2002, listing Virginia 4th among the most

livable states and 1st in its “Healthcare State Ranking” as the healthiest state among the South Atlantic states.

Successfully Attracting the Nation’s Leading Corporations

Virginia’s reputation as a prime business location is reflected in the record number of business relocations and expansions over the past three years. The supportive, pro-business environment in Virginia has resulted in strategic decisions among the nation’s strongest and most successful corporations to relocate, and/or expand, their business activity here. Virginia consistently meets the test of corporate decision makers and offers the same benefits to transformed and efficient military operations. From January 2001 through November 2004, Virginia announced 91 relocations to, and/or expansions of, defense-related companies resulting in new investment of nearly \$1.2 billion. This expansion among the military’s leading contractors and suppliers provided over 26,000 employment opportunities.

Virginia’s active economic development initiatives and policies played heavily in these strategic decisions to invest capital and relocate key personnel into the state. Key elements of the decisions to choose Virginia are highlighted in the following comments:

“As a growing high-technology hub with proximity to major defense, homeland security and other important customer installations, Suffolk is the ideal location for our new center,” said Lockheed Martin Chief Executive Officer Vance Coffman.

“Collaboration with these customers is essential to our approach in developing network centric solutions, or systems that rely on integrated information and communication networks to improve operational effectiveness. We are grateful for the support we have received from the Commonwealth of Virginia, the Virginia Economic Development Partnership, and the City of Suffolk in establishing this world-class facility to support efforts central to the security of our nation.” October 21, 2003 – Location of Lockheed’s Integrated Solutions Center in Suffolk.

“We are extremely excited about bringing high-quality, highly skilled, good paying jobs to this facility, which will help make Martinsville a 21st century high-tech leader for the region. Not only is MZM spending millions to upgrade the site, but it is helping to create a state-of-the-art center of excellence that will bring more high paying jobs to Martinsville. Furthermore, this activity will play a very significant, leading role in protecting the nation’s critical infrastructure.” November 2003 - MZM, Inc. (President and CEO Mitchell J. Wade describes the project designed to complete a database and information technology contract for the U.S. Army National Ground Intelligence Center in Charlottesville.) MZM, Inc.’s work has been described as “state of the art” in the areas of high-tech intelligence collection and analysis. November 2003 – MZM, Inc.

“The remarkable cooperation of state and local officials, the affordable cost of living, and competitive business incentives were major factors in the decision to move our Resin Transfer Molding process to Virginia,” said Linda Hudson, President of General

Dynamics Armament and Technical Products. July 2003 – \$6.5 million/ 120 new jobs expansion to an existing Marion, Virginia facility.

“Prince William County, Virginia has proven to be an excellent business location for General Dynamics, and provides direct access to the uniquely trained and qualified defense industry workforce that we will be relying on to support of Future Combat Systems services,” said Michael D. Bolon, General Dynamics Land Systems senior vice president of engineering, design and development. June 2004 - \$2.0 million/150 new jobs expansion in Northern Virginia.

In November, 2004, four major corporations, already located in Virginia, announced expansions that involved new investments of \$351 million and over 11,000 new jobs in the defense and information technology sectors. Science Applications International Corporation (SAIC), SRA International, PriceWaterhouseCoopers, and BoozAllen Hamilton all made strategic decisions to build on existing successes experienced in the Commonwealth. Executives from these companies described their decision-making process as follows:

“The Commonwealth of Virginia’s strategic assets helped confirm our decision,” said Arnold Punaro, SAIC’s General Manager, Washington, D.C. operations. “The talented workforce in Northern Virginia, Hampton Roads, and Charlottesville will contribute high-tech expertise to SAIC as we land more government contracts.”

“Virginia’s proximity to federal government organizations is a key factor for us,” said Ernst Volgenau, SRA founder, Chief Executive Officer, and Chairman. “We work closely with our customers and need to be near them to be effective. We are forecasting about 30% growth this year so we expect to continue our rapid hiring. We are generally solving the customer’s most critical and difficult problems, so the new jobs will be for highly skilled information technology professionals.”

Virginia, as a business location, has been critically evaluated and consistently ranked superior by the nation’s leading corporations. Highly efficient, profit-driven companies find that locating and expanding in Virginia are business decisions that foster growth and success. As strategic location and investment decisions are made for future military operations, Virginia’s leaders in commerce and government are eager to keep the “*Virginia Advantage*” working in support of the nation’s defense transformation.

Research and Development Priorities

Virginia’s research and development priorities through entities such as the Center for Innovative Technology (CIT), the Virginia Research and Technology Advisory Commission, and the Virginia Biotechnology Commission are focused on accelerating three specific areas of research and development: Defense and Homeland Security (including full-scale modeling, simulation and gaming), Nanotechnology, and Life

Sciences. While the Defense and Homeland Security area is directly and strongly connected to providing significant benefits to the military, the scientific and technological advances in the Nanotechnology and Life Sciences areas will also provide many benefits to the military as it uses developing technologies to achieve its goal of Military Force Transformation.

To enhance its support of Defense and Homeland Security, the CIT recently opened the Institute for Defense and Homeland Security (IDHS) dedicated to delivering defense and homeland security solutions. Announced in 2003 by Governor Mark R. Warner, the Institute is a consortium of university, industry and federal Research & Development (R&D) partners dedicated to delivering science and technology solutions in response to national defense and homeland security requirements. IDHS is underwritten by CIT and is designed to position the Commonwealth as a leader and supporter in defense and homeland security R&D and technology transition by developing Virginia assets into world-class defense research and development hubs. IDHS is not a traditional research institute that conducts research and employs researchers, but rather, is structured to serve as a broker of opportunities for the state's existing research facilities and companies. The Institute works with defense and homeland security program directors to discover their research priorities, identify funding availability, and bring together university and industry facilities to develop solutions. IDHS concentrates on applied research projects that have the potential to advance to large-scale R&D programs involving Virginia colleges and universities, private companies and federal laboratories. Colleges, universities and research institutes serve as the key suppliers of innovations that contribute to solutions for problems faced by defense and homeland security entities. Fourteen Virginia colleges and universities were founding members of IDHS – currently consisting of 70 industry affiliate members, engaged in collaborative, applied R&D programs with partner colleges and universities and federal laboratories. IDHS is conveniently located in the CIT headquarters building in Herndon, Virginia, in close proximity to federal agencies involved in defense and homeland security research and operations.

IDHS has proposed “alternative use” solutions for programs in the fields of environmental bio-defense, surveillance and early warning communications systems. Recent federal defense budgets have included funds for programs initiated by IDHS that can produce in excess of \$75 million of new R&D opportunities for Virginia research facilities over the next five years.

The Institute is currently engaged in the development of five research programs, all identified as areas of research important to defense and homeland security. These programs are:

- 1) Red Cell. This program is an emergency alerting system that leverages existing sensor and network research and development for real-time detection of chemical, biological, radiological and nuclear incidents.
- 2) Remote Presence Program. This program leverages existing DoD unmanned vehicle technologies for advanced military and first responder applications. In

FY2005-2006, the Remote Presence Program team will develop new payloads, extend endurance parameters and develop new concepts of operations for military service, homeland defense, homeland security and civilian applications.

- 3) Environmental Bioterrorism Detection Program (EBD). This program is a wildlife-disease monitoring network that collects and analyzes data from wildlife hospitals, wildlife rehabilitation organizations, veterinarians and individuals. In FY2005-2006, this program will develop plans to couple the EBD network to a federal Epidemic Outbreak Surveillance network currently in development for human diseases to provide a more complete bio-surveillance system. The program will exploit emerging defense medical technology to allow rapid pathogen identification and national alerts.
- 4) Center of Excellence in Robotics Program. This program will support the Office of Naval Research with a series of R&D studies designed to address the direction of national robotic programs. These studies will assist the Navy in developing a technology research plan, operational employment policies, requirements documentation and acquisition strategies for robotics that meet current and emerging mission areas. In FY2005-2006, IDHS will foster research with the Potomac Institute for Policy Studies (“Potomac Institute”) in Arlington, Virginia in support of the Navy’s robotics program that was awarded to the Potomac Institute.
- 5) Navy Collaborative Integrated Information Technology Initiative (NAVCIITI). IDHS, in conjunction with Virginia Tech secured a \$3.5 million research funding extension for this program. The NAVCIITI funding extension focuses on research in the areas of advanced wireless networks, networking and communications technologies, including software reconfigurable radios, smart antennas and ultra-wideband systems.

Virginia has been very successful in seeking and acquiring high quality research and development programs. The state continues pursuing quality programs that enhance the Commonwealth’s position as a national leader in providing solutions to defense and homeland security issues and problems. Virginia plans to continue its investments through the CIT and the IDHS to maintain and enhance its position as a national leader in defense and homeland security research.

Virginia Modeling Analysis and Simulation Center: “Battle Lab”

In addition to the support provided in the programs described in the preceding sections, the Commonwealth has taken on a more direct role in aiding the military to achieve its goal of transforming its force structure. The Virginia Modeling Analysis and Simulation Center (VMASC) at Old Dominion University (ODU), in partnership with the United States Joint Forces Command (USFCOM), has been operational since 1997. This program directly impacts and provides strong support to the Military’s Force Transformation efforts.

Under the VMASC partnership program, ODU has created undergraduate and graduate modeling and simulation programs to support the increasingly complex joint military training program. The joint program has helped the academic staff at ODU and VMASC to understand the capabilities the military requires and tailor its curriculum to produce graduates with the technological capabilities relevant to the doctrine of joint force readiness and operations.

VMASC is located less than a mile from USJFCOM and is the largest modeling and simulation program in the world. VMASC, which is run by the ODU Research Foundation, uses a battle lab as an innovative computer simulation laboratory designed to provide the advanced modeling and simulation infrastructure for DoD simulations. Major enhancements in VMASC capabilities will be announced soon.

VMASC will continue to work on a technical research and development project to enable USJFCOM and the Joint War Fighting Center (JWFC) to look at new technologies in the modeling and simulation arena and decide how to best spend money on research, while investing wisely to produce needed modeling and simulation.

The VMASC partnership has received high praise from ranking officials of USFCOM and JWFC. Gene Newman, former USFCOM and JWFC technical director on special projects and who currently assists the present JWFC technical director, has stated that the Command (USJFCOM) counts its partnership with academia at ODU among its most valuable. According to Newman, VMASC has helped to bring in younger skilled workers whose work in the battle lab makes them feel comfortable entering the technological workforce to the benefit of all involved. Stephen Moore, JWFC deputy of joint force trainer capabilities, has stated, "We have an excellent partnership with VMASC. With the stand-up of their battle lab, we have access to a full-spectrum educational environment which can produce a workforce that meets our future challenges. ODU's innovative approach to their modeling and simulation degree programs is transformational."

III. Land Use Planning and Regulation in Virginia

As the United States continues to experience population growth at a rate of over 13% per year, constant pressure is placed on land use development to support growth impacts. Throughout our nation's history, the military has "grown-up" in the eastern portion of the United States alongside robust civilian development. The natural conflicting interest for land use is felt in communities. The term "encroachment" is used to describe conflicting development uses. From the military's perspective, encroachment can hamper "military readiness activities" by limiting the capability to train like we fight. The Department of Defense has appropriately identified encroachment as a critical concern for its military installations. Consequently, in August 2004 a memorandum was issued by DoD urging the military Services to be pro-active with state and local government's land use planning processes. Virginia and its communities have long been willing partners in this regard.

Two considerations are essential to understanding the environment for land use planning in Virginia:

1. Virginia is a relatively strong adherent to the "Dillon Rule." This means that Virginia's local governments have only those powers expressly granted to them through general law or charter; those powers necessarily or fairly implied in or incident to those expressly granted; and those deemed essential - not merely convenient - to accomplishing the objects and purposes of government.¹

2. With relatively few exceptions, the General Assembly of Virginia has assigned primary responsibility for the regulation of land use to local governments. In its declaration of intent, the legislature indicated that the purpose of the planning, zoning and land subdivision chapter of the Code of Virginia was to "*encourage* [emphasis added] localities to improve the public, health, safety, convenience and welfare of its citizens and to plan for the future development of communities"² Through their comprehensive plans, zoning ordinances, and subdivision ordinances Virginia's counties, cities and towns are enabled to address issues relating to the types of land uses to be permitted under various circumstances, the general location of those uses, as well as more specific details related to individual properties.

¹ See, for example, J.F. Dillon, *Commentaries on the Law of Municipal Corporations* § 237 (5th ed., 1911). The Virginia Supreme Court has frequently reiterated in its rulings that Virginia follows "Dillon's Rule of strict construction", see *City of Winchester v. Redmond*, 93 Va. 711-718 (1896). For a more recent example, see *County of Fairfax v. Southern Iron Works, Inc.*, 242 Va. 435, 410 S.E. 2d 674 (1991).

² § 15.2-2200, Code of Virginia.

The contemporary environment for land use planning in Virginia developed over much of the previous century. As early as 1926, the Zoning Act permitted localities to divide areas into districts and specify land uses. The Act also permitted the establishment of planning commissions and boards of zoning appeals. By the 1930s, zoning was well-established in the more urban and suburban portions of the Commonwealth. By the early 1940s, Virginia was one of the few states where planning authority had been delegated to all political subdivisions of the state. During the 1960s, the Virginia Metropolitan Area Study Commission—popularly known as the Hahn Commission—successfully advocated for the creation of regional planning district commissions and also recommended that the state expand its capacity to assist local and regional planning. Since then, the basic framework for local planning and land use regulation has not changed substantially, although the continued urbanization of Virginia has led to the incorporation of more planning tools, such as proffered conditions and road impact fees, and new subject areas of concern. By Virginia law, every locality must create a local planning commission for the purpose of promoting orderly development within its environs. In essence, zoning and planning decisions affecting military installations have existed for more than 50 years in Virginia. Adherence to good community development practices with the military, in Virginia's case, was not in response to BRAC like many other states.

Virginia's localities must adopt comprehensive plans, which may address a wide variety of related subjects - including the location of military facilities and safety areas. At least once every five years the local planning commission must review the comprehensive plan to determine whether it should be amended. Although the comprehensive plan provides general guidance on questions relating to the use of land, including the designation of areas for various uses, implementation of that general direction requires other implementing ordinances.

Virginia localities also must adopt subdivision ordinances to control the division and development of land. Although the subdivision ordinance may provide relatively detailed requirements applicable to land division and contain requirements for the dedication of property for public use as streets, etc., its authority is limited. Approval of a subdivision plat or site plan is a ministerial act. Plans meeting the requirements of the ordinance must be approved within a reasonable time and the locality has no discretionary authority in connection with those approvals.

Virginia localities are *not* required to adopt a local zoning ordinance, although all but a few in rural communities have done so. All of Virginia's cities and metropolitan counties use zoning as the primary means for shaping the pace and place for development. Unlike the subdivision approval process, zoning or rezoning land is a discretionary act of local government. The local governing body, whether city/town council or county board or supervisors, may approve or reject requests of zoning to permit a given use, according to its assessment of the appropriateness of the request. Although these decisions cannot be arbitrary and must be made in accordance with established legal principles, localities nonetheless retain substantial reservoirs of

discretion in the area of land use regulation. This provides the opportunity for the military to participate in these decisions.

In some cases the legislature has prescribed certain actions for localities (e.g., *requiring* localities with certain airports or aircraft safety zones to regulate the height of structures).³ In other cases the legislature has granted local governments additional powers to address unique features (e.g., *permitting* localities with certain airport facilities to establish noise overlay zones in which additional soundproofing may be required).⁴

In summary, although the state has a monopoly on the application of the police power, in the area of land use regulation, Virginia has delegated the bulk of that authority to its local governments. Localities have been given additional authority over time to respond to specific issues, including those relating to the interface between significant military facilities and surrounding communities. A newer measure, Section 15.2-2283, directs that zoning ordinances “provide reasonable protection against encroachment upon military bases, military installations, and military airports and their adjacent safety areas, excluding armories operated by the Virginia National Guard.” In the spirit of fostering better communications and awareness between the military Services and local government, a notification requirement was established that directs the locality to give written notice to the commander of a military base, military installation or military airport of any proposed change in the local zoning ordinance or comprehensive plan involving any parcel of land located within 3,000 feet of a boundary of such military facility. The complete text of this change can be viewed in Section 15.2-2204 of the Code of Virginia (1950) as amended. While Virginia has historically been a leader in local land use planning matters, we continue to look toward the future and adjust as circumstances change.

³ § 15.2-2294, Code of Virginia.

⁴ § 15.2-2295, Code of Virginia.

IV. Skilled Labor Availability

Virginia offers the highest concentration of engineers and doctoral scientists in the Southeast. This pool of talent is a valuable asset to the U.S. Military which benefits from the opportunities this affords within its own ranks, but also from its private industry partners who are able to draw on this rich labor source. Its status as a “business friendly” state coupled with a yearly supply of “home grown” college and university graduates establish Virginia’s ability to provide highly-skilled workers in support of military needs.

Virginia’s economy has successfully transitioned from reliance on traditional industries such as agriculture, mining, and manufacturing that have declined over the past three decades. The Commonwealth’s modern and diverse economy is a national leader in the high-technology sector. This transition has occurred because Virginia develops and attracts a highly trained, skilled and technologically proficient work force. Virginia’s colleges, universities and community colleges are key assets in training and developing this high technology work force.

A second significant factor in the transition to a highly skilled and high-technology labor force is the nature of the high technology industry itself. When a base of high-technology activities has been established in an area, growth tends to build on itself. High technology industries tend to locate in areas where similar industries are operational and a skilled work force is already in place. This concept is known as the “Agglomeration Effect” and is evident in Virginia’s high-technology regions of Northern Virginia, Richmond, Hampton Roads, Charlottesville, and Fredericksburg – areas with significant military activity. Another characteristic of high-technology industries is that they recruit and attract skilled workers on a national and international basis due to worker mobility and high salaries. Thus, high-technology industries are not totally dependent on local labor markets for their work force.

Although there are certain areas in the state that are classified as labor-shortage areas - defined by the Virginia Employment Commission as an area with an unemployment rate of 2% or less - overall labor availability has not been a problem in the state, even in areas impacted by high-technology businesses. Northern Virginia, which is the leading high-technology region in the state, has continued to grow and attract high-technology industries and workers despite a very low unemployment rate of 1.9%. This indicates a robust labor pool capacity of current residents and those seeking to move to Virginia to enjoy its high quality of life.

There are other statistical factors supporting the positive labor availability conditions which exist in Virginia. For example, strong job growth in recent years. The Commonwealth’s job growth from September 2003 to September 2004 (latest

data available) was 78,000, a growth of 2.2% that was almost double the nation's 1.3% rate of increase. Virginia had the highest percentage rate of job growth of the 13 largest states with non-farm employment bases of over 3 million jobs. And with an unemployment rate of 3.3% in September 2004, the state had the lowest unemployment rate in the continental United States (Hawaii at 3.1% was lower).

A second statistical indicator which highlighting Virginia's positive level of labor availability is found in the types of industries that make up the state's employment and employment growth leaders. The Commonwealth's large professional and business services sector and information sector combined to lead the state's industries in employment with 683,900 employees in 2004, representing 19% of the state's total employment. The business services sector also provided the most new jobs over the 2003-2004 period with an increase of 31,200 for a healthy growth rate of 5.6% and a total employment level of 583,900 in 2004. Many sub sectors of this industry continued to create new jobs, most with high skill requirements and salaries. The best yearly gainers were computer systems software design, up 4,300 or 4.4%; engineering and architectural services, up 3,600 or 6.7%; scientific research and consulting services, up 3,600 or 8.5%; and professional employment service providers, up 3,100 or 48%.

A third statistical indicator which points to Virginia's favorable labor availability climate is the geographic distribution of job growth in the state. All eight of Virginia's metropolitan areas experienced annual job growth for the September 2003 to September 2004 period with the three largest urban areas - Northern Virginia, Norfolk-Virginia Beach-Newport News, Richmond-Petersburg - accounting for 73.5% of the total statewide job gain. The employment growth leader was Northern Virginia which led in both the percentage of annual growth at 3.2% and numerical job growth with the creation of 38,700 new jobs that accounted for almost half (49.6%) of the Virginia total. Northern Virginia's job growth was led by professional and business services growing by 3.7% and adding 10,700 new jobs. As indicated earlier, Northern Virginia is technically classified as a Labor Shortage Area; however, the area was able to attract adequate labor to lead the state in employment growth by a very large margin.

The Commonwealth's other two large metropolitan areas - Norfolk-Virginia Beach-Newport News and Richmond-Petersburg - also experienced positive job growth from 2003-2004. Norfolk-Virginia Beach-Newport News grew by 1.3% and created 9,200 new jobs and Richmond-Petersburg grew by 1.7% and created 9,400 new jobs. In both cases, the job growth in these two metropolitan areas was equal to or greater than the national rate of job growth of 1.3% for the 2003-2004 period. Virginia's three large metropolitan areas are the state's leaders, paced by Northern Virginia, in high-technology employment, and also contain the great majority of defense and military activities in the Commonwealth.

Virginia's labor supply also benefits significantly from an addition to and an enhancement of its labor force by the approximately 17,000 highly trained and skilled

pool of military personnel who separate annually from military service in the Commonwealth. This is a unique labor skill set that is immediately available and trained to fill critical private-sector positions supporting defense activities.

Virginia's colleges and universities continue to contribute to the growth and enhancement of the state's labor force. Currently, there are 375,000 students enrolled in Virginia's 100 institutions of higher education and more than 57,000 are graduated annually, including undergraduate degrees, graduate degrees, and associate degrees at community colleges, in both public and private institutions. Ten Virginia universities offer engineering programs and grant over 2,700 degrees annually. There are also more than 12,000 engineering and science graduate students enrolled in the state's colleges and universities, and more than 20,000 doctoral scientists and engineers residing in Virginia, factors that contribute to the growth and enhancement of the state's labor force. Another measure of skilled labor availability in Virginia is educational attainment. For 2003, Virginia ranked 5th in the nation in the percentage of persons 25 years or older holding a Bachelor's Degree or higher. This level of education was greater than each of the southeastern states plus Maryland, California, and Texas.

V. Weather and Climate Advantages

Virginia's diverse climate offers the U.S. Military training opportunities in all four distinct seasons, while also providing natural protection from the destructive effects of severe weather experienced in other southeastern states. As a result, Virginia offers a lower cost environment for its military installations. The military's critical training venues in Virginia also benefit from the rapid recovery rate of the natural environment, which results from the state's moderate and supportive weather conditions.

Temperature and Precipitation

Virginia is distinguished by a diverse climate consisting of regions that enjoy moderate amounts of precipitation, temperature variances, and four distinct seasons. Its position on the Atlantic seaboard offers natural protection from severe tropical storms and hurricanes, and the high relief of the Appalachian and Blue Ridge mountain systems serves to control severe weather moving in the normal west to east flow.

The state's pattern of rivers and streams drain the precipitation and modify the pattern of moist airflow from which the precipitation falls. The river systems drain the Commonwealth's terrain in all four geographical directions minimizing the occurrence of floods and hastening recovery from such events. In far southwestern Virginia, the Clinch and Holston rivers drain south into North Carolina and Tennessee. The New River drains westward into the Ohio River, while the Shenandoah River drains northward into the Potomac River. The Roanoke, James, York and Rappahannock rivers drain eastward through the Piedmont and into the Tidewater region.

Much of the state's rainfall results from storms associated with warm and cold fronts. These storms generally move from west to east and, in the vicinity of the east coast, move northeastward. The Atlantic Ocean and the "river" of warm water known as the Gulf Stream sweeping northeast off the coast differentiate Virginia's precipitation climate. As a result storms tend to follow the boundary between the cold land and the warm Gulf Stream waters.

The mountain ranges that stretch from north to south along the western boundary of the state produce another well-developed rainfall pattern. West of the mountain ranges, the moist air moving in from the west rises, condenses and precipitates. As the air flows down over the eastern slopes, the precipitation diminishes and a "rain and snow shadow" pattern results.

Winter months are generally marked by moderate snowfalls occurring in the Piedmont region of the state. The average for a dispersed group of 48 Virginia weather stations from 1971-2000 is 15.7 inches of snow per calendar year.

The average winter does not have a major coastal snowstorm, and heavy winter snows usually are confined to the mountainous areas of the state. While some of the heaviest snows in the eastern United States occur in the Appalachians of West Virginia – 100 inches annually on average – Virginia, being in West Virginia's snow shadow receives only a fraction of that amount.

Severe Storms

Most importantly, Virginia's exposure to extreme weather has been quite limited in comparison to a number of coastal Southeastern and Western U.S. states. In 2004, from early August to late September, six major hurricanes (category three or above, in which maximum wind speeds hit at least 178 kilometers per hour) formed in the North Atlantic basin. Four of these hurricanes – Charley, Frances, Ivan and Jeanne – hit Florida. While Ivan's eye actually made landfall in Alabama, the hurricane's winds severely damaged much of Florida's panhandle.

In late November 2004, the Florida Office of Insurance Regulation indicated the following damage estimates: Hurricane Charley, \$7.5 billion; Hurricane Frances, \$4.5 billion; Hurricane Ivan, \$4 billion; and Hurricane Jeanne, \$4 billion. Total insured losses in Florida now amount to \$20 billion with 1.7 million claims filed. The office estimates that the final tally of claims will be 2 million, one in every five homes damaged state-wide. As a result of Hurricane Ivan, Naval Air Station Pensacola sustained significant damage to 90 percent of its buildings with an estimated cost of \$300 - \$500 million to rebuild and repair. Total cost of recovery to all Pensacola-area bases – including Naval Air Station Whiting Field and Corry Station - is estimated at approximately \$1 billion.

Georgia experienced \$20 million to \$40 million in damage from Hurricanes Ivan and Frances alone, according to the Georgia Emergency Management Agency. That estimate included only damage to public infrastructure. The commissioner's office estimated insured damages from Ivan at \$75 million.

Based on a study by the Atmospheric Sciences Policy Education and Network, Virginia ranks well below its neighbors in damage sustained as a result of tornadoes, hurricanes and floods.

From 1955 to 1999, Florida sustained the largest amount of weather-related damage exceeding \$1.6 billion annually. By comparison, Virginia experienced an average \$153 million in damages annually related to severe weather conditions, experiencing only four direct hits from hurricanes from 1900 to 2000. Of those, two were category one hurricanes, with one each of category two and three class storms.

Florida has the distinction as the number one state in the nation for sustaining damage from the costliest hurricanes in U.S. history from 1900 to 2000. The state suffered the effects of direct hits from 60 hurricanes during that period, with 24 of those classified as “major hurricanes.”

The Atmospheric Sciences Policy Education and Network’s extreme weather study ranked Texas second in annual hurricane damage over the past century. Following in order were Louisiana, North Carolina and South Carolina. Mississippi, Georgia and Alabama are also in the top ten states in hurricane damage.

While few in number and generally characterized as less damaging, those hurricanes and tropical storms that do cross Virginia occur most frequently in early August and September and rarely appear before June or after November.

Thunderstorms, which occur in all months of the year, are most common in the deep, moist, warm air of tropical origin that is typical of summer. In Virginia over the last 20 years, the state averaged nine thunderstorm days a month in July. Storms occur most frequently in the far Southwestern portion of the state, with Northern Virginia experiencing the fewest number of thunderstorms.

Environmental Recovery

Environmental recovery from severe storms in Virginia, as indicated earlier, is greatly aided by the state’s pattern of rivers and streams which serve to drain rainfall efficiently.

The state climatology not only provides a variable environment for optimal military training, it also supports quick recovery from training stresses. The ability of the natural environment to support military training activities is multi-faceted. Some of the obvious distinctions include terrain characteristics, altitude, ground cover, etc. Of the more subtle distinctions, the ability of the environment to recover from the effects of training for modern warfare is essential to the readiness of the force as it enables, or inhibits, achieving the required training tempo.

Virginia’s mild to humid coastal climate (see temperature and precipitation chart appendices) supports quick recovery of disturbed flora and fauna in training and other areas used to support military operations. The state’s forest lands, in terms of area covered, is larger now than in the early 1900s and is approximately 63 percent of the coverage in the year 1630, as determined by various forest surveys by the Commonwealth’s Department of Forestry. The ability of training lands to recover quickly provides Virginia military installation training areas the capability to train more often – thus increasing capacity – than in states with climates supporting slower flora and fauna recovery.

Civic Preparedness

The Commonwealth works closely with local government emergency managers, other state agencies, voluntary organizations and federal agencies such as the Department of Homeland Security and Federal Emergency Management Agency (FEMA) to ensure a comprehensive prevention, preparedness, response and recovery program for emergencies and disasters throughout Virginia.

Virginia is one of a handful of states with a dedicated Cabinet position solely responsible for the “Commonwealth’s Preparedness”. The net effect is one of the most comprehensive enterprise-wide approaches in the nation to preparing for emergencies and disasters, including terrorism.

Preparedness

Planning and training are key to effectively dealing with different types of disasters. Virginia, through its Department of Emergency Management (VDEM), develops and maintains state emergency plans as blueprints for response to a variety of scenarios and assists communities in developing localized emergency operations plans.

Virginia has in place nationally recognized plans for addressing health- and medical- related concerns. The Virginia Department of Health (VDH) now has emergency preparedness and response staff in the Commonwealth’s Central Office in Richmond, five regional offices and every local health district. VDH has prepared a series of all hazard emergency preparedness and response plan within Virginia’s overall preparedness framework, as well as disease-specific plans and guidance documents on high risk biological and other agents. This better prepares Virginia for a bioterrorism event or other public health emergency. VDH has taken the lead in developing a National Capitol Region Surge Capacity Enhancement Plan to respond to challenges in mass casualty handling and coordination, and is the basis of a statewide Surge Capacity Enhancement Plan. VDH has participated in several training exercises, including a statewide Bioterrorism Response Exercise in October 2003. The event involved all 35 Local Health Districts, the State Emergency Operations Center and over 40 local Emergency Operations Centers, 75 hospitals and several sister state agencies. Elements of the Strategic National Stockpile were deployed to the Commonwealth and distributed statewide.

The Trust for America’s Health organization recently published its “*2004 Bioterrorism Preparedness Study*” that names Virginia as one of only four states with eight out of ten key indicators of state preparedness and overall readiness to respond to bioterrorist attacks and other health emergencies. Further, Virginia has one of only five public health labs in the country to report sufficient capabilities (facilities, technology and/or equipment) to fully respond to a chemical terrorism threat. The Commonwealth is one of only one-third of states to report sufficient

bioterrorism lab response capabilities. Virginia has sufficient lab scientists available to run tests in the event of an outbreak of anthrax or the plague.

Over two-thirds of the states and Washington D.C. achieved a comprehensive score of six key indicators or less in the Trust for America's Health study on Bioterrorism Preparedness. Included in this group are Alabama (5), California (5), Georgia (6), South Carolina (6), Texas (6) and Maryland (6). Mississippi scored seven key indicators out of ten.

In August 2004, the U.S. Department of Defense's Northern Command (NORTHCOM) selected Virginia to host a major counter-terrorism exercise. Nearly 4,200 local, state and federal personnel were involved in the multi-jurisdictional event that also included operations in California.

The exercise, dubbed "Determined Promise 2004," required more than 18 months of training and a coordinated effort between civilian and military officials. Seven fictitious scenarios drove local and state agencies in Central and Southeastern Virginia to drill on crisis response actions. Field responses involved law enforcement, fire, public health and transportation agencies. Others supported "tabletop" discussions among local, state and federal emergency management and decision makers. In all, 17 state agencies and 15 local governments participated in the exercise, along with several hospitals and federal military and civilian agencies including the FBI and the U.S. Department of Homeland Security and its component agencies, including the U.S. Coast Guard and FEMA.

The exercise proved to be a valuable opportunity for honing the state's emergency response capabilities – already well-tested in the 9/11 terrorist attack on the Pentagon, the sniper incidents in the fall of 2003 and Hurricane Isabel. The exercise also allowed NORTHCOM to test the DoD capabilities to work with civilian agencies to guard and defend the nation against attack.

Virginia also offers training courses in emergency management, hazardous materials response and search and rescue to prepare local responders to effectively deal with disasters and their aftermath. An example of this is the Virginia Corps, which was established in 2002 to serve as a central clearinghouse for volunteer opportunities across Virginia, linking citizens with a wide variety of volunteer efforts. Virginia Corps includes access to information on more than 20 local volunteer centers across the state.

Virginia Corps also localizes the national homeland security and preparedness initiative known as Citizen Corps. Virginia's Citizen Corps will help residents make their communities safer from emergencies and disasters by getting them involved in these preparedness efforts.

Exercises and drills conducted across the state offer opportunities to put these skills into practice in a controlled setting. To assist citizens in minimizing

their risks, VDEM works with the National Weather Service and local emergency managers to conduct intensive annual public awareness campaigns promoting tornado, hurricane and winter weather safety.

Response

The Commonwealth responds to all varieties of local governments' emergency needs. The state operates the Virginia Emergency Operations Center 24/7 to coordinate the state, local, federal, and private-sector relief efforts for any incident affecting a local community or military installation.

Recovery

A number of basic state financial aid programs may be available to displaced residents in areas of state emergency. State staff works with key federal agencies to coordinate and administer state and federal programs. In most instances, the federal government pays 75 percent of the cost, and the state and localities cover the remaining 25 percent share. The Commonwealth is one of a few states that also maintains a "state disaster recovery program" designed to meet community needs for events that do not meet the threshold for federal declaration but are beyond the local communities' capabilities.

Mitigation

Emergency management goes beyond helping communities recover from a disaster. Virginia encourages a wide range of preventive measures to help mitigate or lessen future losses. Elevation of structures in flood-prone areas and restricting beachfront development are just a few examples of loss prevention. The Commonwealth works with local jurisdictions to assist them in designing effective, long-range mitigation plans to address hazards specific to their communities.

CATASTROPHIC RISK IN THE UNITED STATES

EARTHQUAKE, HURRICANE, TORNADO AND HAIL

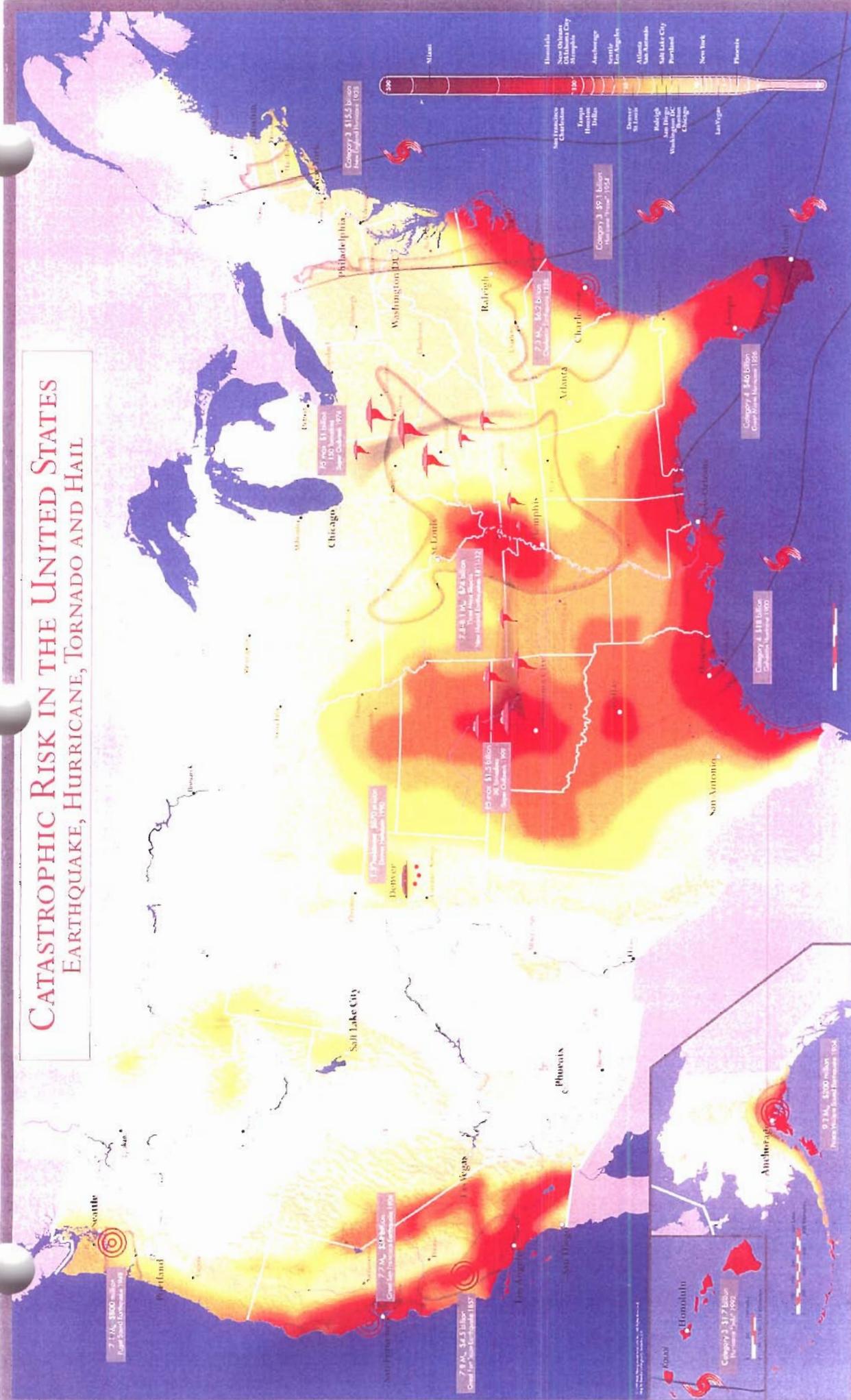


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VI. Government Programs that Benefit Military Personnel

The supportive state and local governmental environment that characterizes Virginia is essential to the efficient and evolving operations of the U.S. Military and its personnel. The Commonwealth has historically been responsive to the needs of the military and its workforce offering a wide array of workforce services and programs.

Employment Search and Placement

Virginia has an extensive system of programs and services in place to assist workers and job seekers, employers, and communities with their problems and needs in dealing with workforce issues. These assistance and services programs cover both workers and job seekers, employers, civilian and military personnel on active duty, as well as military retirees and veterans.

Most of Virginia's workforce services and assistance programs involving employment search and placement issues are conducted by or through the Virginia Employment Commission (VEC) under the auspices of the Work Force Investment Act of 1998 (WIA). The WIA authorizes federal funds to provide employment training services to various programs and organizations through a system of one-stop career centers – in Virginia locations called Virginia Workforce Centers. These centers are operated under the guidance of the Virginia Workforce Council and Workforce Investment Boards in seventeen Workforce Investment Areas across the state. Virginia's system of one-stop career centers is called the Virginia Workforce Network. Each Virginia Workforce Center provides services required by federal law but also offers services designed to meet the needs of particular local communities. Most of the Virginia Employment Commission's forty local field offices across the state have been designated as Virginia Workforce Centers. Local Workforce Investment Boards have been established in each of the seventeen Workforce Investment areas of the Commonwealth and function to provide a forum to assure that workforce training and employment initiatives meet the economic development and business needs of each local area.

The Virginia Employment Commission provides an impressive variety of workforce services to job seekers and employers. Job seeker services include the provision of employment assistance, access to thousands of job listings, and other resources available at local VEC offices to assist with job searches; including access to job opportunities on America's Job Bank, federal and state governments, and other state and national job listings. VEC's databases allow a job seeker to research a particular occupation or career, or conduct a self-directed job search in specific Virginia cities and counties, conduct a national job search by state and military specialty, and access other national sites for jobs and employment information, all

free of charge. The VEC also provides information on Job Fairs around the state and offers free job preparation information to job seekers to prepare for a job. The VEC has been in the forefront in the development of on-line services to meet the needs of Virginia job seekers and employers. The agency has operated the Automated Labor Exchange or ALEX system for several years that allows self-directed job searches, local area job searches, national and state-specific job searches, searches by military specialty, searches by specific job codes, and search links to Virginia Government and United States Government sites for jobs and employment.

VEC's employer services include allowing employers to post job listings on-line at no cost; free assistance at local VEC offices in finding qualified job candidates; the availability of free and high quality labor market information to assist in making business decisions; and the establishment of Employer Advisory Committees that help channel a wide variety of no fee services to employers as needs are identified.

The VEC recently introduced the Virginia's Electronic Labor Market Access or VELMA on-line system. The VELMA system is an accessible, robust, current and modern, and easier to use on-line system. VELMA is intended to be used by each of the wide base of VEC data users and provides "data at their fingertips" for all users. It is also designed to provide access to various elements of labor market information stored in Virginia's data base. The data base is structured around the America's Labor Market Information System (ALMIS) data format. VELMA will continue to offer many of the same services offered by ALEX but offers some services not currently available for job seekers and employers.

VELMA offers a wide variety of Job Seeker and Employer services, the most significant of these are:

- Career Services is a program for individuals to research specific occupations, choose a new career, or analyze their skills to find a suitable occupation; Education Services provides information on training providers and schools, including programs offered and websites;
- Training and Educational Programs that help locate a training or educational program that is related to a particular occupation or field of interest;
- Job Search Services that allow job searches anywhere in the state, including specific local investment areas, specific metropolitan areas, or a specific county or city;
- Job Market Trends provides an assessment of current job market trends based on available job orders in the system;
- Job Openings provides information on currently available job openings;
- Career Steps provides a guide to the steps that should be taken to follow a certain career or occupation;
- Career Informer focuses on persons with certain careers in mind and highlights specific occupations by providing information on wages and

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salaries, employers, available jobs, as well as available education and training and work requirements;

- Job Market Explorer provides assistance in choosing career or occupation by analyzing market trends in desired work areas including wages and educational requirements.

Specific employer services offered by VELMA include the following:

- Educational Program Completers that provide information on the number of students that complete training and educational programs for a given occupation;
- Candidate Search that allows an employer to find and review the resumes of candidates with an employer's needed qualifications;
- The VELMA system also includes an option that allows an employer to find detailed information on other employers in any given area or region that may be of interest and assistance.

The Automated Labor Exchange System (ALEX) is transitioning into a more comprehensive system called the Virginia Workforce Network (VWN). The VWN system will be designed to serve primarily as a tool for job seekers. The VWN will be a larger system than ALEX and contain more job links and will be operational within a year.

Training Services

Virginia has an extensive array of training programs available to job seekers, workers, and employers seeking to upgrade their workforces. These programs cover civilian and military workers and job seekers at virtually all skill and employment levels in all geographic areas of the state. The majority of these training programs are publicly funded and operate under the auspices of the Workforce Investment Act of 1998 and through the Virginia Community College System.

The employment and training programs that operate under the Workforce Investment Act (WIA) are administered by the Virginia Employment Commission, as discussed in the previous section of this report. Employment and training services under the WIA program are provided through a system of one-stop career centers called Virginia Workforce Centers. These centers operate under the guidance of the Virginia Workforce Council and by Local Workforce Investment Boards established in seventeen Local Workforce Investment Areas. The system of one-stop career centers is called the Virginia Workforce Network. The Local Workforce Investment Boards are responsible for the establishment and continued operation of the Virginia Workforce Centers in each of the seventeen Local Workforce Investment Areas of the Commonwealth. The Local Workforce Investment Boards provide a forum to assure that workforce training and employment initiatives meet the economic development and business needs of each local area. Although the Virginia Employment

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Commission does not directly provide any employment and training services, the agency is a major provider of information on available employment, training, and educational services. For instance, Virginia's Electronic Labor Market Access System (VELMA) operated by the Virginia Employment Commission provides on-line options that list Training Providers and Schools assisting job seekers, workers, and employers to locate specific training providers and schools, including the programs offered and their websites. A second VELMA option provides information on Training and Educational Programs and assists in locating training or educational programs that are related to a specific occupation or field of interest. A third VELMA option provides information on available Financial Aid for Training, which allows job seekers and workers to explore potential sources of financial assistance for training programs of interest. Of potential interest to employers is a VELMA option that provides information on Educational Program Completers and allows users to review the number of students that complete training and educational programs for a given occupation. VELMA also allows employers and job seekers to find detailed information on employers in any given area of the state.

The Virginia Community College System (VCCS) offers a wide range of Workforce Development Programs and Services that are designed to meet the training and workforce development needs of employees, students and parents, job seekers, and employers. The VCCS operates Workforce Development Service Centers at each of its 23 Community Colleges which are strategically located across the state. These centers are professionally staffed and include trainers dedicated to improving organizational effectiveness and employee skills. The Workforce Development Service Centers offer a comprehensive and customized response to training and workforce development needs and offer their services at the convenience of service users. The VCCS with its Workforce Development Service Centers across the Commonwealth is a statewide training network that offers coordinated workforce development training with the training assistance provided through a single point of contact, important to training service users that are regional, statewide, or have multiple locations.

In addition to the workforce development training services, some of the individual community colleges that are located in areas of the Commonwealth heavily impacted by military presence – such as Hampton Roads and Northern Virginia - offer specialized programs tailored to the needs of active and inactive military personnel. For example, Tidewater Community College operates an Office of Veteran's Affairs (OVA) that assists military personnel in applying for educational benefits from the Department of Veterans Affairs. The OVA also assists disabled veterans in applying for assistance and veterans experiencing academic difficulties in applying for tutoring assistance from the Department of Veterans Affairs.

In addition, Tidewater Community College is a member of the Service Members Opportunity Colleges program (SOC). SOC is a worldwide network of U.S. colleges and universities working with the United States Navy, Army, Air Force, Marine Corps, and Coast Guard that are dedicated to helping service members and their

families acquire college degrees. These special programs for the military will be discussed in greater detail in the next section.

Education Tuition

Virginia's 39 public institutions of higher education are recognized globally as models of excellence in learning, leadership and research. The Commonwealth's higher education system serves as a catalyst for economic prosperity and an enhanced quality of life. This system has consistently provided a quality education to Virginia's citizens at an affordable price. The Commonwealth recognizes that a vigorous system of higher education is critical to its future.

Over much of the last decade, the Commonwealth has not only aspired to make a college education more affordable for Virginia students, but also made progress toward this goal. Between FY96 and FY02, the period of tuition freezes and a rollback, tuition and mandatory fees for in-state undergraduate students **decreased** by 21 percent at both four-year institutions and two-year institutions.

Reflecting on the effort for increased affordability and the Commonwealth's commitment to military families, the 2004 General Assembly restored funding for in-state tuition rates for members of the military, their spouses and children, regardless of the military member's state of legal residence. A one-year period allows spouses and military members to establish Virginia residency.

Based on a widely recognized national survey of 2004 total mandatory charges conducted by Washington State's Higher Education Coordinating Board, Virginia's institutions of higher education are more cost competitive regionally and nationally. Virginia's charges rank better nationally in each of three categories of institutions – Major Public Universities, Public Colleges and Universities and Public Community Colleges – when compared to the Commonwealth's position in FY94 and FY90.

Virginia's average \$5,964 for 2003-04 tuition and mandatory fees ranks 15th in the nation in tuition and fees to major public universities. Based on tuition information from the College Board for four-year institutions, six Virginia institutions charged less in tuition and all fees than their peer average. At all institutional levels, the average charge at Virginia four-year institutions was only 1.3 percent or \$63 higher than the peer average in 2003-04.

The Washington State Survey shows that nationally between 1999 and 2004, mandatory charges rose an average of 37 percent at other states' flagship institutions, as compared to an increase of 44.4 percent at the University of Virginia, the Commonwealth's flagship institution. In-state tuition and total mandatory fees at public colleges and state universities around the country rose an average 37.8 percent between 1999 and 2004, as compared to an average increase of only 37.3 percent at Virginia's

George Mason University, Old Dominion University, James Madison University, Longwood University and Radford University.

While tuition and fees at Virginia's major public or flagship university increased from 18th highest nationally to 15th between FY01 and FY04, charges at institutions within Virginia's public colleges and universities category decreased from 11th highest to 12th over this same period. Community college tuition and fees are still \$272, well below the national average in FY04.

Based on preliminary reports, Virginia's tuition and fee increases for FY05 appear to be comparable to increases being reported around the country. Therefore, the national rankings of charges at Virginia's institutions are expected to remain stable.

Evidence of its commitment to affordable, quality higher education, the 2004 General Assembly provided additional funding of \$278 million to higher-education in the 2004-06 biennium. As a result, the institutions are able to control and even offset tuition increases in 2004-05. The tuition policy for 2004-05 allows the institution boards to set tuition charges at levels they deem to be appropriate for all in-state students based on, but not limited to, competitive market rates – provided that the revenue generated by these increases is no more than the amount appropriated.

Special Programs

Virginia has a multitude of programs designed to specifically benefit active and inactive duty military personnel, retirees and veterans. These programs are operated by state agencies and the state's colleges, universities and community colleges. The military programs are available on a statewide basis but are concentrated in the heavily militarily impacted areas of Hampton Roads, Northern Virginia and Richmond-Petersburg. These programs are described below:

VETERANS OUTREACH SERVICES

The Virginia Department of Human Resource Management offers a Veterans Outreach Services Program and a Military and Veterans Assistance Program. These programs provide a variety of assistance and special services to military personnel and veterans, especially in the areas of job training and employment assistance and placement.

VETERANS EMPLOYMENT SERVICES PROGRAM

The Virginia Employment Commission offers a Veterans Employment Services Program which provides specialized employment and transition services for veterans. These services are available in each of the agency's forty field offices located throughout

Virginia. Also, a veteran's representative is based in each field office to counsel and assist veterans with problems.

VIRGINIA TIDEWATER CONSORTIUM FOR HIGHER EDUCATION

The Virginia Tidewater Consortium for Higher Education is a regional consortium of higher education institutions located in the Hampton Roads area of Virginia. The following institutions are members of the Consortium:

Christopher Newport University
The College of William and Mary
Eastern Shore Community College
Eastern Virginia Medical School
Hampton University
Joint Forces Staff College
Norfolk State University
Old Dominion University
Paul D. Camp Community College
Thomas Nelson Community College
Tidewater Community College
Regent University
Virginia Wesleyan College

Associate Members

ECPI College of Technology
Troy University

Affiliate Members

Cox Communications
WHRO

The Virginia Tidewater Consortium institutions are involved in numerous cooperative projects and liaison programs with the military. Every two years the Consortium offers a conference on "*Higher Education and the Military*." The next program will be in the fall of 2005.

The Joint Forces Staff College, part of the National Defense University, is a full member of the Virginia Tidewater Consortium and is involved in cooperative projects such as international programs, interlibrary borrowing, and faculty development. The Joint Forces Staff College provides internships for undergraduate and graduate students from Consortium institutions, and Consortium faculty serve as subject matter experts for the College.

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Specific services provided by the Consortium to the military include the following:

Academic Counselors for the following area military bases:

- Naval Station Norfolk
- Naval Amphibious Base Little Creek
- Naval Air Station Oceana
- Naval Medical Center Portsmouth
- Fleet Combat Training Center Atlantic Dam Neck

Academic Counselors provide the following services:

- Educational counseling and academic advising
- Career information and counseling
- Financial aid and scholarship information & application assistance
- Follow-up with military clients to ensure VTC services were of assistance
- Represent VTC member institutions at military events where required
- Represent VTC at regional and individual base meetings or committees

Academic Counselors make the followings presentations:

“Funding your Education” - information on federal grants and loans, state aid programs, and scholarship searches. Open to active duty, spouses, other family members, retirees and their family members, and other military base personnel. (Monthly)

“American Preparatory Institute” - information on the process for entering into post secondary education. This is a motivational presentation for junior enlisted sailors and marines who are attending a three week basic math and English refresher program. The VTC brief covers the application and registration process, the military/off-duty education connection, local colleges and universities, degree options, and how to effectively fund higher education.

“Career Options and Navy Skills Evaluation Program (CONSEP)” – A four day course designed to help active duty MID-CAREER sailors and marines better understand their options for remaining on active duty or pursuing a civilian career. This brief covers educational benefits while on active duty and makes a comparison with educational opportunities and options after separation. (Quarterly)

“Education Services Officer (ESO) Workshop.” - a three day workshop that provides career and military benefit information to officer and senior enlisted personnel who serve at the ESO on their respective commands throughout the area. The ESO is a ready, first-hand source of information for all active duty personnel at that command. The brief provides VTC programs and services. (Quarterly)

“Foreign Born Spouse Workshop (FBS)” - a one-hour presentation that provides information on the process for entering post-secondary education. Working with the citizenship boundaries, and making higher education accessible. Motivational in that it lets military spouses know that there is the option available for them to enter and succeed at higher education. (Quarterly)

NORFOLK STATE UNIVERSITY
Military Educational Services

Norfolk State University provides on-base educational programs and services for active duty and retired military personnel, Department of Defense employees, and civilians leading to certificates, bachelors, and masters degrees in specific academic disciplines. The University offers two academic programs at the Naval Station Norfolk leading to a bachelor of science degree in Interdisciplinary Studies and a master of arts degree in Urban Education (Guidance and Counseling), contracted via a Memorandum of Understanding between the University and the U.S. Navy. On average, the programs serve approximately 150 students annually.

Hundreds of other active duty and retired military personnel, and their dependents, pursue their degrees of choice at the Norfolk State University main campus in Norfolk, as well as its off-campus institutional sites in Hampton Roads. The University also provides academic instruction and degrees for its military personnel and Army and Navy Reserve Officer Training Corps (ROTC) units through its Departments of Military and Naval Science. Additional military educational services are provided as follows:

Coordinator of Military Programs

Norfolk State University employs a full-time coordinator to oversee all aspects of its military programs exclusive of its ROTC units and military departments on the main campus. The coordinator is housed at the ODU/NSU Virginia Beach Higher Education Center in Virginia Beach. Duties include coordinating the planning, development, marketing, promotion, and implementation of the off-campus degree and certificate programs at Naval Station Norfolk; serving as an advocate for military and adult student concerns; providing academic advice and counseling to military and civilian students at military installations in Hampton Roads; and assisting military and civilian students with appropriate, necessary and various documents and forms including admission and degree applications, tuition assistance, registration and scheduling of classes. The coordinator also seeks to enhance and expand the University’s academic program offerings to other military installations in the Greater Hampton Roads area including naval bases at Oceana, Little Creek, Naval Medical Center Portsmouth, army bases at Fort Eustis and Fort Monroe, and the Langley Air Force Base.

Academic Advisor/Counselor at Dam Neck Annex

The University coordinator works one day a week at the Dam Neck Naval Annex advising, counseling, and providing other necessary educational services to military and civilian personnel at that base, as well as to those individuals who travel the short distance from NAS Oceana for the services provided by the NSU representative.

Academic Advisor Counselor at Naval Station Norfolk

Norfolk State University also employs a full-time program advisor, and a part-time assistant, to handle the day-to-day operational activities at the Naval Station Norfolk site only. They advise, counsel, and provide most of the same educational services at the Norfolk base that the coordinator does for the overall military program.

Degrees of Choice

While Norfolk State University offers fifty-five academic degrees, ranging from the associate to the doctorate, the most sought after degrees for military personnel are as follows: associate's level/nursing, bachelor's level/interdisciplinary studies, and master's level/urban education with an emphasis on guidance and counseling.

Experiential and Prior Learning

Military personnel are given academic credit for attending military schools, their training, and prior learning experiences both in the military and at other academic institutions. Norfolk State awards up to a maximum of ninety credit hours towards a bachelor's degree for training and work done at other accredited institutions.

Web-based and Distance Learning Opportunities

Military and civilian students can take advantage of numerous educational opportunities through web-based and distance learning programs offered online via the Internet.

Hampton Roads Voluntary Education Advisory Group (HRVEAG)

Norfolk State University is an active member institution participating in HRVEAG, represented by its Coordinator of Military Programs. HRVEAG is made up of representatives from the Navy campuses and institutions of higher education in the Hampton Roads area. Its mission is to facilitate voluntary education from a regional perspective acting as a change agent to clarify policy, improve customer service, and enhance communications for the delivery of Navy Voluntary Education in the Hampton Roads/Tidewater area of responsibility.

OLD DOMINION UNIVERSITY (ODU)
Military Programs

General military population academic support

Nearly thirty percent of the 21,000 students enrolled at ODU are military-affiliated as active duty, reserve or retired personnel, and their families, which is an atypically high percentage for any major civilian institution of higher learning in the nation.

Academic credit for military experience

ODU operates a rigorous review process which maximizes credit for military personnel towards academic degrees, based on prior military education and experience.

University Field Offices

ODU maintains eighteen full service field offices throughout Virginia to support military personnel and their families with a wide variety of academic programs at their local duty stations.

University Staff

ODU staff includes numerous military support functions, such as the Director of Military Activities in the Office of the President, Veterans Assistance Office, Military Admissions Advisor, and the Director of Military Distance Learning Programs specifically dedicated to enhancing military student life and University research activity. Several hundred military veterans are employed as staff or faculty.

Reserve Officer Training Corps (ROTC) programs

ODU has operated an Army ROTC program since the late 1960's, and the Hampton Roads Naval ROTC Consortium (ODU/HU/NSU) since 1982. Beyond providing the services with unique geographic professional development opportunities, ODU also provides over \$250K in financial incentives to attract some of the nation's brightest college-bound students.

Tailored military academic programs

ODU is a national leader in designing and conducting academic programs tailored for military personnel, both on campus or at distance; for example:

- Military Career Transition Program (MCTP) - the University leads the country in certificate and degree programs to transition retiring service men and women into the civilian education sector, primarily at the middle school level.

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- “Ship To Sea” - ODU is the single University which delivers live interactive graduate courses (MBA) by television to suitably equipped naval vessels on overseas deployments.
- Navy Nuclear Community - ODU delivers an on-campus and streamed video Bachelor’s Degree in Mechanical Engineering Technology/nuclear option created for enlisted Navy nuclear personnel; and an asynchronous (CDROM) Master’s Degree offering in Engineering Management (MEM) for Navy nuclear qualified officers. Approximately 75% of all Navy nuclear ships and submarines have at least one ODU active graduate student aboard.
- General Engineering Technology - ODU was one of sixteen institutions selected by the Navy to serve a specific Navy vocational community with an asynchronous undergraduate degree. The University is providing, by CDROM, a Bachelor’s Degree in General Engineering Technology (GET), furthering the education of technically-oriented Navy enlisted personnel.
- Doctoral and Master’s Degrees in Modeling and Simulation (M&S) - as one of the three lead Modeling and Simulation academic institutions in the U.S., ODU now provides masters and doctoral programs in the rapidly developing science of M&S. In 2004, the University graduated the first M&S PhD in the nation, a retired Navy officer, in an emerging industry of critical importance to the Department of Defense.
- Occupational and Technical Studies (OTS) - this undergraduate degree was developed specifically for enlisted personnel, working in technical military assignments, to further their careers both in and out of the service.

Servicemember’s Opportunity College (SOC)

Old Dominion University is a long-time affiliate of the SOC program, providing tailored counseling services to facilitate degree completion by military personnel, as service members rotate between multiple duty stations/states/countries during their careers.

ODU Partnerships with the Military

Of the nearly forty formal academic and research partnerships in existence between the University and corporate entities, approximately half are with military organizations. For example:

Virginia Modeling, Analysis and Simulation Center (VMASC), created in the mid-90s through support of the DoD Joint Forces Command (JFCOM), VMASC is one of the leading centers of modeling simulation excellence in existence. The

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organization focuses on virtual and constructive modeling of military operations, organizational transformation, homeland defense, port security and combat trauma medical care; and civilian enterprise decision-making. DoD's "Joint Training, Analysis and Simulation Center (JTASC), and ODU's VMASC, have stimulated the creation of one of the premier M&S hubs worldwide, surrounded by a burgeoning military, industrial and commercial community in Suffolk.

- NATO's "Atlantic Command Transformation (ACT) and ODU's long relationship with the North Atlantic Treaty Organization's US headquarters in Norfolk serves as a most significant academic and research link between the United States and NATO members. Through undergraduate and graduate degree support to allied personnel, the conduct of joint major international symposia, and daily collaborations between the ODU and ACT staffs, geopolitical and research opportunity benefits are maximized.

- The Virginia Advanced Shipbuilding and Carrier Integration Center (VASCIC) - as one of the original academic partners with VASCIC, ODU is providing technical and education/training research assistance to the Northrop Grumman Newport News facility charged with the design of the Navy's next generation of aircraft carriers, and other future vessels.

Career Management Center (CMC)

The CMC supports career development opportunities for ODU students, including military, through the development of extensive internship opportunities in the corporate and federal sectors. For DoD, the center provides needed external personnel support to maintain the mission during downsizing and exposes University students to the government sector as a possible vocation. The Center also administers the "Workforce Investment Act," enhancing future employment opportunities for retiring military individuals.

THOMAS NELSON COMMUNITY COLLEGE (TNCC)

Truck Driving School

On May 7, 2001, a Memorandum of Understanding (MOU) was signed between Thomas Nelson Community College and Ft Eustis to offer truck driver training through Shipper's Choice of Virginia Inc. at Ft Eustis. It was originally approved for active duty Army personnel. Now, the program is open to active duty military members of all branches, veterans, and retirees. Active duty personnel enrolled in truck driver training can utilize military tuition assistance and veterans the G.I. Bill to assist with payment. The truck driver program has proven to be very successful as indicated by the 2004 numbers when 105 military students completed the program. Successful graduates have also benefited from Shipper's Choice 98% job placement rate.

Computer Certification Training

On September 28, 2004, a Memorandum of Understanding (MOU) was signed between Thomas Nelson Community College and Fort Eustis to offer computer certification programs, beginning with A+ computer repair courses. The fall 2004 class enrolled nineteen students and spring 2005 enrolled thirteen students at the Fort Eustis site. In order to accommodate additional students, military members from other branches will be enrolled into A+ courses at the Hampton campus.

Naval Ophthalmic Support and Training Activity (NOSTRA)

Thomas Nelson Community College offers an A.A.S. Degree in Opticianry for graduates of the Tri-Service military optician school at NOSTRA, which is located at the Naval Weapons Station in Yorktown, Virginia. The optician program is restricted to graduates of the six-month military school. Upon graduation, students who apply at TNCC and enroll in one class are awarded thirty-four of the sixty-seven total credits required to graduate with an A.A. S. Degree in Opticianry from TNCC. The college offers contract classes on-site throughout the year to make it a one-stop operation and as customer friendly as possible for students to complete the program. Sixty-four NOSTRA students enrolled for the on-site classes in FY2005.

Military Installations and Educational Fairs

TNCC supports the local military installations, business and community educational fairs. The college offers a one-stop operation where students can complete all of the enrollment, admissions, registration and other administrative activities at these locations. In 2004, TNCC was able to service 661 active duty, military dependents, and veterans at area military locations (Fort Eustis, Langley Air Force Base, Fort Monroe, U.S. Coast Guard Training Center and the Naval Weapons Station). TNCC constantly receives requests to provide service at other installations within the Hampton Roads area to include the Norfolk Naval Base and the US Marine Active Reserve Corp. In 2004, TNCC assisted 923 potential students at various military, business and industry and community sponsored educational fairs.

Military Family Support Training

Family Support Services at Langley Air Force Base has received a \$10,125 grant for an accelerated training program (eight weeks) entitled "Medical Office Occupations Professional Certificate Program." TNCC will provide a new accelerated version of this program for fifteen Langley spouses to be held the summer of 2005.

Peninsula Worklink One Stop System

TNCC has provided leadership to support the military and their families through the Peninsula Worklink One Stop System. Most notable is the NextStep Program which has served a significant number of military spouses that due to the relocation of the service member has resulted in the loss of employment for the spouse. TNCC provides assistance to the spouse in finding suitable re-employment. Over a three year period, TNCC has enrolled 458 persons to assist them in career planning, job search, and training services to enhance their employability. To date the college has had 246 individuals exit the program with 178 (73.25%) entering employment. TNCC has also assisted 218 individuals with grant funding to access skills training and educational opportunities that should lead to employment. TNCC has a staff of ten career development specialists to serve these individuals throughout the One Stop System at three Virginia Workforce Centers, at four area military installations, and a One Stop Satellite Center in Gloucester. In addition, The College actively represents TNCC and Peninsula Worklink/NextStep at several events throughout the year including Armed Forces Job Fairs, Military Commanders' Breakfasts sponsored by the Virginia Peninsula Chamber of Commerce, and Air Shows. The college invites representatives from the Armed Services to participate in TNCC Career/Job Fairs held in the fall and spring of each year. Lastly, TNCC employs a number of military spouses and retirees in various staff positions at the college.

Medical Laboratory Technician Training

Thomas Nelson Community College provides training for up to ninety-six navy personnel per year as medical laboratory technicians. During a one year period each member of the navy receives the equivalent of two years of academic work resulting in a Certificate in Medical Laboratory Technology. With four additional courses while at their next duty station, the individuals are able to receive an Associates degree. Upon completion of the program, participants sit for a national certification exam. TNCC certificate students have a pass rate far above the national average.

Support of Shipbuilding Industry

Thomas Nelson Community College is also the major supplier of drafting technicians for Northrop Grumman Newport News Shipbuilding, the designers and manufacturers of nuclear powered aircraft carriers. TNCC prepares approximately 150 draftsmen to enter as junior draftsmen in two different programs that last up to two years.

Military Enrollments on Campus

In addition to the many special programs, Thomas Nelson Community College provides community college experiences for numerous military members, spouses, and dependents at our campuses in Hampton and Williamsburg and at off-campus centers.

The close proximity of our Hampton Campus to Langley Air Force Base has provided ready access to military families in pursuing the first two years of a Bachelor's degree or a career and technical oriented Associate's degree.

TIDEWATER COMMUNITY COLLEGE (TCC)

Tidewater Community College (TCC) is one of the area's primary providers of post-secondary education and training to military personnel, commands and other activities in the Hampton Roads area. TCC provides over 120 on-base classes to over 1,360 students each semester, at the 10 military installations in Norfolk, Virginia Beach, Chesapeake and Portsmouth. In addition, TCC provides on-base student counseling and enrollment services to over 6,000 students annually and has over 4,970 active contract students participating in one of the various Service Member's Opportunity College (SOC) programs. TCC offers in-state and/or out-of state contract tuition to both service members and their dependents.

Tidewater Community College is also the largest provider of occupational and technological instructional services for Navy personnel attending courses at the Training Support Element Hampton Roads. Each semester, TCC trains over 1,200 military students in the occupational/technological skills areas of air conditioning and refrigeration, culinary arts, maritime logistics, engineering, electrical, navigation and information technology. TCC also provides special degree programs for the Fleet Forces Command in accounting, Naval Facilities Engineering Command in industrial technology and management, and the Ships Intermediate Maintenance Activity in safety and quality assurance.

Tidewater Community College works directly with the various Navy College Offices and Educational Service Officer's to provide college level post-secondary education and training, and workforce development training specifically required to meet the skill sets of the various commands, activities and military students.

In addition, Tidewater Community College through its Portsmouth Campus provides academic course work for the Norfolk Naval Shipyard Cooperative Education Apprenticeship Program. This successful program began in 1974 and is the model for apprenticeship programs at the other naval shipyards. TCC currently has over 500 students enrolled in this ongoing program. Additionally, as the result of a Department of Labor grant, TCC now provides specialty courses for the maritime and ship repair industry in the Hampton Roads area in direct support of the United States Navy, Coast Guard and local maritime industry.

Tidewater Community College is military friendly, and has established the position of Associate Vice President for Military Programs, who is directly responsible for the services provided to our military personnel. As a direct result, during the Military Installation Voluntary Education Review (MIVER) conducted in 2004, TCC received no

recommendations for improvement and several commendations for the breadth and depth of services provided to the local military bases which mirror those provided at TCC's four campuses. TCC is an active participant and charter member of the Servicemembers Opportunity College, Defense Training and Education Consortium, and the Hampton Roads Voluntary Education Advisory Group.

TROY UNIVERSITY'S ATLANTIC REGION

Troy University provides academic and student services for approximately 1200 active duty, dependents, and military retirees in the Tidewater area. Services include:

Academic Counseling:

Academic counselors (six full time equivalents) are available at the following installations: Fort Eustis, Fort Monroe, Langley Air Force Base, Naval Station Norfolk, Little Creek Amphibious Base, Dam Neck, Oceana, and Portsmouth Regional Medical Center. Counselors provide academic information, course selection guidance, tuition assistance preparation, and degree completion information to active duty military personnel, and their spouses.

Instruction:

The University employs 12 full-time and 60-80 part-time professors with terminal degrees to provide instruction for the 1,200 military-associated students on the Tidewater area military installations. Professors are available for career counseling and degree planning in addition to their teaching responsibilities.

ECPI COLLEGE OF TECHNOLOGY

ECPI College of Technology provides the following services to military personnel in the Hampton Roads area:

SOUTHSIDE:

Naval Station Norfolk Virginia

ECPI provides ON-Base academic programs including state-of-the-art information and computer technology programs serving active duty and military dependents as well as contractor personnel who have routine access to the base. Programs include fiber optics, and Cisco and Microsoft Certification opportunities. All programs provide professional development enhancement or career transition vehicles for uniformed personnel.

ECPI also provides academic advisement to military personnel seeking post-secondary degrees and is the registration point for military personnel enrolling in main campus and

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online academic degree programs. Program advisement is provided to more than 700 personnel annually.

Naval Amphibious Base Little Creek

ECPI provides academic advisement to military personnel seeking post secondary degrees and is the registration point for military personnel enrolling in main campus and online academic degree programs. Program advisement is provided to more than 500 personnel annually.

Naval Air Station Oceana

ECPI provides ON-Base academic programs including state-of-the-art information and computer technology programs serving active duty and military dependents as well as contractor personnel who have routine access to the base. Programs include fiber optics and Cisco and Microsoft Certification opportunities. All programs provide professional development enhancement or career transition vehicles for uniformed personnel. In addition, the College provides selected degree program classes to sailors assigned to the station. Advisement and academic programs are provided to more than 700 personnel annually.

Naval Hospital Portsmouth, Virginia

ECPI provides academic advisement to military personnel seeking post-secondary degrees and is the registration point for military personnel enrolling in main campus and online academic degree programs. Program advisement is provided to more than 200 personnel annually.

PENINSULA:

Langley Air Force Base, Newport News Shipyard, Ft. Monroe, Ft. Eustis

ECPI provides full-time academic advisement to military personnel seeking post-secondary degrees and is the registration point for military personnel enrolling in main campus and online academic degree programs. ECPI also provides technical training support to military commands on the Peninsula in the areas of networking, computer technology, fiber optics installation, and wireless communications. Program advisement is provided to more than 2000 personnel annually.

SPECIAL PROGRAMS IN THE RICHMOND-PETERSBURG AREA

A number of special workforce, training, placement, transitional and educational programs are offered by local colleges, community colleges and state agencies in the Richmond-Petersburg area for the civilian and military staff at Fort Lee and the Defense Supply Center Richmond.

Two local colleges provide evening classes on site at the Defense Supply Center Richmond, Richard Bland College, a two year school and Virginia State University, a four year school. The Army Career and Alumni Program (ACAP), a joint effort between Fort Lee and the Virginia Employment Commission, offers workforce placement and transition assistance services programs on a nationwide basis to soldiers leaving the military. The program also works with local employers to develop job and career fairs strictly for the military, provide assistance with resume building, conduct mock interviews and provide guidance on proper dress and behavior with prospective employers. The Virginia Employment Commission has a veteran's representative permanently stationed at Fort Lee in the ACAP office.

A second job placement assistance program available at Fort Lee is the "Next Step Program" funded by a U. S. Department of Labor grant under the Workforce Development Act and administered by the area's Local Workforce Development Board. The "Next Step Program" provides job placement and training assistance to soldiers leaving active duty, as well as to their spouses.

Virginia Commonwealth University (VCU) in a partnership arrangement with the Defense Supply Center offering graduate study programs for personnel at the Defense Supply Center Richmond. VCU also offers a specialized training program designed to meet the longer term needs of the Supply Center, which is experiencing a significant "graying" its managerial workforce. This program is aimed at "training- up" current members of its civilian workforce at the Supply Center currently numbering 2,900. The purpose of the training is to develop management level skills in the existing lower level staff so that they will be able to replace the current management staff. Management training is offered in three areas: Executive Development, Supervisory Development and Women in Management. The course sessions are offered twice a year for each of the three training areas. This approach to developing future management is considered critical to the Supply Center because it increases the skill levels of workers currently on the post, retains employees from the local area, and reduces the cost of employee recruitment.

SPECIAL PROGRAMS IN THE NORTHERN VIRGINIA AREA

NORTHERN VIRGINIA COMMUNITY COLLEGE (NVCC)

NVCC operates six campus locations in the Northern Virginia Area; Alexandria, Annandale, Loudoun, Manassas, Woodbridge and the Medical Campus in Springfield. NVCC is a member of the Servicemembers Opportunity Colleges Program (SOC) which is a worldwide network of United States colleges and universities working with all U.S. service branches dedicated to helping service members and their families acquire college degrees. Under the SOC program, students can take courses at or near military installations in the U.S., overseas, and on Navy ships. The SOC program guarantees the transfer of courses and credits among participating colleges and universities. A SOC coordinator is available to military students at each of NVCC's six campuses.

NVCC also operates a Veterans Affairs Office staffed by a Veterans Affairs Advisor/Counselor at the Alexandria, Annandale, Manassas and Woodbridge campuses. NVCC also employs a college-wide Veterans Affairs Representative. The Veterans Affairs Offices provide information and counseling on educational benefits provided by NVCC and the U.S. Department of Veterans Affairs for active duty service members, reservists, veterans and eligible dependents.

Two of NVCC's campus facilities offer on-site classes at local military bases and installations. The Alexandria campus facility offers classes at Fort Myer and the Pentagon. Courses are offered over a two-year period on a continuing cycle with the intent being to meet most, or all, of the requirements for the General Studies, Business Administration and Criminal Justice degree plans. The Woodbridge campus facility offers military educational services on-site at Fort Belvoir and Marine Corps Base Quantico to meet the needs of active duty regular and reserve service members and their dependents. Woodbridge offers both credit and non-credit courses. Credit courses are offered in a compressed format of either eight weeks or ten weeks to accommodate the service member's schedules.

A popular on-site program and course offered for military members is the "Prime Power Program" by the Woodbridge campus facility at Fort Belvoir. This program provides a basic training course for power plant technicians. Two classes are held per year for a maximum of 28 participants, who earn 35 course credits.

NVCC, through its Manassas campus, offers a Homeland Security Operations Specialists Certificate. NVCC also sponsors "Military Friendly" job fairs at various locations in Northern Virginia throughout the year.

GEORGE MASON UNIVERSITY (GMU)

GMU'S main campus is located in Fairfax County with two other campuses in Arlington and Prince William Counties. The University is very active in providing assistance and services to the military through special programs designed to aid individual military personnel, course offerings geared to military training needs, the work of individual faculty members holding high-level DoD positions, as well as research conducted at its three campuses on behalf of DoD. DoD-sponsored research conducted at GMU's three campuses totaled \$12.6 million in 2004-2005 and involved all service branches and several DoD agencies.

Among the special services provided to military personnel by GMU is the operation of the Clinic for Legal Assistance to Service Members which provides free legal assistance to military personnel at its Arlington campus. The Clinic is operated through GMU's law school and in the last fiscal year served over 50 service members. GMU also provides a military support group for deployed service member families at its Fairfax campus during the spring semester. The support group provides legal counseling to attendees at its weekly meetings. GMU offers a wide range of undergraduate and graduate courses designed to meet the needs of the military and enrolls a large number of military personnel in both its special military focused courses and its general course offerings.

In fiscal year 2004-2005, military members enrolled as students at GMU's three campuses under military benefit programs totaled 1,231. GMU officials estimate that another 2,000 military students were enrolled during this period.

GMU offers the following specialized degree programs:

- Masters of Business Administration program in which enrollees can receive their degree at the end of 16 months or three semesters. This program has been very popular with military students and three to six force manager officers have been enrolled in this program each year of its operation.
- The only military applications track in an Operations Research Masters Degree Program at a civilian institution in the United States. This program attracts military enrollees from all service branches and has been growing as systems analysis needs within DOD increases the demand for its graduates.
- Masters and doctoral degrees through its Electrical and Computer Engineering Department at its main campus in Fairfax, which attracts a high level of military enrollment, averaging 15-20 students per year from all service branches.
- A special Judge Advocate General (JAG) Military Program through its law school located at the Arlington campus which is within six miles of the Pentagon and currently enrolls 50 students. The law school also offers ten special courses on

Chapter VI: State Government Programs Benefiting Military Personnel

subjects closely related to military interests and two government contracting courses taught by a former JAG officer at their Arlington campus.

- A unique graduate program in biodefense with course offerings leading to an MS, PhD or a Graduate Certificate at its Prince William campus. It is the only PhD program in the United States offering a degree in biodefense and attracts a significant number of military and DOD personnel. Currently, 22 active duty military students are enrolled.

GMU has developed a strong relationship with the military bands and choruses and offers graduate music programs which are popular with members of the military as well as special summer programs such as the Vocal Pedagogy Seminar and a series of Sunday concerts. The University also offers advanced training in music programs at its Fairfax campus and currently 15 to 20 active duty military students are enrolled in its graduate music programs. Officials at GMU estimate that half of the current Army Chorus are or have been students in the school's music programs.

On-site programs offered by GMU at military installations in the Northern Virginia area include the following:

- A full systems engineering program at the Naval Surface Warfare Center in Dahlgren, Virginia. This program was established in the year 2000 and currently enrolls 85 students.
- A graduate electrical engineering program for the Night Vision Sensors Directorate courses at Fort Belvoir, Virginia. The average class attendance is 17 to 25 students. This program has been in operation since 1996 and has approximately 25 graduates.

Individual faculty members at GMU have also provided valuable assistance and services to the military by serving in high level positions with Department of Defense agencies. As an example, Professor Alexander Levis of the Department of Electrical and Computer Engineering served for three years from the fall of 2001 through the summer of 2004, as the Chief Scientist of the United States Air Force. Faculty member, Dr. Ravi Athale, also from the Department of Electrical and Computer Engineering, recently completed a four-year term as Program Director for the Defense Advanced Research Projects Agency (DARPA).

VII. Quality of Life

With the increasing demands on the U.S. soldier, sailor, airman and marine who must meet the escalating service challenges at home and abroad, quality of life issues can play a pivotal role in mitigating the resulting stress on military personnel and their families. Virginia offers excellent schools, the highest quality health care, affordable housing, transportation choices, award-winning recreational areas from the sea to the mountains and a rich historic setting to explore our nation's past. These attributes have been routinely enjoyed by families who welcome Virginia postings.

Historic Resources

In addition to the paramount mission to protect our nation and our way of life, the Department of Defense (DoD), its Services and installations have a nationwide federal responsibility to manage the historic places they own in ways that are consistent with federal standards and procedures - a mandate made more challenging by current international conflict and thinly stretched budgets, especially since September 11, 2001. One of these federal requirements is that DoD agencies consult with the federal Advisory Council on Historic Preservation, the State Historic Preservation Officer, and the public, when they consider actions that will have an effect on the historic properties in their stewardship. In Virginia this means requesting Department of Historic Resources (DHR) project reviews, technical assistance, and guidance.

Due to Virginia's history, strategic location, large tracts of military-owned land, and 400 years of military presence, DoD is the largest owner of historic resources in the Commonwealth. Recognizing both the value of and challenge presented by these resources to the nation and the critical importance of the DoD mission, DHR has become a national leader, taking a balanced, creative, and flexible approach to helping DoD agencies weigh the public benefits of historic versus the nation's preservation.

DHR operates under the principle that when all agencies work together in good faith, the process works - projects go forward, facilities are restored, adaptively reused, or, when it is in the public interest, removed. DHR is committed to:

- Advocating for process integrity;
- Meeting legal responsibilities with creativity—finding workable solutions within the legal framework;
- Acknowledging real world constraints using balance and proportionality to guide decisions;

- Keeping our “eyes on the prize” to weigh the public benefits of preservation decisions; and
- Putting Virginia’s history to work for the future—not “working for a better yesterday.”

Delivering Cooperative and Flexible Review

- *Public/Private Housing:* Nationally the Department of Defense (DoD) is partnering with civilian developers to meet its need for quality housing for service members and their families. Virginia has been among the first states to deal with this initiative. DHR’s cooperation and creativity has helped military bases navigate DoD’s legal responsibilities under a variety of federal environmental laws to meet a tight Congressional deadline. Nowhere is the effective teamwork between DHR, the military services, and the civilian developer better illustrated than in DHR’s dealings with the Army Residential Community Initiative (RCI) at Fort Belvoir in Fairfax County; and with the Navy Public/Private Venture (PPV) at Quantico Marine Corps Base in Prince William County.
 - Plans for Fort Belvoir included a complex combination of rehabilitation, demolition, and new construction involving hundreds of buildings within the post’s National Register of Historic Places-eligible historic district. Through site visits, project meetings, and design charrettes, DHR guided the Army, its civilian partner, the contract architect, and preservation consultant toward more appropriate design solutions and rehabilitation plans. The agreement not only accounts for the repair and preservation of historically significant buildings, it also recognizes the need to remove historic properties as appropriate, and lays out a process for continued consultation between DHR, the Army, and the developer.
 - The Marine Corps PPV project at Quantico Marine Corps Base also included a mixture of rehabilitating and reusing existing historic housing units, constructing new dwellings within the historic district, and razing substandard or inadequate historic residential structures that could not be brought up to par or reused. Most notably, demolition plans included over sixty Lustron houses—the largest concentration of such properties in the world. Lustrons were a short-lived post-World War II innovation intended to address the country’s shortage of affordable housing for returning servicemen. Unfortunately, their unique all-metal construction makes Lustrons virtually impossible to adapt for modern usage or to achieve the Navy’s minimal square footage requirements. Recognizing this, DHR worked with the Marine Corps to develop a plan to market the Lustrons to preservation-minded individuals and groups. In this manner there is an opportunity for the Lustrons to be removed and preserved off-site if the public responds, while making way for new housing construction. In addition, the Navy agreed to leave two examples of the Lustrons in place and adaptively re-use them as offices. The example of the Lustrons illustrates the willingness of DHR to find creative solutions that achieve the greatest public benefit.

- Residential Community Initiative agreements have also been implemented with Forts Eustis and Story, and DHR is now beginning the housing privatization process with the Navy Mid-Atlantic region based in Norfolk.

- *Navy Programmatic Treatment of Historic Properties:* In collaboration with DHR, the Navy Mid-Atlantic Region developed an award-winning programmatic approach to manage historic properties in the Hampton Roads area—ranking Navy properties according to their level of historic and architectural significance, and assigning appropriate treatment practices to them based on the ranking system. The level of coordination between DHR and the Navy also depends on the importance of the property. This implementing agreement provides an alternative to following regulations set forth by the National Historic Preservation Act. In a related public education initiative, the Navy developed a web site highlighting Navy history and architectural heritage. The agreement indicates the Navy's desire and ability to provide outstanding stewardship and responsible planning in the care of its historic properties, and has become a nationwide model in cultural resources management for other agreements of its type. The Navy-DHR approach was acknowledged nationwide with a Secretary of Defense Award in 2002.

- *Process agreements for Army Posts:* Recognizing that the military operates in a competitive atmosphere of shrinking funding and increasing mission demands, one of DHR's goals is to streamline the Section 106 review process as much as possible. To this end, DHR currently assists several Army installations around the state in the development of process programmatic agreements much like the process undertaken with the Navy. These agreements are designed to eliminate DHR review of more routine post-wide activities that have little likelihood of affecting historic properties. In this manner, installations meet their responsibilities under federal preservation law, save staff time and much needed money, and focus their efforts on higher priority preservation and mission needs.

- *Saint Juliens Creek Annex, Chesapeake:* DHR has worked diligently with the Navy concerning options for Saint Juliens Creek Annex, located in the City of Chesapeake. The Navy explored possibilities for use of this property that contains a complex of warehouses and related facilities dating from the Spanish American War through World War II. The buildings at Saint Juliens Creek Annex are outmoded, costly to maintain, and no longer needed by the Navy. Furthermore, DHR reached the conclusion that they are not reasonable candidates for reuse by other parties in the foreseeable future and proposed mitigation and demolition rather than mothballing in recognition of this reality. DHR continues to coordinate closely with the Navy's cultural resource management team to reach a mitigation solution that provides public benefit. This reflects DHR's commitment to letting facts drive decisions, including those that necessarily involve loss of historic properties.

- *Creative Mitigation Meets Changing Military Needs and Adds Public Benefits*
 - *Portsmouth Naval Hospital, Portsmouth:* As the oldest military hospital in the United States still in active use as a medical care facility, and as an important work of the architect John Haviland, the Portsmouth Naval Hospital is a national treasure. It is listed in the National Register of Historic Places and the Virginia Landmarks Register. DoD recognizes its significance, and with encouragement, support, and technical assistance from DHR, the building was rehabilitated in the 1990s following the *Secretary of the Interior's Standards for the Treatment of Historic Properties* for continued use as part of a state of the art medical care complex. Recently the Navy coordinated with DHR on revisions to the National Register of Historic Places nomination for the hospital, adding other associated resources to create a historic district at Hospital Point.
 - *Dry Dock One, Norfolk Naval Shipyard, Portsmouth:* Dry Dock One, located at the Norfolk Naval Shipyard in Portsmouth, represents another case of the successful ongoing use of a significant resource. The dry dock was constructed in 1827-34, and exhibits a high level of craftsmanship. In recognition of its importance, it is listed in the National Register of Historic Places and is also a National Historic Landmark. The Navy carefully maintains this resource with technical support from DHR. While it is much smaller than modern dry docks, it is regularly used. In consultation with DHR, the Navy leases the dry dock to parties who require use of this type of facility. This has kept the dry dock in productive use while continuing to provide responsible stewardship to the resource.
 - *Langley Air Force Base Historic Housing, Hampton:* The Air Force has worked creatively with DHR to upgrade historic housing at Langley Air Force Base, located within the Langley Field Historic District, that is eligible for listing in the National Register of Historic Places. To bring the historic housing units up to modern standards, DHR coordinated with the Air Force in applying the *Secretary of the Interior's Standards for the Treatment of Historic Properties* in a flexible manner. This approach protected the significant, character defining features of the buildings while allowing changes to systems and facilities such as the enlargement of residential units, incorporation of garages, introduction of new heating and cooling systems, and remodeling of kitchens and baths.
 - *Bellwood, Defense Supply Center Richmond, Chesterfield County:* A renaissance occurred at the Defense Supply Center Richmond involving Bellwood Plantation. This National Register-listed property in Chesterfield County was the site of a working plantation from 1619 to 1942. The present late-Georgian manor house was constructed in 1790 and survives with some modifications, though its architectural integrity

remains largely intact. In 1887, the house and surrounding farmland was purchased by James Bellwood who restored the dilapidated structure and turned it into one of Virginia's chief agricultural showplaces and experimental farms. The military acquired Bellwood in 1941 as the nation geared up for World War II. After military acquisition, the manor house was converted into an officers club that is still its primary use today. The DSCR not only maintains the house according to prescribed preservation practices, but also cares for the descendants of an elk herd that James Bellwood kept on the property. DHR supports DSCR's preservation efforts at Bellwood and provides technical assistance as needed.

- *Chambers Field, Naval Station Norfolk:* Working with DHR, the Navy produced an exhibit in concert with the Hampton Roads Naval Museum and developed a web site on the history of Chambers Field, located at Naval Station Norfolk. This was done as partial mitigation for removal of hangars and the control tower at Chambers Field, according to regulations of the National Historic Preservation Act, when the Navy found it necessary to upgrade the airfield by replacing outmoded facilities that could not be modernized. This initiative, developed in consultation with DHR, focused on public benefit, and went beyond the typical mitigation measures of simply documenting the properties to be removed.
- *Providing Services to Support the Military's Broader Goals*
 - *Fort Lee Curation Center:* For the past six years, DHR has partnered with Fort Lee to create a curation facility at the Fort to house archaeological and historic collections from military installations throughout the region. DHR provided its expertise and experience in meeting federal and professional curation standards on a tight budget enabling Fort Lee to design and build the facility, train army personnel to manage the collections, and create an exhibit to bring the results of archaeological work on military bases to the public.
 - *National Historic Landmark (NHL) Nomination for Norfolk Naval Station Buildings:* DHR used its own resources to hire a consultant to prepare a NHL nomination for Naval Station Norfolk's Admiral's Row - the seventeen remaining buildings of the 1907 Jamestown Exposition and the best surviving collection of American exposition buildings from the period. Used primarily as officer's quarters since 1917, the Naval Station Norfolk has been an excellent steward of these nationally significant architectural gems, and is seeking special recognition in preparation for the Jamestown 2007 commemorations.
 - *Training DoD Personnel:* In support of DoD's internal training initiatives, DHR specialists share their expertise in the processes and requirements of the National Historic Preservation Act, and the *Secretary*

of the Interior's Standards for the Treatment of Historic Properties. As one example, under the Navy's Programmatic Agreement for the Navy Region Mid-Atlantic Command that provides facilities services to Navy installations in the Hampton Roads area, DHR helped train from 100 to 200 Navy personnel.

- *Bringing Hi-Tech to Historic Preservation Decisions:* DHR is currently partnering with the Navy on an innovative information technology effort that will connect Navy databases and GSI records to DHR databases so that each agency has access the other's data. This effort was undertaken with DoD Legacy funding, that is intended to "develop a program that protects and enhances. . . resources, while it supports military activities." This initiative is a cost-saving, streamlining venture that will ease the process of consultation between DHR and the Navy. It is a new effort that the Navy intends to build on by creating comparable links with Virginia's other environmental agencies in the Natural Resources Secretariat.

National Recognition of "the Virginia Approach"

Against the background of cooperation discussed in the foregoing, DHR's response has been characterized as "phenomenal" by the admirals, generals, and military staff, including the Assistant Secretary of the Army for Installations, and has become a nationwide model for DoD.

- Recommendations made by DHR in testimony to Congress in the late 1990s, were adopted in federal regulations that granted more autonomy to resolve issue at the state and federal agency level without review by the federal Advisory Council on Historic Preservation. These regulations both streamlined the process and allowed greater flexibility to states and military installations.
- When the Navy's programmatic approach to stewardship won the Secretary of Defense Award for Historic Preservation in 2003, Navy officials asked that DHR share in accepting that award as recognition of the agency's partnership in helping the Navy meet its responsibilities.
- The DHR Director was an invited, keynote speaker to the spring 2004 Naval Environmental Law Seminar to train Navy lawyers in their federal responsibilities—and an indication that there are creative ways to make the process work effectively.
- DHR was asked to address the annual conference of the National Trust for Historic Preservation about the ways that the State Historic Preservation Officers can help DoD preserve the historic treasures in their care.

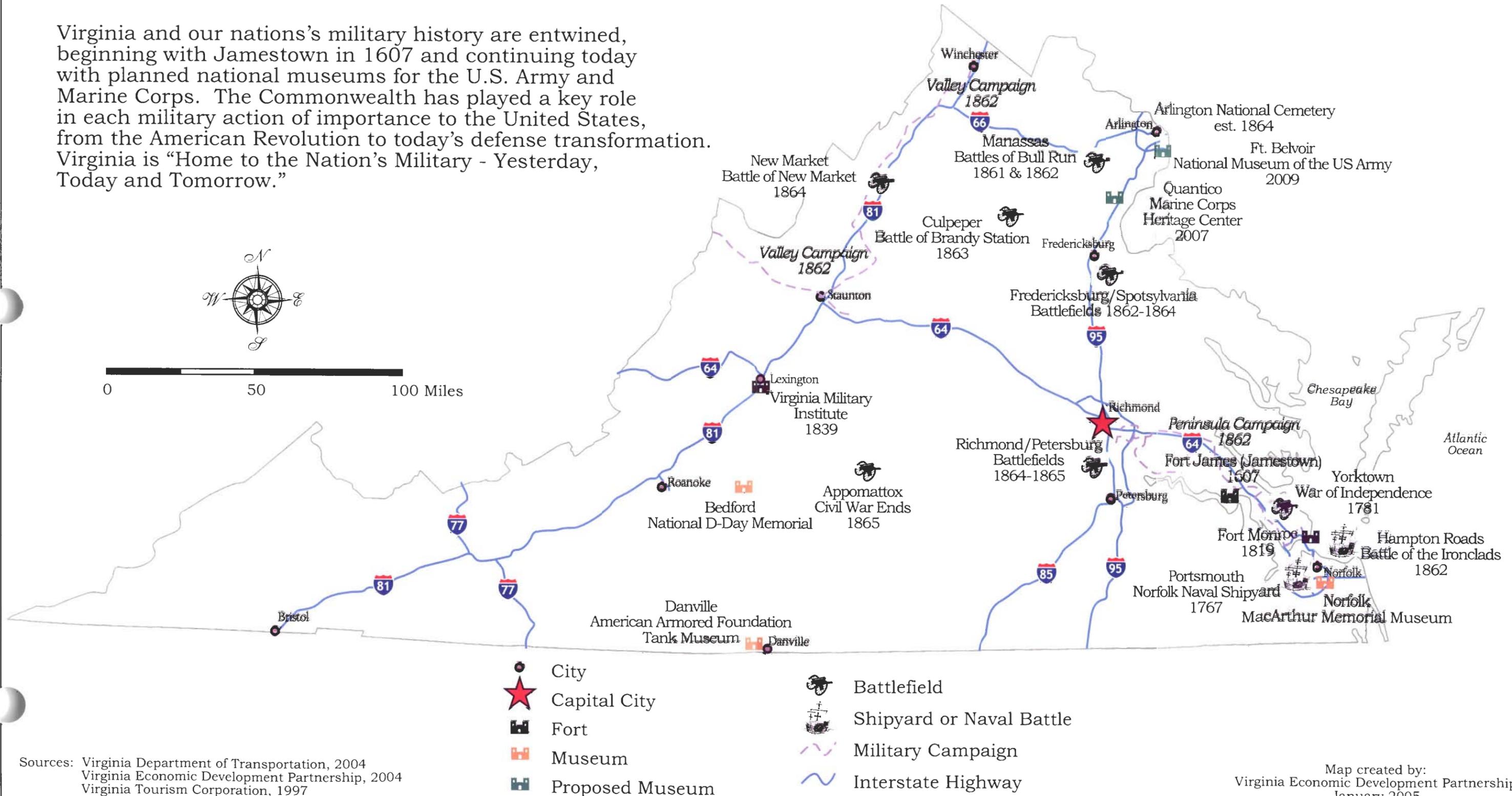
- DHR's approach to creative problem solving and keeping the eye-on-the-prize has been incorporated into new Advisory Council on Historic Preservation guidelines to improve the federal review process, and in particular for DoD.

DoD will continue its challenges with federal stewardship responsibilities resulting from federal, historic preservation mandates. However, DoD can always count on a partnership attitude that reflects the Virginia SHPO's commitment to a timely, balanced, and problem-solving approach. DHR's approach respects history, but also respects the primacy of the underlying DoD missions and challenges.



VIRGINIA'S MILITARY HISTORY

Virginia and our nation's military history are entwined, beginning with Jamestown in 1607 and continuing today with planned national museums for the U.S. Army and Marine Corps. The Commonwealth has played a key role in each military action of importance to the United States, from the American Revolution to today's defense transformation. Virginia is "Home to the Nation's Military - Yesterday, Today and Tomorrow."



- City
- Capital City
- Fort
- Museum
- Proposed Museum
- Battlefield
- Shipyard or Naval Battle
- Military Campaign
- Interstate Highway

Sources: Virginia Department of Transportation, 2004
 Virginia Economic Development Partnership, 2004
 Virginia Tourism Corporation, 1997

Map created by:
 Virginia Economic Development Partnership
 January 2005.

Environmental Regulation and Cooperative Efforts

Virginia DoD Pollution Prevention Partnership

On October 19, 2000, the Governor of Virginia and Department of Environmental Quality (DEQ), among others, signed a partnership agreement with all DoD facilities in the Commonwealth, including the Army, Air Force, Navy, and Marines. A copy of the resulting "Pollution Prevention Charter" is attached. The mission of the partnership is:

"The pollution prevention partnership between the Commonwealth of Virginia and the U. S. Department of Defense shall be a model state-federal partnership that exists to identify opportunities, develop solutions and promote successes in pollution prevention. The partnership will help to enhance the pollution prevention missions of participants, conserve resources and improve the quality of Virginia's environment."

A number of specific goals were outlined in 2000 for the Partnership, including:

- The review of five practices/processes common to partnership members for pollution prevention opportunities;
- Initiate four cooperative projects every eighteen months; and
- Externally share information at five communication venues each year.

Since 2000, partnership accomplishments include several specific research projects and joint training sessions. In addition, members have taken an active role in presenting and shaping the agenda of the annual environmental colloquium for EPA Region III federal facilities. The next colloquium is planned for spring 2005 in Northern Virginia. In 2003, members of the Virginia Partnership began an effort to revise the agreement; these discussions are active.



Pollution Prevention Partnership

for the Commonwealth of Virginia
and the United States Department of Defense



Pollution Prevention Charter



Partnership Mission

The pollution prevention partnership between the Commonwealth of Virginia and the U.S. Department of Defense shall be a model state-federal partnership that exists to identify opportunities, develop solutions and promote successes in pollution prevention. The partnership will help to enhance the pollution prevention missions of participants, conserve resources and improve the quality of Virginia's environment.

Partnership Goals

- Review five practices and processes common to Department of Defense installations for pollution prevention opportunities and transfer successes to other installations within two years.
- Initiate four cooperative projects among participants every 18 months.
- Externally share information through five communication programs per year, including conferences, workshops, publications and the internet.

Membership and Responsibilities

- The group will consist of senior environmental managers from participating organizations, to include: the Virginia Department of Environmental Quality (DEQ); Department of Defense (DOD) installations; Regional Environmental Coordinators (RECs) from each service; and the Environmental Protection Agency (EPA). Active participation is encouraged from all DOD installations in Virginia.
- Member continuity is important to our group. Each organization will appoint an individual to serve as a full member of the group. Consistent meeting attendance by these members is expected for all scheduled meetings. Meetings will be held on a quarterly basis.
- This partnership is not legally binding and will continue at the discretion of the participants.
- This Charter will be evaluated after the first year and at least every three years thereafter.
- Signatories will be provided an annual progress report on the Partnership's accomplishments.

This Charter is signed on this 19th day of the month of October, year 2000.

Governor of Virginia

Secretary of Natural Resources

Director, Department of Environmental Quality

Assistant Deputy Under Secretary of Defense (Environmental Quality)

Commander, Navy Region Mid-Atlantic/DOD Regional Environmental Coordinator

U.S. EPA Region III Administrator



Pollution Prevention Partnership

for the Commonwealth of Virginia
and the United States Department of Defense



Pollution Prevention Charter



Wayne K. ...
Secretary of Public Safety

RE ...
Director, Real Estate and Facilities, Washington Headquarters Services, DOD

Ben ...
Commander, 99th Regional Support Command, US Army Reserve

Col. ...
Commander, US Army Transportation Center, Fort Eustis & Fort Story

1st Col. ...
Commander, Langley Air Force Base

Pat ...
Garrison Commander, Fort Lee

...
Commander, Fort Monroe

...
Air Combat Command, Civil Engineer

...
Commander, Radford Army Ammunition Plant

...
Commander, Fort Belvoir

...
Director, Office of Environmental Innovation, US EPA Region III

...
Commanding General, Marine Corps Base Quantico/Marine Corps Regional Environmental Coordinator

...
Adjutant General, Virginia National Guard

...
Commander, Defense Supply Center Richmond/DLA Regional Environmental Coordinator

...
Commander, Norfolk Naval Shipyard

...
Commander, Dahlgren Division, Naval Surface Warfare Center

...
Commander, Fort Myer Military Community

...
Air Force Regional Environmental Coordinator

John E. ...
Commander, Fort A.P. Hill

...
Army Regional Environmental Coordinator

Virginia Regional Environmental Management System

The Virginia Regional Environmental Management System (VREMS) is an innovative pilot program designed to use environmental management systems (EMS) to improve communication between all levels of government in Virginia's capital region. Through VREMS, participating agencies use EMS to address stakeholder relationships and build partnerships to improve the environment of the greater Richmond metropolitan area.

VREMS is a multi-level partnership between a federal agency (the Defense Supply Center Richmond), the state environmental agency (DEQ) and two local governments (Chesterfield County and the City of Richmond) that provides participants the opportunity to coordinate environmental activities from a regional perspective. VREMS development was sponsored by DoD and the White House Council on Environmental Quality (CEQ). The first program of its kind in the nation, VREMS began as a nine-month pilot in March 2003 to promote constructive communication between different levels of government. Initial VREMS accomplishments include:

- Improved communication channels between partners at different levels of government;
- The creation of improved dialogue about environmental issues with host communities, regulators, commissioners, and advisory boards;
- A greater understanding and appreciation of how each organization impacts the regional environment;
- Improved trust gained by the partners from their communities and stakeholders; and,
- An opportunity for participants to share environmental management systems best practices and leverage resources across the region.

In mid-2004, the VREMS partners agreed to expand the effort to what is now termed "VREMS II." The original participants have sought out additional organizations in the Richmond area for an expanded project focus that includes ground level ozone in the metropolitan area. The Department of the Army has already committed to being part of this expanded focus, and discussions are continuing with the other military Service branches.

DoD Installation Environmental Awards

Businesses-for-the-Bay is a regional, voluntary pollution prevention program focused on facilities in the Chesapeake Bay watershed. Virginia DEQ has the lead for implementing the program in the Commonwealth. Since the program's inception, a number of Virginia's defense facilities have been recognized for their pollution prevention activities through the annual *Businesses-for-the Bay* awards program.

2001

- Outstanding Achievement – Federal Government: Marine Corps Base, Quantico, VA

Pollution prevention has become the nucleus of Marine Corps Base (MCB) Quantico's environmental compliance program. Hazardous waste generation has decreased by over 71% since 1992. Repair parts are cleaned using a less hazardous solvent and a filter/cyclonic system to extend solvent life. The number of part-cleaning machines has also been reduced leading to a 90.1% reduction in volatile emissions. The base's wastewater treatment plant uses ultraviolet lamps instead of chlorine to disinfect treated water prior to discharge, eliminating regular chlorine usage at the plant. Approximately five thousand gallons of raw chemicals per year have been eliminated from photo processing, also saving many thousands of gallons of potable water each year. Plastic beads are used to remove paint in place of hazardous phenolic strippers. Printing processes have switched to dry processes using soy-based inks, eliminating use of perchloroethylene inks. Class I ozone depleting substances were phased out in large refrigeration equipment. The central heating plant converted from coal and residual oil use to natural gas and distillate oil reducing overall air emissions by 92%. MCB Quantico owns twenty-seven non-tactical vehicles that are alternatively fueled and has achieved a 30% decrease in energy consumption and an extensive recycling program in place. A storm drain labeling system was initiated to ensure that dumping of mop water, car washing discharge, and other activities do not put polluted water in storm drains. The challenge of dealing with high military personnel turnover has been addressed by formalizing pollution prevention education, including storm water pollution prevention. The pollution prevention program at MCB Quantico has had a positive impact on the quality of water discharged to the Potomac River and ultimately the Chesapeake Bay. MCB Quantico joined *Businesses-for-the Bay* in 2000.

2002

- Outstanding Achievement Award for Government Facility: U.S. Army Transportation Center and Fort Eustis

In 1997, Fort Eustis was the first Army installation on the East Coast to partner with another service to establish centralized management of hazardous materials, called Hazmart. The Hazmart controls and manages materials for over 12,700 people. This arrangement saves money because fewer hazardous materials, including

products containing TRI chemicals, are purchased. Between 1994 and 2001, the pounds of TRI chemicals purchased decreased by 51%.

Between 1993 and 2001, the total volume of hazardous waste decreased 32% and overall pesticides were reduced by 56%. Fort Eustis successfully reduced energy use per square foot in their buildings by 30% between 1985 and 2001. During that same period, Fort Eustis recycled approximately 31% of its solid waste. Currently, 20% of the products purchased by the installation are considered environmentally preferable.

2003

- Outstanding Achievement Award for Federal Government, Individual Facility: U.S. Army Garrison, Fort A.P. Hill

Fort A.P. Hill is a world-class military training installation comprising approximately 76,000 acres in Caroline County. The installation's primary mission is to provide training and range facilities for Active Army, Reserve Components, other DoD units, and various federal and state agencies. The installation has a long history of being proactive in environmental protection and awareness and eliminating or reducing waste at its source. Fort A. P. Hill is a member of the York and Rappahannock River Tributary committees, the VA DEQ/DoD Pollution Prevention (P2) Partnership and the Virginia Environmental Excellence Program. Community relations with local county and city officials is a command priority including participation in zoning review, Environmental Management System (EMS), Local Environmental Pollution Control (LEPC) committees and sponsoring Earth Day educational fairs for county school age children. The overall strategy of the Fort A.P. Hill P2 program is to prevent all forms of pollution and waste before they occur.

The installation achieved remarkable success in the development of its P2 program, including the coordination and implementation of the Hazardous Materials Management Program (HMMP). The HMMP is an innovative business practice that integrates hazardous material/waste management and pollution prevention efforts into a centralized automated program. In 2002, Fort A. P. Hill achieved 100% inventory control over all hazardous materials (HM) on the installation and has restricted and controlled the procurement, receipt, storage, use and disposition of HM on Fort A. P. Hill. Current HM inventory levels are 60% lower than they were prior to HMMP. Hazardous Waste (HW) generation and disposal in 2002 was also reduced by 76% compared pre-HMMP implementation.

Fort A.P. Hill identified long ago the potential benefits of HM visibility and started periodic inspections and an education/awareness program. Under this program, installation activities, military units and contractors are inspected for compliance with regulations and provided assistance with disposal, use or P2 opportunities. The business practices and centralized control implemented under HMMP greatly improved HM management practices, decreased HM inventories,

improved personnel safety, and reduced HW generation and disposal costs. Other recent P2 success stories include cardboard recycling; filter recycling; implementation of low Volatile Organic Compound weapons & parts cleaning; fuel contaminated soil thermal remediation and reuse; affirmative procurement training; mobile fuel and lube truck for servicing field equipment; mobile bulk petroleum containment systems; brass crusher for recycling of spent ammunition casings; Freon recycling; and aerosol can puncturing/recycling and upgrading of the recycling yard. Recent recycling efforts have increased the recycling diversion rate from 20% in 2001 to 33% in 2003.

Fort A. P. Hill has incorporated many basic elements of ISO 14001 into its environmental management program. The EMS currently in place is capable of promoting successful environmental programs and maintaining a high level of environmental compliance. Fort A.P. Hill is committed to eliminating or reducing waste at its source and improving the Chesapeake Bay watershed.

- Outstanding Achievement Award for Federal Government, Regional Operations: Commander Navy Region, Mid-Atlantic

Commander, Navy Region Mid-Atlantic (CNRMA) is responsible for environmental compliance and pollution prevention for all the Commander in Chief, Atlantic Fleet-owned Naval facilities in the Hampton Roads area. With outstanding support from the individual installation commanders, tenant commands, and other environmental personnel, the P2 program has decreased the demand for hazardous materials, reduced the volumes of waste requiring disposal, and lessened environmental liability. The region realized an \$874,000 savings in regulated waste disposal costs over a two-year period, despite a 20 % increase in service costs. The region also exceeded the requirements of Executive Order 12856 by reducing the amount of toxic chemicals released or transferred offsite by 99.5% from the 1994 baseline year. Additionally, the Regional Recycling Program realized a \$613,000 cost avoidance by recycling materials pulled from the solid waste stream.

2004

- Outstanding Achievement for a Government Facility: Defense Supply Center Richmond (DSCR)

DSCR is 600-acre Defense Logistics Agency storage and office complex located approximately twelve miles south of Richmond. Its 2,400 hundred employees work to provide best value aviation weapon and environmental logistics support to America's armed forces. The installation, and its tenant activities also manage various types of hazardous materials, ozone depleting substances reserve, and petroleum based products for DoD.

The foundation of DSCR's submittal centered on its development of an ISO 14001 compliant Environmental Management System and its inherent pollution prevention initiatives. These initiatives focused on three areas - material substitution, process modification, and recycling.

The Center implemented material substitution programs to increase its internal use and distribution of re-refined used oil, remanufactured toner cartridges, and recycled antifreeze. They also replaced several internal combustion vehicles used on the installation with energy efficient electric scooters. With process modification, DSCR installed a closed loop car wash as well as implemented the installation-wide use of low flow paint nozzles. The center saw a 27% increase in its solid waste diversion rate with recycling; with more than \$46,000 generated in recycling profits; and \$340,000 in solid waste disposal cost avoidance.

Tying all of these pieces together is DSCR's EMS. DSCR formed an EMS partnership with their community stakeholders that include other DoD installations, two cities, two counties, two regional planning districts, a deep-water port, and the Commonwealth's environmental regulatory agency. The intent of this partnership is to utilize the EMS process as a means of strengthening communication and subsequent working relationships between the partners. This communication also involves providing pollution prevention assistance to other partnership. Thus DSCR uses EMS to link and focus the power of the partnership to the benefit of its members and the region.

Governor's Environmental Excellence Awards for Land Management – Gold Award:
U.S. Army Radford Ammunition Plant and Alliant Ammunition and Powder
Company

Alliant Ammunition and Powder Company is the operating contractor for the U.S. Army at the Radford Army Ammunition Plant, the largest installation of its kind in the continental United States (CONUS). The ammunition plant, a government-owned and contractor-operated installation, manufactures chemicals, solid propellants, and explosives that are essential to the nation's defense. Approximately two-thirds of the installation's 6,901 acres are devoted to land and wildlife management. Through the installation's aggressive natural resources and land management program, the plant works to productively balance manufacturing, land management and wildlife protection.

Since the mid-1980's, through cooperation with state and federal agencies, universities, environmental groups and the public, the Radford Army Ammunition Plant has ensured a healthy environment for wildlife and land resources. This is the first year an award has been made for this category.

Virginia Environmental Excellence Program

The Environmental Enterprise (E2) level of participation is for those organizations that are interested in beginning or are in the early stages of implementing an environmental management system. Any organization that impacts the environment through its facility operations, activities, processes and location is eligible to participate in the Virginia Environmental Excellence Program. For program purposes, an environmental management system is a cohesive, comprehensive set of written environmental policies and procedures that identify an organization's environmental goals and objectives and defines how the organization will achieve and maintain those goals. DEQ anticipates that a facility's environmental management system will reflect the size and complexity of its operations. For the purposes of the E2 program, DEQ may grant regulatory flexibility in exchange for actions that provide greater environmental protection than are provided through current practices. Should the facility fail to maintain its status within the program, DEQ reserves the right to alter the regulatory flexibility conditions for that facility or revert to original regulatory conditions.

Military installations in Virginia that are taking advantage of this program include; the Defense Supply Center Richmond, Ft. A.P. Hill, Norfolk Naval Shipyard in Portsmouth, and the U.S. Marine Corps Advanced Amphibious Assault Vehicle program in Woodbridge. The Virginia Environmental Excellence Program is a prime example of how a Virginia regulatory agency works in a cooperative and creative fashion with DoD to meet environmental requirements.

Federal Facilities Restoration

The Virginia Department of Environmental Quality (DEQ) provides support to DoD activities through a Memorandum of Agreement (DSMOA) signed in 1990. The DSMOA identifies four generic tasks that DEQ will perform in support of DoD site investigations and cleanups. These tasks include technical review of documents provided by DoD, identifying federal and Commonwealth of Virginia regulations and laws, conducting site visits and participation in public communication events such as Restoration Advisory Board (RAB) meetings. There are fifty-seven DoD installations (Army, Navy, Marines, Air Force, Formerly Used Defense Sites, Defense Logistics Agency) in Virginia conducting investigations and/or cleanups. Virginia's cooperative working relationship with DoD and the Services has been a model resulting in DEQ staff traveling out of the region to talk to other states about Virginia's success with installation cleanups. DoD has been very supportive of environmental cleanups in Virginia through the funding of those activities. An excellent example of partnering successes is the recent Coastal America Spirit award presented to the Navy restoration team for restoring the New Gosport landfill. This action was a part of the military, federal, state, and local partner's efforts for the restoration of the Elizabeth River.

One of the most prominent features of the environmental cleanup process in Virginia is the creation and continuation of partnering teams. Virginia DEQ

participates on seven partnering teams representing nine military installations. The use of the team approach, involving the Service, EPA and DEQ has resulted in the saving of thousands of dollars and has accelerated the cleanup schedule by years at some installations. The Navy is on track to complete all high priority site cleanups by 2007. DoD, in general, plans to have most of the sites cleaned by 2014. The Army plans to use performance based cleanup approaches at several sites in Virginia to accelerate the cleanup process. In addition to the installation restoration program, DoD has recently initiated its military munitions response program to address remaining contamination at ranges no longer serving that function. DoD has identified several range sites in Virginia for investigation and initiated discussions with DEQ.

Within the last year, DEQ has participated in the signing of three Federal Facility Agreements (FFAs) at Navy installations - St. Juliens Creek Naval Annex, Yorktown Naval Weapons Station-Cheatham Annex, and Norfolk Naval Shipyard. An FFA serves as the roadmap for completing environmental cleanups. In addition, the services proposed and DEQ concurred on nine Records of Decisions/Decision Documents signifying the completion of the investigation process and the agreement on a cleanup strategy that includes public participation. The attached charts describe the number of acres cleaned at federal facilities. During the current year, it is projected that military installations in Virginia will submit almost three hundred documents to DEQ describing the proposed investigation and remediation efforts at various bases. In addition, DEQ will participate in almost two hundred partnering meetings, project manager meetings and RAB meetings.

Hazardous Waste Program

DEQ inspects sixteen Federal Treatment, Storage, or Disposal (TSD) facilities in Virginia annually. This annual inspection of federal TSDs is required under a grant and memorandum of understanding with the federal EPA. Only a few of those facilities actively store, treat, or receive hazardous waste (HW) from their satellite commands. The remainders are considered RCRA (Resource Conservation and Recovery Act is the federal law governing the management of hazardous waste).

Because of previous filing status or waste handling activities, most TSD facilities no longer actively treat or store hazardous waste and several will complete closure activities next year. No Virginia federal facilities are active HW disposal facilities.

DEQ also inspects federal large quantity generators (LQGs) or small quantity generators (SQGs) using the same intervals, approximately once every three years, as private facilities. The actual number of full generators varies according to their activities, but LQGs are on par with or slightly less than TSD numbers.

In general, RCRA compliance at federal facilities is excellent. DEQ has a number of annual inspections conducted by EPA Region III and by EPA contractors at federal facilities. Their findings confirm DEQ findings of high compliance rates.

DEQ conducts compliance assistance visits coupled with waste minimization/pollution prevention assessments at federal facilities operating marinas under our RCRA CAV/WM/P2 state initiative for marinas and vehicle maintenance operations (e.g., Fort Monroe, Langley Air Force Base). Many federal facilities also utilize Virginia's regulation allowing generators and universal waste handlers to collect and crush mercury containing lamps to facilitate recycling of the mercury, aluminum and glass components. By installing centralized lamp crushers, facilities can effectively manage lamps for recycling from several operational units within their command structure.

Site-wide environmental, RCRA clean-ups are underway at Ft. Belvoir and Ft. A.P. Hill. The federal EPA is the lead agency at both sites that are in initial process stages.

Education

The Commonwealth of Virginia is committed to providing quality education for all students. The state has an annual expenditure of approximately \$9 billion in state, federal and local money for elementary and secondary education – that is approximately \$1,300 for every resident of the Commonwealth. The state's investment last year in higher education totaled well over \$1 billion with an increase of \$267 million from the previous year. Also, in 2004, Virginia made the single largest investment ever made for public education in the Commonwealth with \$1.5 billion in new funding – an 18 percent increase - over the next two years for its elementary and secondary schools.

The Commonwealth is committed to a Standards of Learning program and its emphasis on ensuring achievement in English, mathematics, science, history and social science and the arts. Results from this program are evident - two-thirds of the Commonwealth's public schools are now fully accredited and seven-out-of-ten are meeting or exceeding the standards for "adequate yearly progress" in reading and mathematics under the federal "No Child Left Behind Act of 2001."

Last fall, six Virginia schools were named to the *2004 No Child Left Behind Blue Ribbon Schools*. All of the schools were fully accredited under Virginia's achievement – based accountability system in 2003-2004. In addition, each school met the complex federal definition for Adequate Yearly Progress (AYP) for 2004 under the Act. The "Blue Ribbon Schools Program" was created in 1982 to spotlight the country's most successful schools. Since program creation, 89 Virginia schools have received federal Blue Ribbon designation.

Nationwide the tradition of military schools has changed from hundreds of these institutions to just 40. In Virginia the tradition remains strong with more military schools

than any other state in the country. Military history and tradition thrive in the Commonwealth.

In January 2005, the U.S. Department of Education recognized Virginia for “pioneering online testing and improving instruction through the Commonwealth’s Web-based Standards of Learning (SOL) Technology Initiative. Since its launch in 2000, Virginia students have taken more than 400,000 SOL tests online, including 47,000 tests during the course of a single day in 2004. All of the Commonwealth’s high schools and 40 percent of Virginia’s middle schools meet the initiative’s objectives for educational technology.

Virginia schools were also recognized for excellence in the “2004 Military Communities of Excellence” report by *Expansion Management* magazine. School systems in two Virginia regions – Hampton Roads (Norfolk, Virginia Beach and Newport News) and Northern Virginia – with high populations of military Service members were included in the top ten “Best Public Schools” in the nation.

The magazine’s “2004 Education Quotient Ranking” of the nation’s schools also gave Virginia’s public schools high marks. Nine of the Commonwealth’s 24 largest school districts received Gold medals – indicating that these schools ranked highest in the evaluation of financial commitment, graduation rate, college board scores, as well as educational and income levels of the district’s adult population. Six Virginia school districts received the next highest ranking – a Blue medal.

Virginia ranks first in the South and 12th in the nation in the percentage of students taking the SAT 1 college board test. Virginia student performance on the SAT 1 test has risen significantly since the SOL program was introduced. Last year, a record number of Virginia students took the ACT college admissions test, as well and performed at a significantly higher level than students in previous years.

In 2004, 72,115 - or 94.3- percent of high school seniors in Virginia graduated. These were the first students required to pass Virginia’s SOL tests in order to receive a diploma. That 2004 percentage is only two-tenths of a percentage point less than the previous five years’ average of 94.5 percent graduating seniors indicating the school systems’ commitment to a consistent education program that encourages excellence.

The results are also reflective of a program established in 2003, initially targeting the Class of 2004, called Project Graduation, an aggressive effort to identify and assist students at risk of not meeting the diploma requirements. The project included special “academies” in reading, writing and algebra to support students in these areas with additional instruction.

Since 2002, Virginia has offered opportunities for high school graduation standards that include more rigorous coursework. An “Advanced Studies Diploma” is awarded to students who pass the required courses and a total nine SOL tests, as opposed to two SOL tests for a Standard Diploma. In 2004, 34,242 students earned Advanced

Studies Diplomas, and 33,809 earned Standard Diplomas. The fact that more students graduated with advanced diplomas shows that higher academic standards encourage a culture of achievement in Virginia's high schools. The increase in advanced diplomas corresponds with a sharp rise in the number of Virginia high school students taking Advanced Placement and other college-level courses.

Project Graduation also offers regional "continuation academies" for students who do not get a diploma with their class and desire to upgrade their 'certificate of completion' to a Standard Diploma. The academies offer additional instruction and tutorials to prepare students for retesting. Regional continuation academies conducted in the summer of 2004 enabled 114 students to earn Standard Diplomas. More than 900 students in this year's senior and junior classes are currently receiving instruction and improving their reading skills with the Project Graduation Online Reading Tutorial.

The Commonwealth instituted a number of other nationally recognized programs and initiatives to support and enhance public education. These include the Partnership for Achieving Successful Schools (PASS) Initiative. Created in 2002, the initiative fosters intense community involvement with schools that are having difficulty reaching targeted levels of academic performance and specific SOL goals. Through partnerships with the civic, educational and business community surrounding each PASS school, students and their families receive focused assistance to help them boost SOL scores and otherwise improve their overall schooling experience.

A series of state education reforms called the Education for a Lifetime Initiative was launched in 2003. This initiative seeks to implement targeted innovative reforms to improve Virginia's schools. Included in the Initiative is the Senior Year Reform program that offers rising seniors the opportunity to obtain a semester's worth of college credit by the end of their senior year. Alternatively, seniors are able to work towards an industry certification starting in their senior year and continuing after high school graduation, culminating in a high school diploma plus industry certification. The initiatives also include creation of mentoring programs for new teachers in hard-to-staff schools and "turn-around specialists" for low-performing schools.

A new voluntary efficiency review process instituted as part of the Education for a Lifetime Initiatives has already documented \$1.7 million in potential annual savings just months after its launch.

The Commonwealth of Virginia has long benefited from its outstanding system of higher education. From the founding of The College of William and Mary in the 1690s to the establishment of the Virginia Community College System in the 1960s, Virginia's strong higher education system has been, and continues to be, a priceless public asset. It helps produce a well-educated citizenry, enriching Virginia's civic life and contributing to the population's understanding of history, science and the arts.

Overall, retention rates of first-year, college students are stable when measured against both state historical trends and peer institutions in other states. The average is

virtually unchanged since 2002 (Virginia, 82.3%, peers, 80.4%). Student transfers from two to four year institutions have seen an overall increase from 4,994 to 5,077.

Despite resource and enrollment issues, many institutions have maintained the distribution of class sizes to 2002 levels. Six-year graduation rates continue to increase across the college-level institutions or, as a minimum, remain constant. Overall, the average rate has increased to 57.5% against 58.1% for non-Virginia institutions.

Despite budget cuts and increased enrollments, average time-to-degree has remained consistent at 4.6 years overall. Virginia institutions continue to spend significantly more than their peers as a percentage of spending that goes to Instruction and Academic Support – 65% on average compared to 58%.

All higher education institutions meet 100% of the Commonwealth's management standards.

Communications Technology

Ready access to the highest quality communications services including cellular phones, satellite transmissions, the Internet, television and cable broadcasts, radio and telephone is critical to military operations. Virginia leads the nation in governmental support and innovative policies and partnerships to build state-of-the-art technologies to enhance these services.

The 2002 State of the New Economy Index ranks Virginia one of the top ten New Economy states due in large part to its place in the forefront of the information technology and Internet "revolutions." The Index found that almost 60 percent of adults in Virginia have Internet access, ranking Virginia 15th in the nation for the size of its online population. Nationally, only about one-third of the population has online access.

In a measure of five weighted factors measuring computer and Internet use in schools, Virginia scored 2.81, earning it a ranking of 14 amongst other states for communications technology in schools.

Advanced telecommunications infrastructure – otherwise known as broadband networks – is the first enabling technology since electricity to fundamentally impact society to such a great extent that it is now viewed as "critical infrastructure."

Virginia is known as the "internet capital." The Commonwealth has worked deliberately to take advantage of the prosperity of the information age and has many "firsts" and "bests" to its credit, including the first state Web portal, the first Cabinet-level Secretary of Technology and the first to offer a suite of services through mobile devices and live help online.

Important national communications centers are located in the Commonwealth, including MAE East, which provides public peering services for Internet Service Providers. Located in Arlington, MAE East was established in 1992 as a distributed layer 2 exchange and was later designated as the 4th Network Access Point (NAP). Today, MCI operates the MAE facilities providing high speed, high bandwidth services.

Additionally, the Commonwealth is the breeding ground for the next generation of communications technologies. The Mobile and Portable Radio Group (MPRG) at Virginia Polytechnic Institute and State University (Virginia Tech) Symposium annually holds a symposium on Wireless Personal Communications, held in Blacksburg each June and providing an opportunity for top wireless researchers from industry and academia worldwide to present research findings, discuss emerging technologies, and debate crucial issues to the wireless industry. Sponsored by the MPRG Industrial Affiliate program, the symposium is highly technical and draws over 250 researchers from around the world to Virginia Tech each summer.

Further, the Center for Digital Government and *Government Technology* magazine named three Virginia programs “best of breed,” including the Regulatory Town Hall; Absentee Ballot Tracking; and eVA, Virginia’s electronic procurement solution.

Foreseeing the importance that broadband technology would play in the future of the Commonwealth, the state’s Center for Innovative Technology began offering e-commerce and broadband related services in the mid-1990s. The Center continues to develop resources and programs to facilitate the deployment of affordable broadband telecommunication services into underserved areas of the Commonwealth. Leadership and tenacity continue to drive the deployment of broadband services throughout the Commonwealth.

In the most recently published state broadband deployment rankings, Virginia placed favorably in the categories of policy and infrastructure deployment. In *The State Broadband Index*, a study conducted by Technet (a national network of more than 200 CEOs and senior executives in the high-technology and biotechnology industries), Virginia ranked 8th for “showing leadership in clearing roadblocks to broadband deployment and adopting innovative policies that foster demand for the benefit of their citizens and industry.”

Virginia established a goal to be the state with the highest percentage of home hook-ups to affordable broadband internet access to maximize communications for all Virginians. Toward that end, Virginia recently launched a \$12 million initiative to deploy broadband technology to rural areas. Called the Regional Backbone/Roots of Progress Initiative, the project will install about 700 miles of new fiber optic cable that will connect five cities, 20 counties, 56 industrial parks and provide high-speed Internet access to nearly 700,000 Virginians and more than 19,000 businesses throughout the state. Service cost is expected to be about 20 percent less than standard ISP high-speed Internet costs. Completion is expected in January 2006.

The Center for Innovative Technology also administers Virginia Link, a program that permits private businesses and localities in Virginia to purchase advanced telecommunications services from commercial providers at reduced rates negotiated by the Center.

Virginia Tech administers Net.work.Virginia, providing telecommunications services primarily to Virginia's schools and institutions of higher education.

Virginia's strong technology policy framework and vibrant, diverse technology community elevate and distinguish the Commonwealth as a global technology center. Other states and countries see Virginia as a model that combines forward-looking policies with regulatory restraint in an environment that fosters entrepreneurship and innovation. The future will complement Virginia's information technology strengths with nanotechnology and biosciences, two fast emerging sectors of economic growth and job creation.

Ensuring that essential public health and safety personnel have effective communications services available to them on demand and particularly in emergency situations and catastrophic events is also a top priority in Virginia. The Commonwealth recognized the pressing need to address interoperability – the ability for public safety personnel to talk with one another via radio communication systems and to exchange voice and/or data with one another on-demand, in real time - in our communities by creating a new position of Commonwealth Interoperability Coordinator in the Office of Public Safety. Virginia developed a Statewide Interoperability Strategic Plan to ensure that localities, state agencies, and federal agencies work together to improve interoperability by providing reliable and adequate wireless, interoperable, communications.

Virginia, with support from SAFECOM, led the way for the development of the SCIP Methodology, an approach for other states to utilize during Statewide Communications Planning. SCIP describes a step-by-step process for developing a locally-driven statewide strategic plan for enhancing communications interoperability.

During April and May 2004, representatives from Virginia and SAFECOM conducted six regional focus group sessions. The local and regional representatives participating in each session provided valuable input perspectives on interoperability in Virginia. A strategic planning session held in May 2004 convened key stakeholders and leaders from local, regional, state and federal public safety agencies to review and endorse key initiatives identified through regional focus group sessions. The strategic planning session provided the cornerstone of the Commonwealth's model statewide interoperability strategy.

Recreation

Virginia is truly a four-season state with the geography and climate to match every outdoor activity, adventure and sport, whether it's of the high-adrenaline or laid-back variety.

Virginia has 120 recreation and natural areas in the state. Included in those areas are 35 state parks that were voted "America's Best." Virginia's state parks range from mountainous, lush green trails to sandy, palm covered walks.

Additionally, Virginia has 40 state-maintained natural areas covering about 100,000 acres of land. Recreational areas in the state offer 450 miles of trails and 164 cabins and 1,456 campsites in 24 different parks. Virginia is home to four major snow ski resorts offering a total of 54 trails for skiing during the winter months.

In 2003, more than six million people visited Virginia parks. In FY2005, the state allocated \$11.4 million for its system of parks and natural areas, and the parks are expected to generate more than \$10 million in revenue.

In 2001 Virginia was only the third state in the country to receive the National Gold Medal award for its system of parks and recreation areas. The award is presented by the National Sporting Goods Association's Sports Foundation and the National Parks and Recreation Association. Virginia retained the award for two years, and was selected based on continuing improvement to its parks, extent of future planning, degree of visitor or participant involvement and acceptance by the community.

Virginia's Department of Conservation and Recreation helps local parks and recreation departments through funding, expertise and training. Through this partnership, more than 50,000 acres have been purchased for parks and recreation in more than 400 locations around the state. Since 1967, the Commonwealth has provided more than \$72 million and channeled more than \$61 million in federal funds to local parks. Additionally, more than \$300 million in local matching funds was generated for local parks.

Virginia is home to two national forests - the George Washington and Jefferson National Forests - that stretch across the entire western part of Virginia and into eastern West Virginia. The Forests are the largest publicly owned land base for recreation in the eastern United States. They provide about 1.6 million acres of open space, opportunities for recreation and biological diversity.

Shenandoah National Park in Virginia's Page County is a beautiful, historic national treasure that includes the scenic, 105-mile long Skyline Drive. The Park covers the crest of Virginia's Blue Ridge Mountains for over seventy-five miles. The Appalachian Trail roughly parallels the Skyline Drive and about 101 miles of this trail run through the Park. There are over 500 miles of hiking trails.

The Commonwealth is also wrapped around the nation's largest estuary - the Chesapeake Bay - which provides a tremendous recreational resource. Bay shores are dotted with cultural and historical treasures associated with the nation's founding and development of the American character. The Bay watershed encompasses approximately 64,000 square miles, and while Virginia holds claim to a substantial portion of the Bay itself, the watershed includes parts of six states: New York, Pennsylvania, Delaware, Maryland, Virginia and West Virginia and includes all of the District of Columbia.

The Bay's varying depths are perfect for a large number of recreational activities including fishing (350 species of fish live or migrate in the Bay), hunting, boating and swimming. There are hundreds of ways to access the Bay including parks, wildlife refuges, water and land trails and museums dotting its banks. The shoreline of the Chesapeake Bay and its tidal tributaries, including all tidal wetlands and islands, is over 11,600 miles.

Virginia works to protect this resource through a number of different ways, including its Bay Act Program which was created in 1988 by the Chesapeake Bay Protection Act. The Act is a critical element of Virginia's multifaceted response to the Chesapeake Bay Agreement that is a multi-state effort to preserve and protect this resource. Virginia's Bay Act established a cooperative relationship between the Commonwealth and local governments aimed at reducing and preventing non-point, source pollution.

The Virginia Department of Conservation and Recreation administers a grant-in-aid program for the acquisition and development for public outdoor recreation areas and facilities. The Virginia Outdoors Fund offers 50 percent matching fund assistance. In 2003, grant projects totaled about \$1 million.

The Virginia Recreation Trails Fund Program contributed about \$900,000 for projects to build or improve trails throughout the Commonwealth in 2003.

The Virginia Land Conservation Foundation has granted funds in support of Natural Area Preservation and Parks and Open Space projects totaling about \$2.2 million over the next five years.

Exploring history is a favorite pastime in Virginia, where our nation's history and heritage began. From the first permanent English settlement of Jamestown in 1607 through the Revolutionary War and the Civil War, Virginia was where the nation originated, where it prospered and where many of our nation's conflicts were resolved.

From Jamestown, Colonial Williamsburg and Yorktown in the Hampton Roads area to Mount Vernon and the multitude of national monuments and buildings that populate Northern Virginia and Washington D.C., there is much for military families to see and do in Virginia.

Colonial Williamsburg, the nation's largest living history museum and one of its most popular places to visit, consists of 301 acres encompassing 88 original buildings and hundreds of other homes, shops and public buildings and drew close to one million visitors in 2003.

Housing Affordability

Since 1990, strong economic growth has raised overall living standards in Virginia, named seventh “most livable” state in the country in Morgan Quitno’s 2004 State Rankings report.* The Commonwealth’s low unemployment has improved the economic situation of many low and moderate income households, while low inflation has helped to constrain housing costs and to increase consumer buying power.

The 2005 National Defense Authorization Act now clearly places the costs associated with on and off-post family housing firmly within the confines of the national defense budget. Also, given the removal of the ceiling for DoD’s inventory of privatized military family housing, the relative health of the civilian housing climate of any area has become critical to successful military installation operations. Further, approximately 63 percent of U.S.–based service members and their families don’t reside on military installations.

In Virginia, the housing climate has strengthened as a result of several factors. Certainly Virginia’s current housing market reflects the benefits of lower interest rates that have further increased housing affordability by reducing both the cost of home purchase and the cost of rental housing development.

The Virginia Association of REALTORS® reported that existing home sales in the first 11 months of 2002 totaled 102,347 homes, up 8.3 percent over the same period in 2001. In the Washington area, activity set a record with approximately 110,000 home sales for the year, a 6-percent increase over 2001. Sales in the Northern Virginia area rose 8 percent to total 50,163 homes. The Washington area had a record year in condominium sales. Fueled by younger couples and singles unable to afford the single-family detached market and by empty nesters downsizing from larger homes, 1,200 new units and 17,500 existing units were sold through the year’s end.

Changes in the age profile of the population have favored improvements in housing in the Commonwealth. During the 1990s, over two-thirds of the growth in the adult population was among middle aged people (45 to 64 years of age), while the number of young adults aged 20 to 34 years declined by nearly nine percent. This phenomenon shifted housing demand to older households in the peak earning years. Over the past decade, Virginia’s housing stock increased by more than 400,000 units (16 percent) from just fewer than 2.5 million units in 1990 to just over 2.9 million in 2000. Throughout the Commonwealth, the rate of increase in housing units exceeded the rate of total population growth.

In 2003, new housing units – defined as a house, apartment, mobile home, or rooms identified as separate living quarters - totaled 56,951 valued at \$6.9 billion in Virginia, that placed it 8th in a national ranking of states in new housing units compiled by Morgan Quitno Corporation. The average value of a new housing unit in Virginia in 2003 was \$121,960, well below the national average of \$132,131.

Virginia ranked 14th in the nation for existing home sales in 2003, placing it well ahead of Mississippi (33rd), Louisiana (25th), Alabama (23rd) and Maryland (21st).

The median monthly rental payment in 2002 in Virginia was \$707 earning it a rank of 13th in the nation for rental costs. California's median monthly rental payment was \$840 making it the most expensive state in which to rent property. Maryland's median monthly rental payment of \$738 earned it the rank of 7th most expensive in the nation.

Low and moderate income households have benefited from substantial production of new assisted rental housing throughout the state. In all but three of Virginia's 21 housing market areas, the ratio of federal and state assisted rental units to renter households increased over the course of the last decade, often by a substantial amount. Statewide the ratio of total assisted units per 1,000 renter households rose by 22 percent, from 97 in 1990 to 118 in 2000.

State and local government expenditures for housing and community development in 2000 totaled \$615,328,000. This investment placed Virginia 12th in the nation for its financial support for housing and community development.

As a consequence of these positive factors, the affordability of both renting and home purchase has increased for the average Virginian since 1990 in all areas of the state.

The "Fair Market Rents" as determined by the U.S. Department of Housing and Urban Development for the period 1997-2001 showed no real increases in inflation-adjusted rental costs. However rent surveys in the Washington-Arlington market area are the exception. Rental rates here have continued to rise in the past few years.

The overall rate of homeownership rose in most market areas. The Commonwealth's overall rate reached a new record level of 68.1 percent. The overall rise in homeownership was most pronounced in the large metropolitan areas where it has traditionally lagged behind the statewide rate.

While data documenting changes in housing quality are still quite limited, available indicators point to steady improvements in physical housing conditions. Since 1940, Virginia's rental housing stock has undergone a shift from a preponderance of rental units in small, scattered properties to a growing share of units in large rental developments. Overall, Virginia's stock of low income rental housing has grown substantially over the past couple of decades. During the 1990s the inventory of federal

and state assisted low income family and elderly rental housing grew by 26,800 units (36 percent) from just under 75,000 units in 1990 to nearly 101,800 units in 2000.

Recently, a significant number of large rental developments has reached an age at which major reinvestment was required in order to maintain housing quality. In response, a substantial share of new federal and state rental housing assistance supported the rehabilitation of older existing, large rental properties.

Where rehabilitation of older large rental developments has not been feasible and/or cost effective, public and private actions have been taken to remove such housing from the inventory. In the Commonwealth's large metropolitan areas, more than 4,300 units in older deteriorated and obsolete large rental housing developments were demolished between 1990 and 2000.

In rural areas and smaller urban markets, improvements in housing conditions are more difficult to gauge. Nonetheless, the volume of new housing production in these markets suggests that some degree of improvement has continued to occur. Even in rural areas with stagnant or declining population, the net increase in the housing stock was at least eight percent.

Virginia's rental rates compare favorably with other states of comparable military investment. For instance, in San Diego, California, the Fair Market Rent as calculated by the U.S. Department of Housing and Urban Development is \$1,183 a month for a two-bedroom apartment. In the Norfolk/Virginia Beach/Newport News metropolitan area of Virginia, the Fair Market Rent is \$788 for a two-bedroom apartment.

*To determine a state's "Livability Rating," each state's rankings for 43 categories were averaged. All factors were given equal weight.

Medical Care

The quality and availability of civilian health care services is critical to successful military operations and essential to an acceptable quality of life. Since 1987, more than 35 percent of the military hospitals in the U.S. have closed as a result of previous BRAC rounds. Military service members and their families have become more dependent on civilian doctors for the timely and adequate health care at affordable costs they deserve.

Premium health care services are readily available in Virginia, which ranks in the top ten states in the nation in access to health care services, according to a 2003 study by the Morgan Quitno Corporation. While 11.5 percent of the population nationwide does not have access to primary health care, 92.4 percent of Virginia residents do have access to basic health care, placing it 10th in the nation for health care access.

Mississippi has the largest number of residents – 28.2 percent of the state’s total population - without health care. It is followed by Alabama at 26.4 percent. California, Texas, North Carolina, South Carolina and Georgia all have higher numbers of residents without access to adequate health care services. In Florida, 15.6 percent of its residents do not have access to primary care health services.

Virginia was ranked the 19th healthiest state by the Morgan Quitno Corporation with a score of 5.74 in 2002. The scores for the states were derived from calculations based on 21 factors that reflect basic health care and access to health care.

A database search for providers in the military’s TRICARE health system reveals that in Virginia, military personnel and their families have a provider network of more than 50,000 civilian health care professionals from which to select for health care services.

National health expenditures increased to \$1.6 trillion in 2002, a 9.3 percent increase from 2001. Health expenditures reached an average \$5,440 per person in 2002, up \$419 from 2001. In 2002, health spending grew 5.7 percentage points faster than the overall economy as measured by growth of the gross domestic product - the total value of goods and services produced in the United States. The health care share of GDP increased to 14.1 percent in 2001 and 14.9 percent in 2002 after nearly a decade in the 13.1 to 13.4 percent of GDP range.

The nation's overall health expenditures are projected to double during the next eight years - from the 2002 level of \$1.3 trillion to more than \$2.6 trillion by 2010.

In a 1998 study by the U.S. Department of Health and Human Services, Virginia had a total of \$22.2 billion in personal health care expenditures that year, earning a rank of 13th in health care expenditures compared with other states. Comparative rankings for states with comparable military installation investments include Florida which experienced a much greater \$60.3 billion in personal health care expenditures earning it a rank of 4th in the nation; California had a total of \$112.9 billion in personal health care expenditures placing it first in the health care costs comparison.

According to the *Military Communities of Excellence Study* released by *Expansion Management* magazine in September 2004, two Virginia metropolitan areas – Richmond/Petersburg and Norfolk/Virginia Beach/Newport News – scored in the top ten for “Best Metros for Healthcare Costs.”

The Commonwealth offers direct access to its nutritional care and food service administered by the WIC (Women, Infants and Children) Program for military families in Tidewater. WIC service centers are located on base at both at Oceana Naval Air Station and the Norfolk Naval Station. Other WIC service centers across the state are positioned in close proximity to military installations.

Further, the Virginia Department of Health offers a complete array of health services including Child Health Services, Family Planning Services, Maternal Health Services and Communicable Disease Services to those who qualify based on annual income levels.

VIII. Virginia Military Installations – Unique Features

NUMBER AND DIVERSITY OF MILITARY MISSIONS/COMMANDS

The presence of DoD activities and military installations and functions of the Military Departments in the Commonwealth make it the centerpiece of a region with robust joint service mission activities. Review of a listing of military installations/commands in Virginia quickly underscores the significant level of “jointness” DoD enjoys in the Commonwealth. Consideration of the military activities and training venues in surrounding states – Kentucky, Maryland, Tennessee, West Virginia, and North Carolina – significantly enhances the value of Virginia’s military activities for joint training. The Commonwealth region provides tremendous resources for diverse training of all the Services and venues to support their requirements – both individually and jointly – for a significant portion of the nation’s military functions. The following map indicates the significant military installations in Virginia.

In addition, Virginia is home to a number of four- and three-star commands principally located in the Northern Virginia and Hampton Roads regions. As evidenced by the presence of 10 four-star commands and 15 three-star commands, Virginia is a valued geographic location for much of the critical thinking and planning performed by the military services.

ABILITY TO ABSORB DoD GROWTH

All of the Commonwealth’s military installations have the capability and capacity to absorb growth or additional missions. Mission growth or expansion on military installations is managed by the Service in charge of operations and maintenance. The impacts of military installation mission growth or expansion off the installation, such as housing, utility enhancements, transportation, education, recreation, are managed by local communities or regional alliances in Virginia.

The majority of Virginia’s military installations are located in or near several major metropolitan areas that manage off-installation growth impacts. These regions/metropolitan areas are: *Northern Virginia, Fredericksburg, Richmond-Petersburg, and Hampton Roads*. These regions and metropolitan areas have supported the majority of Virginia’s military installations, their increasing and decreasing population and mission changes since the nation’s founding. Virginia’s abundance of natural resources and extensive, regional land use planning efforts

easily accommodate military mission changes. The following short descriptions indicate the capability of the major regions to absorb off-installation growth.

Northern Virginia: Northern Virginia's 2000 population was approximately 1.8 million, and the region experienced an approximate 23.3% increase in population from 1990 to 2000. The population of the region's military installations and DoD and Service Headquarters at the Pentagon are a relatively small percentage of the region's population; however, service members and their families enjoy the region's high quality of life found in world class metropolitan areas. The region's capability to support DoD mission growth/expansion at military installations is not limited and can occur at the same rate the region's planning and construction of new facilities/infrastructure can respond - quickly.

Fredericksburg: The 1,400 square mile Fredericksburg region has been Virginia's fastest growing region for the past six years with a 2001 population of approximately 257,000. Effective regional planning supported this large population expansion – growth of approximately 41.5% from 1990 to 2000 – and is keeping abreast of an expected 27.3% increase from 2000 to 2010.

Richmond-Petersburg: Greater Richmond-Petersburg's growing population exceeds 1,000,000 and offers cultural and recreational opportunities of large cities with minimal traffic congestion and short, less than 30 minutes, average commute time to work. This is the capital region for the Commonwealth of Virginia and, as such, offers a wonderful array of amenities.

Hampton Roads: Hampton Roads' population of approximately 1.6 million makes it the fourth largest metropolitan area in the southeast United States and the largest between Washington, DC, and Atlanta, GA. Similar to Northern Virginia, there is a significant military population and numerous military installations in the Hampton Roads region, but the military presence is a relatively small percentage of the overall regional population. This region offers significant infrastructure advantages including world class port facilities, extensive road and rail networks, as well as two major military airfields and two major commercial airports. Second to the Pentagon, Hampton Roads has the largest concentration of military decision-makers in the United States. Hampton Roads offers an exceptional location for joint interoperability as four, four-star commands are in the immediate region (TRADOC, ACC, JFCOM, and LANTFLT). In addition, the Pentagon and the National Command Authority are an approximate 30-minute helicopter ride away.

Unique Military Features

In the following discussion of features of Virginia military installations “unique” in most instances is not intended to connote a one-of-a kind installation/feature, but one that is rare or unusual and that would be difficult and/or expensive to replicate elsewhere. Virginia's location, geography and related infrastructure provide the majority of the unique qualities/amenities of its military installations.

Pentagon: The Pentagon is an installation/property that would be extremely difficult and expensive to replicate. The Pentagon houses DoD Headquarters and those of the military Departments and is being remodeled (at a price approaching a billion dollars) from its World War II footprint and infrastructure configuration. In addition to its sheer size of four million square feet of office space, the information systems and communications capability investments would require considerable expense to reproduce elsewhere. The building's location near Capitol Hill and the Administration offices in the District of Columbia provide significant "location value."

Fort Belvoir: DoD published its "*Unified Facilities Criteria (UFC)*" on July 31, 2002, establishing minimum antiterrorism standards for buildings. The criteria specifies minimum standards (standoff distances, structural design requirements, and others factors) for DoD facilities. BRAC 2005 provides an opportunity for DoD to examine its leased space requirements in Northern Virginia and their capability to meet the new criteria. The DoD intent with issuing new standards, particularly for leased buildings/facilities, is to provide personnel occupying leased buildings the same level of protection as those in DoD-owned buildings. DoD functions/activities in leased space in Northern Virginia (that cannot meet the new criteria in current facilities) have an opportunity in BRAC 2005 to be realigned to area military installations with excess capacity. Fort Belvoir is an installation in Northern Virginia that can accommodate new functions (reported buildable acres in BRAC 1995 was approximately 1,000). Fort Belvoir's developable acreage is unique in Northern Virginia in that it is sizable and located near the National Command Authority, the Pentagon and Congress.

Naval District Washington West Area Dahlgren ("Dahlgren"): Dahlgren is located between the Potomac and Rappahannock Rivers in Virginia's historic "Northern Neck" – approximately 23 miles east of Fredericksburg; 68 miles south of Washington, DC; and 55 miles north of Richmond. Dahlgren was established in 1918 as the Naval Proving Ground for naval guns. Dahlgren provides access to a 90,000-yard, over-water range down the Potomac River in addition to its other research and development, test and experimentation activities. During World War II the principal work at Dahlgren was proof testing every major, fleet naval gun and the rounds they used. Testing is done at the Main Range Gun Line that faces down the Potomac River and is still accomplished today with significant increases in scope and depth of work. In today's environmentally sensitive culture, replacing the Potomac River, over-water range elsewhere would be extraordinarily difficult.

Fort Story: Fort Story is a major sub-installation of Fort Eustis (the U.S. Army's premier port facility) and is located at Cape Henry, at the juncture of the Chesapeake Bay and the Atlantic Ocean. Fort Story is the premier joint littoral training center on the east coast. It is a prime, and only, location and training environment for Army amphibious operations and Logistics-Over-the-Shore training events. In addition, it is the only Army installation with beach-front property that gives soldiers the opportunity for a realistic training environment with varying seasonal surf conditions for transportation and water purification functions.

Fort Lee: Fort Lee is an Army installation of approximately 5,600 acres that has many functions that are essential to the efficient and proper functioning, from a logistics perspective, of Army field operations. The installation houses the 49th Quartermaster Group (the only Petroleum Group of its type on active duty) with eleven Army Reserve Battalions and one active Battalion, the 240th Quartermaster Battalion. The applied training facilities (used for joint, individual and unit training) at Fort Lee for petroleum operations are not found elsewhere and would be extremely expensive and, from an environmental perspective, difficult to replicate at another location. This training facility includes the storage capacity of one million gallons of fuel on site for emergency use.

United States Joint Forces Command (JFCOM): JFCOM is not a military installation, but it is a major activity headquartered in Norfolk and Suffolk. JFCOM is one of nine unified commands in DoD, but is unique in that it oversees DoD's roles for United States forces in transformation, experimentation, joint training, interoperability and force provision. The command develops concepts; tests concepts through rigorous experimentation; educates joint leaders, trains joint forces; and makes recommendations on how the Army, Navy, Air Force and Marines can better integrate their war fighting capabilities. JFCOM's responsibilities for joint training and force provisioning will increase when the Secretary of Defense implements the results of his Global Posture Review during BRAC 2005 and moves significant forces that are currently overseas back to the United States. A rare and unusual condition for JFCOM's location in the Hampton Roads region is the location of significant, supporting major military headquarters nearby. These headquarters include: NATO Supreme Allied Command - Transformation (ACT), U. S. Navy's Atlantic Fleet; U.S. Air Force's Air Combat Command; Marine Corps' Marine Forces Atlantic; and the Army's Training and Doctrine Command at Fort Monroe. The importance of these headquarters to JFCOM's mission efforts provides significant synergy and value based on geographic proximity.

Naval Station Norfolk: The Naval Station Norfolk is part of the extremely large (approximately 83,000 active duty personnel, 105,000 family members and 27,500 federal civilian employees) Hampton Roads Naval Complex and comprises approximately 4,600 acres. The Naval Station has 75 ships and 13 afloat staffs home ported with 13 piers. The Naval Station is the home of the Atlantic Fleet Headquarters and homeport to five nuclear aircraft carriers and a large number of cruisers, destroyers, large amphibious ships, submarines, and variety of supply and logistics ships. Port Services control more than 3,100 ships' movements annually as they arrive and depart the Naval Station. Port facilities extend more than four miles along the waterfront and include approximately seven miles of pier and wharf space. Naval Station Norfolk is the largest navy base in the world.

Norfolk Naval Shipyard (NNSY) in Portsmouth: NNSY is part of the critical mass for major military ship repair and servicing for the Atlantic Fleet. Its facilities have a total of seven dry docks including the only publicly owned dry dock on the east coast capable of docking nuclear aircraft carriers. NNSY is the Navy's oldest shipyard in the United States, founded in 1767. It is also one of the largest shipyards in the world

having the physical ability and skilled manpower to handle warships of all types for repair, overhaul and strategic reconfigurations including nuclear powered ships.

Wallops Island: Wallops Island is a National Aeronautics and Space Administration (NASA) facility but also houses the Navy's Surface Combat Systems Center (SCSC). The SCSC provides highly technical Navy combat systems engineering and training support to the fleet. Combat systems facilities located on Wallops Island oceanfront include the Aegis Combat System Training Facility and Ships Self Defense System (SSDS) combat system activities. SCSC capabilities support installation of prototype upgrades, certification for fleet operations readiness, and major test exercises in a maritime environment. The new DDX combat systems training will be conducted in conjunction with SCSC functions. The Island's unique location off the Virginia coast provides training opportunities in the Virginia Capes Operating Area (OPAREA), an extremely large surface and subsurface operating area off the Virginia and North Carolina coasts. The OPAREA is used for surface, subsurface and air-to-surface Navy exercises and for support of SCSC operations and certification activities.

Fort Monroe: Fort Monroe is one of three U.S. Army installations designated wholly as a National Historic Landmark. The property's history began as Fort Algernonne in 1609, and its construction as Fort Monroe dates to 1819. Due to the peninsula shape of the installation and its water surroundings, this property offers tenants exceptional force protection. Additionally, the installation's configuration has the effect of mitigating all civilian encroachment issues.

Fort A.P. Hill: Fort A.P. Hill is a very large and unencumbered training facility geographically located between Washington D.C. and Hampton Roads. This ideally located installation of approximately 76,000 acres offers 28,000 acres of ranges and 42,000 acres for maneuver exercises. While an Army facility, all Service branches and their special operations forces and reserve components currently use the installation's training ranges and capabilities. Given the installation size, its location between major metropolitan areas, and the fact that on any given day 1,500 soldiers are being trained; encroachment issues are minimal. In fact, in a recent survey it was revealed that 90% of the installation's neighbors agree that Fort A.P. Hill is a good neighbor.

Langley Air Force Base (AFB): Langley AFB was founded in 1916 and is the oldest continuously operating airfield in the United States. Today Langley AFB is home to the Air Combat Command's headquarters and the 1st Fighter Wing. Steeped in history, activity at Langley AFB continues to lead the way for Air Force operational forces, demonstrated by the presence of the Air Force's largest major command – Air Combat Command – and planned stationing of the first operational wing of the new F/A-22 fighter aircraft. The installation has the necessary infrastructure to house, maintain and train the air crews for this latest, most advanced Air Force fighter aircraft.

Marine Corps Base (MCB) Quantico: Often called the “Crossroads of the Corps,” MCB Quantico is the focal point for professional military education within the Marine Corps. This military installation is located about 35 miles south of Washington D.C. on the Potomac River that provides natural protection for the installation’s real property and training areas, but within immediate access to the nation’s capital. This river buffer and physical security investments make the installation a favorite location for both DoD and non-DoD operations needing high security features. Unique mission facilities include the night simulation laboratory, the joint non-lethal weapons facility, Drug Enforcement Administration clandestine laboratory school, leadership reaction course, indoor simulated marksmanship training facilities, the Marine Corps war fighting laboratory, and facilities that make MCB Quantico home to the fleet of Presidential Support Helicopters – HMX-1.

Fort Myer: Fort Myer’s focus is on military ceremonies at Arlington National Cemetery, the National Capitol and Presidential activities. Located at the doorstep of the nation’s capitol, Ft. Myer is home to “The Old Guard” (3rd Infantry Regiment) and “Pershing’s Own” the Army Band.

Radford Army Ammunition Plant (RAAP): RAAP is a Government-Owned-Contractor-Operated (GOCO) facility that began operations in 1940 as a Hercules Corporation operated ordnance facility. Today’s plant is operated by Alliant Techsystems and is the only U.S. domestic, full spectrum propellant production facility for single, double and triple base propellants, and their constituent ingredients including nitric/sulfuric acid, nitrocellulose, and nitroglycerin.

National Ground Intelligence Center (NGIC): NGIC is located in Charlottesville and provides intelligence on foreign ground forces organization, equipment, training and operations. After assessing the nature of the enemy’s combat power, NGIC employs technologies to provide U.S. combat forces the decisive edge they need to be successful on the battlefield. NGIC’s unique aspect is the practical “think tank” brain power employed by this facility. Of the approximate 1,000 person workforce, 700 are degreed personnel. Of that 700, 32% have masters degrees and 7% hold PhDs. This highly educated workforce is attracted to the unique challenges of the NGIC, Charlottesville’s educational opportunities and the area’s high quality of life.

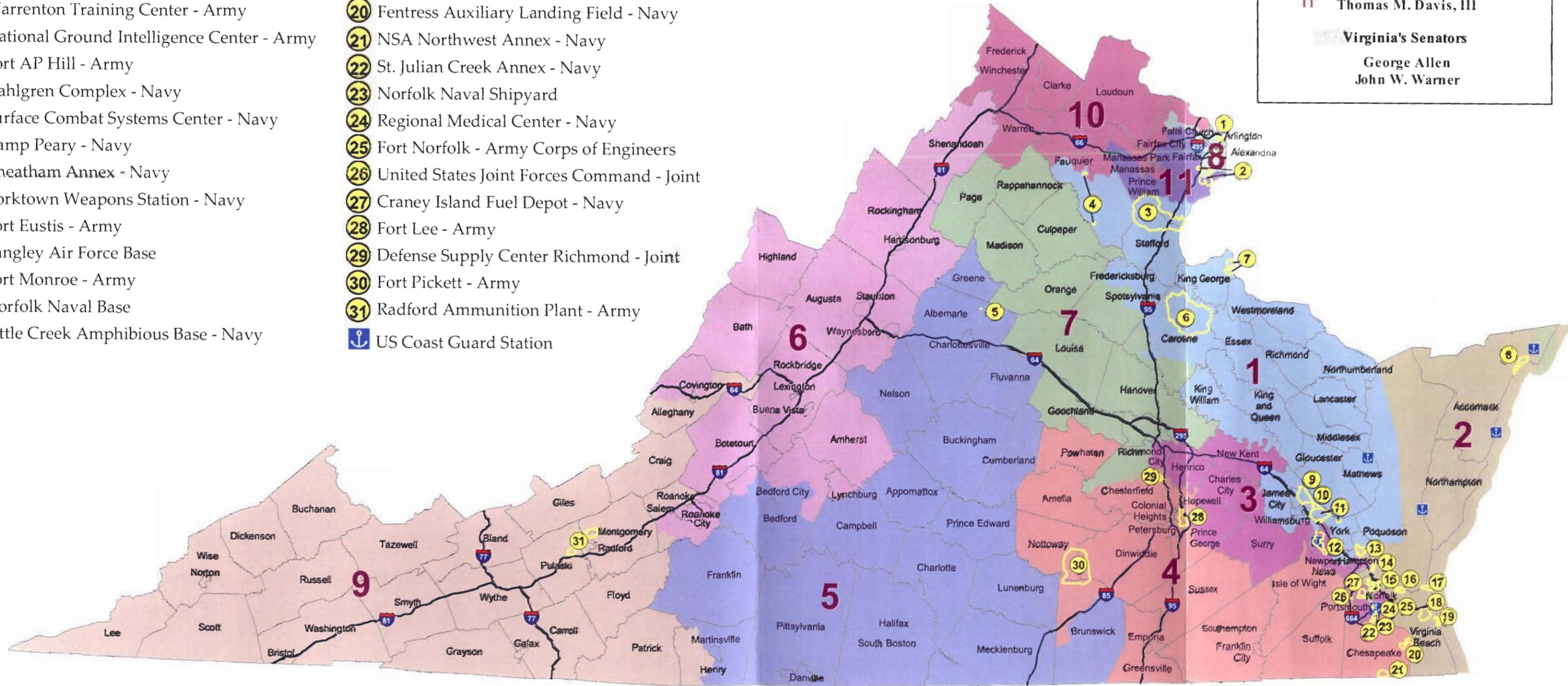
Commonwealth of Virginia

Military Installations and Congressional Boundaries

- ① The Pentagon/Fort Myer/Marine Headquarters
- ② Fort Belvoir - Army
- ③ Quantico Marine Corps Base
- ④ Warrenton Training Center - Army
- ⑤ National Ground Intelligence Center - Army
- ⑥ Fort AP Hill - Army
- ⑦ Dahlgren Complex - Navy
- ⑧ Surface Combat Systems Center - Navy
- ⑨ Camp Peary - Navy
- ⑩ Cheatham Annex - Navy
- ⑪ Yorktown Weapons Station - Navy
- ⑫ Fort Eustis - Army
- ⑬ Langley Air Force Base
- ⑭ Fort Monroe - Army
- ⑮ Norfolk Naval Base
- ⑯ Little Creek Amphibious Base - Navy
- ⑰ Fort Story - Army
- ⑱ Oceana Naval Air Station
- ⑲ Dam Neck Combat Training Center - Navy
- ⑳ Fentress Auxiliary Landing Field - Navy
- ㉑ NSA Northwest Annex - Navy
- ㉒ St. Julian Creek Annex - Navy
- ㉓ Norfolk Naval Shipyard
- ㉔ Regional Medical Center - Navy
- ㉕ Fort Norfolk - Army Corps of Engineers
- ㉖ United States Joint Forces Command - Joint
- ㉗ Craney Island Fuel Depot - Navy
- ㉘ Fort Lee - Army
- ㉙ Defense Supply Center Richmond - Joint
- ㉚ Fort Pickett - Army
- ㉛ Radford Ammunition Plant - Army
- ⚓ US Coast Guard Station

| Virginia's Representatives to the US Congress | |
|---|----------------------|
| 1 | Jo Ann S. Davis |
| 2 | Thelma S. Drake |
| 3 | Robert C. Scott |
| 4 | J. Randy Forbes |
| 5 | Virgil H. Goode, Jr. |
| 6 | Robert W. Goodlatte |
| 7 | Eric I. Cantor |
| 8 | James P. Moran, Jr. |
| 9 | Frederick Boucher |
| 10 | Frank R. Wolf |
| 11 | Thomas M. Davis, III |

| Virginia's Senators | |
|---------------------|--|
| George Allen | |
| John W. Warner | |



SOURCES:
 Virginia Department of Legislative Services, 2001
 Virginia Department of Transportation 2004
 Virginia Economic Development Partnership 2005

IX. THE VIRGINIA MILITARY ADVANTAGE

☑ Strategic Mid-Atlantic Location

- Proximity to Washington, D.C.
- The Port of Virginia at the mid-point along the east coast.
- More than 35% of the nation's manufacturers are within a day's drive to The Port of Virginia.
- Approximately 37% of the U.S. population is within a day's drive of Virginia.
- Point of synergy for personnel and material moving from Northeast, Midwest and Southeast.

☑ Host to National Command Center

- Home to the Pentagon.
- Home to the Service Secretaries.
- Immediate access to the White House and Congress.
- The Pentagon, located in Arlington County, has four million square feet of office space.
- State of the art information and communication systems.

☑ Headquarters Concentration

- There are 10 four star commands and 15 three star commands located in Virginia.
- The largest concentrations of these commands are in the Northern Virginia and Hampton Roads regions. All geographically lie within the "Virginia Military Crescent." Second to the Pentagon, Hampton Roads has the largest concentration of Military decision-makers in the United States.
- A complete roster of these commands is found at the introduction of this paper.

☑ Command and Operational Jointness

- The synergies of the commands in the Hampton Roads region including the Air Combat Command (Air Force), the Atlantic Fleet Command (Navy), TRADOC (Army), Joint Forces Command (Joint Command Center), and NATO Supreme Allied Command – Transformation.
- The Pentagon.
- Joint training including the Virginia Modeling Analysis and Simulation Center (VMASC) the largest "battle lab" in the world located in Suffolk.

☑ Robust Training Venues

- Special operations at Ft. A.P. Hill, Ft. Story, Little Creek, Quantico, Northwest Naval Annex, Dam Neck, Ft. Pickett, Yorktown and others unknown.
- Norfolk, Virginia is home to the Naval Special Warfare Group Two, which is made up of four Navy SEAL Teams (about 385 men) who train at Virginia facilities.
- Marine Officers training at Marine Corps Base Quantico
- A.P. Hill – 76,000 acres for training including 28,000 acres for live firing ranges and 42,000 of maneuver space. On any given day there are 1,500 soldiers being trained at this facility.
- Wallops Island training for the Aegis Combat System Training Facility and the Ships Self Defense System (SSDS). Home for the new DDX combat training systems
- Virginia Capes Operating Area (OPAREA) for both surface and subsurface ship training.
- NAS Oceana and Fentress – Naval Jet Training and Aircraft Carrier Landings.
- Langley AFB – training for the new F/A 22 (first site in the U.S.)
- Ft. Story – only training facility for the Army’s amphibious operations and Logistics-Over-the-Shore training.
- Ft. Lee – only training facilities for petroleum operations for the services.
- The Dahlgren Navy Complex offers a 90,000-yard, over-the-water range not offered anywhere else.
- Ft. Eustis is home to the “Army’s Navy.”

☑ Surge Capabilities of Hampton Roads

- Surge capability builds on its strategic mid-Atlantic location.
- Day’s drive from many military installations, and private sector suppliers in the Northeast, Midwest and Southeast.
- Served by transportation infrastructure including; interstate highways, major rail lines, and international airports.
- Hampton Roads offers superior cargo capacity with new private sector growth under way to nearly double cargo handling capacity.
- Second largest volume port on the U.S. East Coast.
- Considerable amount of existing acreage under control by DoD.

East Coast Naval Base & Ports of Virginia

- Naval Station Norfolk is the largest navy base in the world.
- The complex comprises 4,600 acres.
- It is home to 75 ships and 13 afloat staffs with 13 piers.
- Home to the Atlantic Fleet headquarters.
- Home port for five nuclear aircraft carriers.
- Offers a channel depth of fifty feet and an ice free environment.
- The Ports of Virginia work in harmony with the Navy's operations.
- Hampton Roads is located 36 hours closer to the Panama Canal and nearly a full week closer to the Suez Canal vis-à-vis San Diego, CA, giving our Navy's ships remarkable access to destinations around the world.

Favorable Weather and Climate

- Diverse climate offering different climate regions.
- Exposure to severe weather is quite limited vis-à-vis the southeastern coastal and Gulf states, Texas and the western states.
- Virginia is less likely to sustain the type of debilitating severe weather that plagues military installations in other states. Consequently, Virginia offers a lower cost environment for its installations.
- Virginia's natural environment has the ability to recover quickly thereby supporting critical training venues.

Rapid Access to Non-Military Agencies

- Underscores the importance of the Pentagon being in the National Capital Region.
- Some non-military agencies are looking to move onto military installations for security purposes. Examples of this are the FBI and DEA locating new facilities on Marine Corps Base Quantico.
- The need for synergy with the other major national Cabinet secretaries.

Attractive Business Climate

- Recently rated by *Governing* magazine as the best managed state in the U.S. “There is little that Virginia does not do well in government management. That’s been true for a while.”
- Mid-Atlantic location. Richmond is equidistant between Atlanta and Boston.
- Diverse economy which lessens recessionary times. For example, Virginia’s unemployment rate is historically 20% to 40% below the national average.
- Right-to-Work state.
- Robust transportation choices.
- One of seven states having an AAA bond rating from all three rating agencies. (Standard & Poor’s, Moody’s and Fitch)
- Reasonable tax policies. Corporate income tax (6%) has not been raised since 1972.

Intellectual and Technical Capital

- Labor resource advantages. Highest concentration of engineers and doctoral scientists in the Southeast. Over 20,000 engineers and scientists reside in Virginia.
- Highly regarded public educational system.
- Leading public universities and colleges in the country (University of Virginia, The College of William and Mary and Virginia Tech).
- Robust statewide Community College system.
- Nationally recognized research and development facilities including: NASA Langley, Office of Naval Research, DARPA, and National Accelerator Facility.
- Backbone for the East Coast Internet system housed in NOVA.
- Annually produce more than 57,000 degreed students a year.

Commitment to Military Transformation

- Virginia offers the type of nurturing environment to quickly transform the military. This is manifest in labor force skills, research and development centers, available state of the art information technology systems, geographic location and robust installation training venues.
- Quality of life for the military family. A Virginia “posting” is welcomed by families especially those having children to educate at any school level.
- The idea of “jointness” is not new among our existing commands and installations and is currently practiced by many facilities.
- Supportive state and local governments. Virginia continues to be a location of choice for America’s leading corporations. The same corporations with whom DoD wishes to partner.