

# Virginia Regional JLUS Implementation Strategy



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*This study was prepared under contract with the Commonwealth of Virginia, with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the Commonwealth of Virginia and the jurisdictions, agencies and organizations participating in the JLUS program, and does not necessarily reflect the views of the Office of Economic Adjustment.*

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*Prepared under contract with:*



Commonwealth of Virginia  
Department of Veterans Services  
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Richmond, VA 23219

*Prepared by:*



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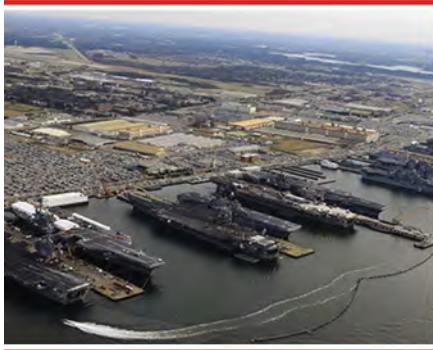
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## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

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# Acronyms

A	
ACEP	Agricultural Conservation Easement Program
AF	Air Force
AFB	Air Force Base
AICUZ	Air Installation(s) Compatible Use Zone(s)
APZ	Accident Potential Zone

B	
BRAC	Base Realignment and Closure

C	
CD	Compact Disk
CZ	Clear Zone

D	
DAR	Defense Access Road
DNL	Yearly Day-Night Average Sound Level
DOD	Department of Defense
DODI	Department of Defense Instruction
DVD	Digital Video Disk

E	
EMS	Emergency Management Services
ESQD	Explosive Safety Quantity Distance
ETJ	Extraterritorial Jurisdiction

F	
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FLUM	Future Land Use Map

G	
GIS	Geographic Information System

H	
HB	House Bill
HCP	Habitat Conservation Plan

I	
ICUZ	Installation Compatible Use Zone
IDP	Installation Development Plan

J	
JLUS	Joint Land Use Study

M	
MCB	Marine Corps Base
MOA	Military Operating Area
MOU	Memorandum of Understanding
MSA	Metropolitan Statistical Area
MTR	Military Training Route



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

N	
NALF	Naval Auxiliary Landing Field
NAS	Naval Air Station
NOFA	Notice of Funding Availability
NOLF	Naval Outlying Landing Field
NSF	Naval Support Facility

P	
P4	Public-public, Public-private
PR	Potomac River
PRTR	Potomac River Test Range
PTAC	Procurement Technical Assistance Center
PTAP	Procurement Technical Assistance Program

R	
RAICUZ	Range Air Installation Compatible Use Zone
RJIS	Regional JLUS Implementation Strategy
RPDP	Real Property Development Plan

S	
§	Section
SDZ	Surface Danger Zone
SUA	Special Use Airspace

U	
U.S.	United States
USACE	United States Army Corps of Engineers

V	
VA	Virginia
VMAC	Virginia Military Advisory Council
VDA	Secretary's Department of Veterans and Defense Affairs

Z	
ZO	Zoning Ordinance





# Executive Summary





# Executive Summary

## EXECUTIVE SUMMARY

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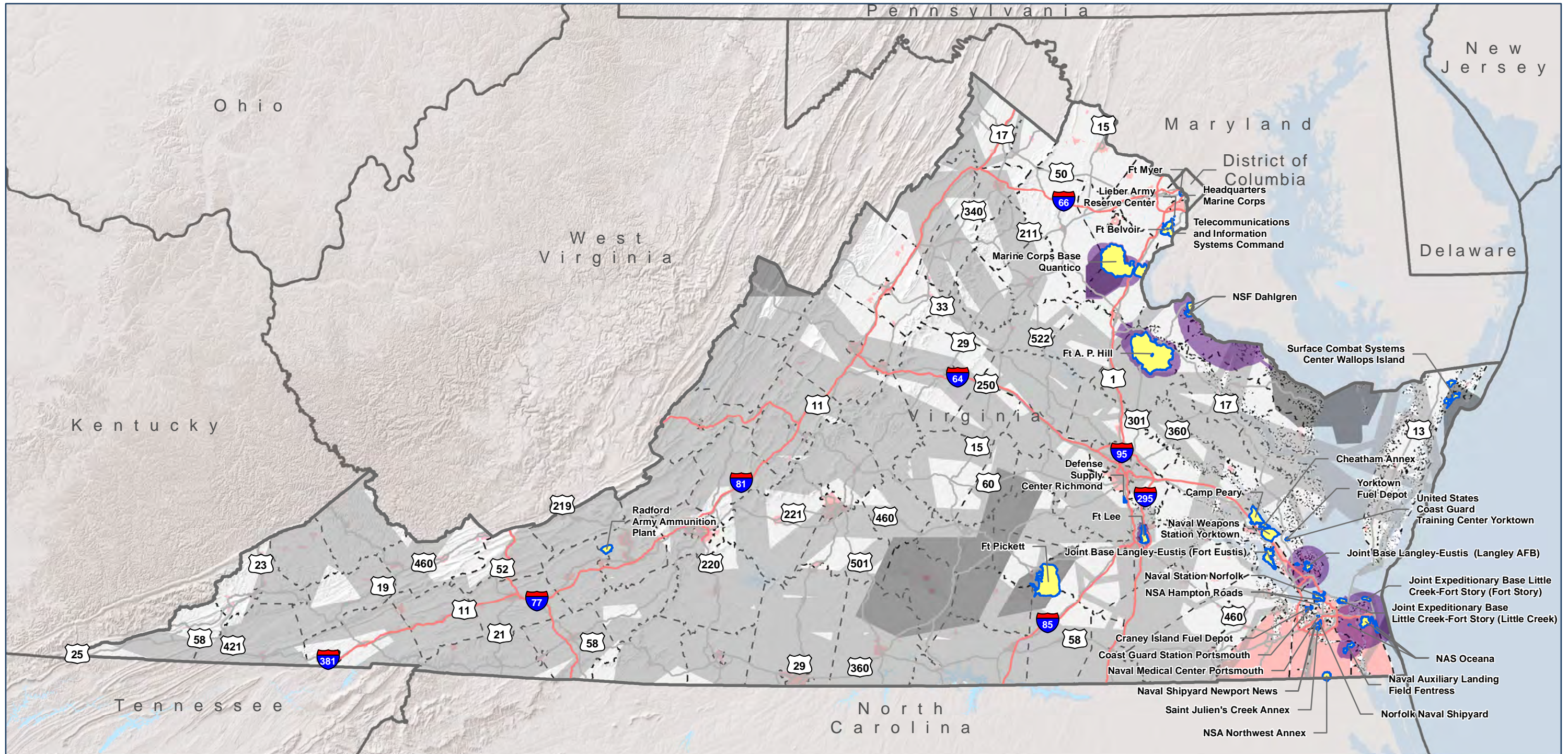
Over the past decade, the Department of Defense (DoD) has invested billions of dollars in construction on military installations across the Commonwealth of Virginia. Actions impacting the Commonwealth resulting from the 2005 Base Realignment and Closure (BRAC) were very favorable and resulted in growth at almost every military installation and base in Virginia. Coordinated land use planning and decision making is necessary to assess the Commonwealth's position in protecting the military missions in Virginia in order to sustain the superiority of the nation's defense in the Commonwealth of Virginia. This will allow the Commonwealth to keep abreast of the advances in weapons systems combined with increasing costs associated with manufacturing those systems in concert with the need for state and rural economic diversification to continue to thrive.

Six major military installations and their surrounding jurisdictions, as identified in the Joint Land Use Studies (JLUS) are assessed in this report: Fort Lee, Naval Support Facility Dahlgren, Marine Corps Base Quantico, Naval Air Station Oceana, Joint Base Langley-Eustis, and Fort A.P. Hill. It should be noted that Naval Station Norfolk and Naval Auxiliary Landing Field Fentress were not formally assessed in this evaluation; however, related to military compatibility planning, these installations were discussed and evaluated where appropriate. The military utilization of airspace over Virginia provides the impetus for this study. The majority of the Commonwealth of Virginia is influenced by military airspace used for training purposes, with over 85 percent of the Commonwealth's airspace used by the military. The federal investment combined with military influence areas in Virginia makes this Regional Joint Land Use Study Implementation Strategy (RJIS) relevant in order to ultimately enhance the state's response in addressing military compatibility in long-range land use planning.

This RJIS provides an evaluation of statewide military compatibility issues that are either partially addressed or not addressed through current state laws. A brief overview of local regulation and policy is also assessed to identify if state laws, or the lack of state laws, is prohibiting implementation funding and permitting to facilitate compatible land use planning. This report analyzes the issues and strategies identified in the previously completed JLUS studies for the six military installations assessed and identifies eight broad goals that are recommended for the Commonwealth of Virginia to pursue. These goals, and their associated objectives, were developed to assist the Commonwealth in ultimately achieving a sustainable military-community compatible future and reinforce a posture that demonstrates willingness, preparedness, capacity and economy in obtaining increased military capabilities and assets. A set of 31 recommendations was developed to respond to the common military-community related land use planning conflicts and achieve the goals identified in this report.



Please see the next page.



**Legend**

Major Installation Military Influence Area Identified by a JLUS	Military Installation	Municipality	Interstate	Waterbody
Military Training Routes	County	US Highway		
Special Use Airspace	State			

0 25 50  
Mile

**Matrix** DESIGN GROUP  
 Sources: US Census TIGER, 2015. Virginia Geographic Information Network, 2016. USGS, 2016.

**Figure 1**  
**Comprehensive Influence Areas**

Please see the next page.

## CONCLUSIONS

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1. The Commonwealth of Virginia has a significant level of military activity across the state. Military influence is broader than just the military installations footprint and the relationship to the surrounding communities, as evidenced in Figure 1. This military capability is critical to national defense and needs to be protected.
2. Without statewide planning that considers military compatibility, there is no formal uniform approach and guidance to protect the military's mission requirements from encroachment caused by incompatible development.
3. Without a single, maintained Geographic Information Systems (GIS) repository for data, the Commonwealth's municipalities are left to inconsistent, unreliable means and isolated military / joint land use studies to obtain pertinent military data for use in long-range land use planning.
4. Some smaller, rural communities and counties that are affected by the wide ranging military influence areas are not benefitting from the DOD economic impacts / investments / and assistance afforded to the host jurisdictions.
5. The Potomac River and other public land, airspace, and waterways are valuable assets for research, development, testing and evaluation.

## RECOMMENDATIONS

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The following is a list of 11 key recommendations. A comprehensive set of 31 recommendations is provided in Appendix A.

1. Enhance Commonwealth military compatibility legislation by considering amending current legislation to provide for adequate protection of the military missions while not over-regulating land uses not impacted by military influence areas.
2. Consider establishing, supporting, and funding an encroachment / compatible use subcommittee of the Virginia Military Advisory Council (VMAC) that would focus efforts on the advocacy and promotion of compatible development. This subcommittee should also be representative of local land use planning experts to facilitate understanding and local land use knowledge as appropriate.
3. Consider amending current law to include funding mechanisms for acquiring property or development rights that can be applied to jurisdictions.
4. Consider developing new funding mechanism for interested parties to assist in compatibility planning including infrastructure improvements, economic development, and workforce / education / training activities.
5. Consider improving communication between jurisdictions who are within a military buffer of a military installation by identifying the most effective way of incorporating military influence areas on the jurisdiction's official zoning map, e.g. accident potential zones, clear zones, noise zones, and imaginary surfaces. This will facilitate compatibility awareness by jurisdictions, community development organizations, and the general public. This would also assist in implementing the state mandate for military notification of proposed development actions that would or could locate in these areas.



6. Consider evaluating and developing a statewide renewable energy development permitting process to include siting procedures and mapping of locations compatible with large-scale utility projects that allows intersect analysis with military operations. This will ensure siting of renewable energy projects will not impact the vast military influence area throughout the Commonwealth, but still enable and provide for local economic development and conservation goals. This should also evaluate the cumulative effect of multiple large-scale utility projects in any given geographic area.
7. Consider developing statewide telecommunications permitting that authorizes local jurisdictions to permit including siting that is compatible with preserving the military mission and promotes rural connectivity.
8. Consider amending Virginia Code Section 55-519.1 to include real estate disclosure of noise that is generated from firing range activities not just aircraft operations.
9. Consider developing statewide data repository to assist developers and local governments with long-range planning.
10. Consider protecting the Potomac River Test Range and other public land, airspace, and waterway assets by establishing collaborative working relationships that support implementing 'working' military compatibility policy and regulations.
11. Consider developing and supporting incentives for economic development through the promotion of veteran-owned businesses to encourage the utilization of Virginia's military retiree population.

## LIMITATIONS OF THE EVALUATION

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The analysis in this report is based upon the best available data. As part of the evaluation of local jurisdictional land use planning tools, certain tools from jurisdictions were unavailable. Geographic Information Systems data for military influence areas throughout the Commonwealth was limited. In addition to GIS data obtained, data was also digitized from relevant JLUS Reports for the military influence areas of the assessed installations. Therefore, the report is limited by the accuracy of the GIS data.





# Introduction





## INTRODUCTION

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The Commonwealth of Virginia has a long history of providing military support hosting national defense assets. The past decade has brought billions of dollars of investment in construction on military installations across the Commonwealth. This investment is attributable to the integrated military support that all levels of government and the private sector provide. Congress has recognized the Commonwealth and City of Virginia Beach for addressing encroachment and incompatible development around Naval Air Station (NAS) Oceana. To reinforce the long positive history of military support and robust amount of national defense assets in the Commonwealth, Virginia's leadership determined it was necessary to conduct a study on sustaining military and defense assets, focused on ensuring the Commonwealth is well postured to protect existing operations and potentially grow military missions at installations into the future. This comprehensive report identifies and addresses compatibility issues around six major military installations from a statewide perspective, which was the catalyst for this Regional Joint Land Use Study Implementation Strategy (RJIS).

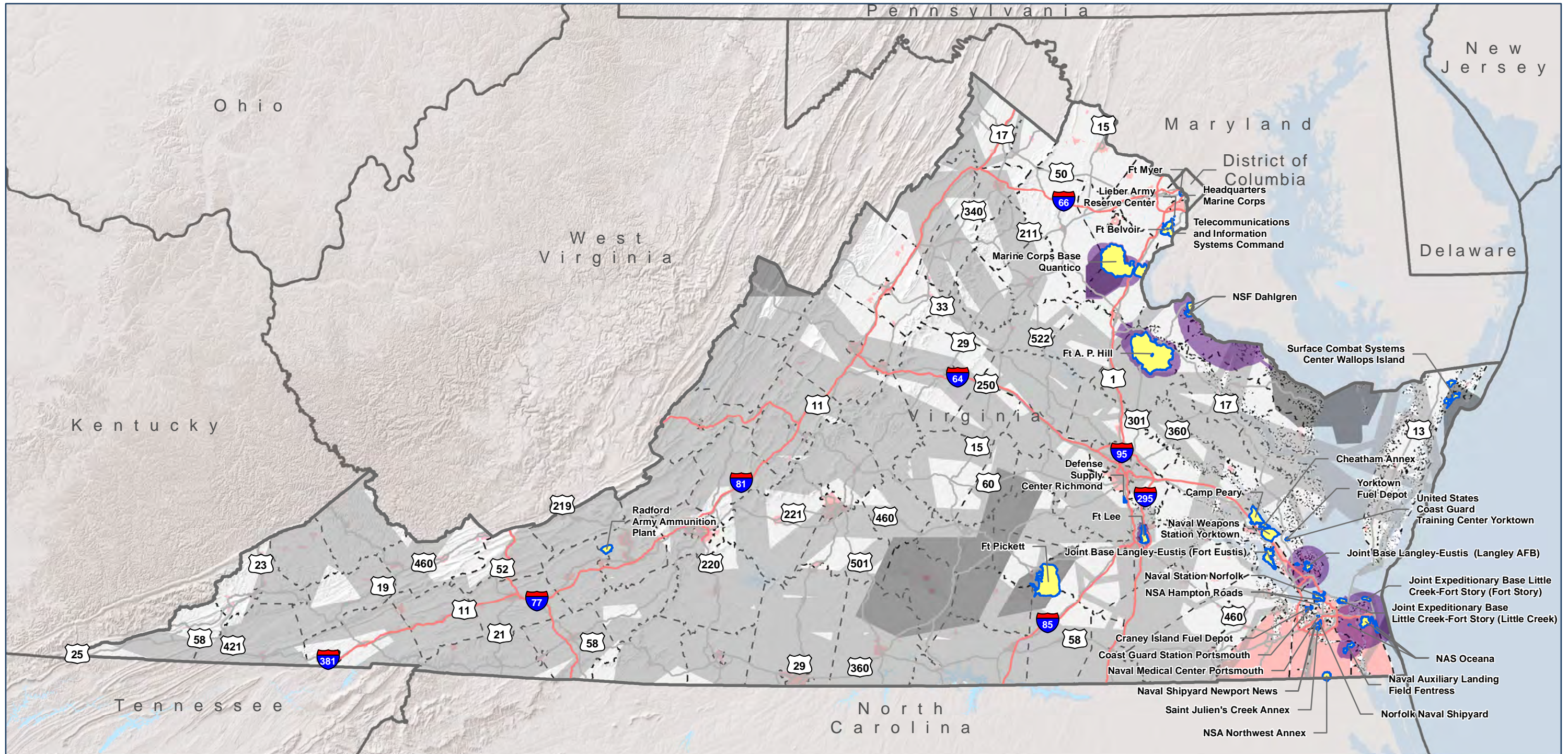
The Commonwealth is home to irreplaceable training ranges (at sea and ashore) that must be preserved and protected. These training assets can be measured and illustrated by the footprint they encompass. Figure 1 illustrates the comprehensive military influence footprint in the Commonwealth of Virginia. Figures 2 through 5 illustrate the military influence areas divided into regions to assist in understanding of the different regions and their respective military influence areas. Not all the regions have the same military influence areas or the same coverage of influence areas. Figure 2 illustrates the Northern Virginia Region, Figure 3 illustrates the Central Virginia Region, Figure 4 shows the Hampton Roads and Virginia Beach Region, and Figure 5 illustrates the Western Virginia Region. It is important to note that the dark purple color on the maps represents a comprehensive military influence area, including airfield safety zones and most noise zones, which were identified in each installation's Joint Land Use Study (JLUS) that was completed for the communities surrounding each installation. The military installations associated with these ranges and influence areas are critical to local economies, generating thousands of jobs and billions of dollars in economic activity and tax revenue annually. In the past, incompatible development has been a factor in the loss of training operations and restructuring or loss of mission-critical components at various military installations across the United States. To protect missions currently carried out at Virginia's military installations, and the health of the integrated local economies and industries that rely on them, encroachment must be addressed through collaboration and joint planning between installations and local communities.

The Commonwealth of Virginia commissioned Matrix to develop a study that would assess compatible development for six military installations and their host communities to establish a level of protection against possible closure in a next round of Base Realignment and Closure (BRAC).

The following pages describe the methodology, identified goals and objectives, and an analysis of the data compiled for the purposes of this study.



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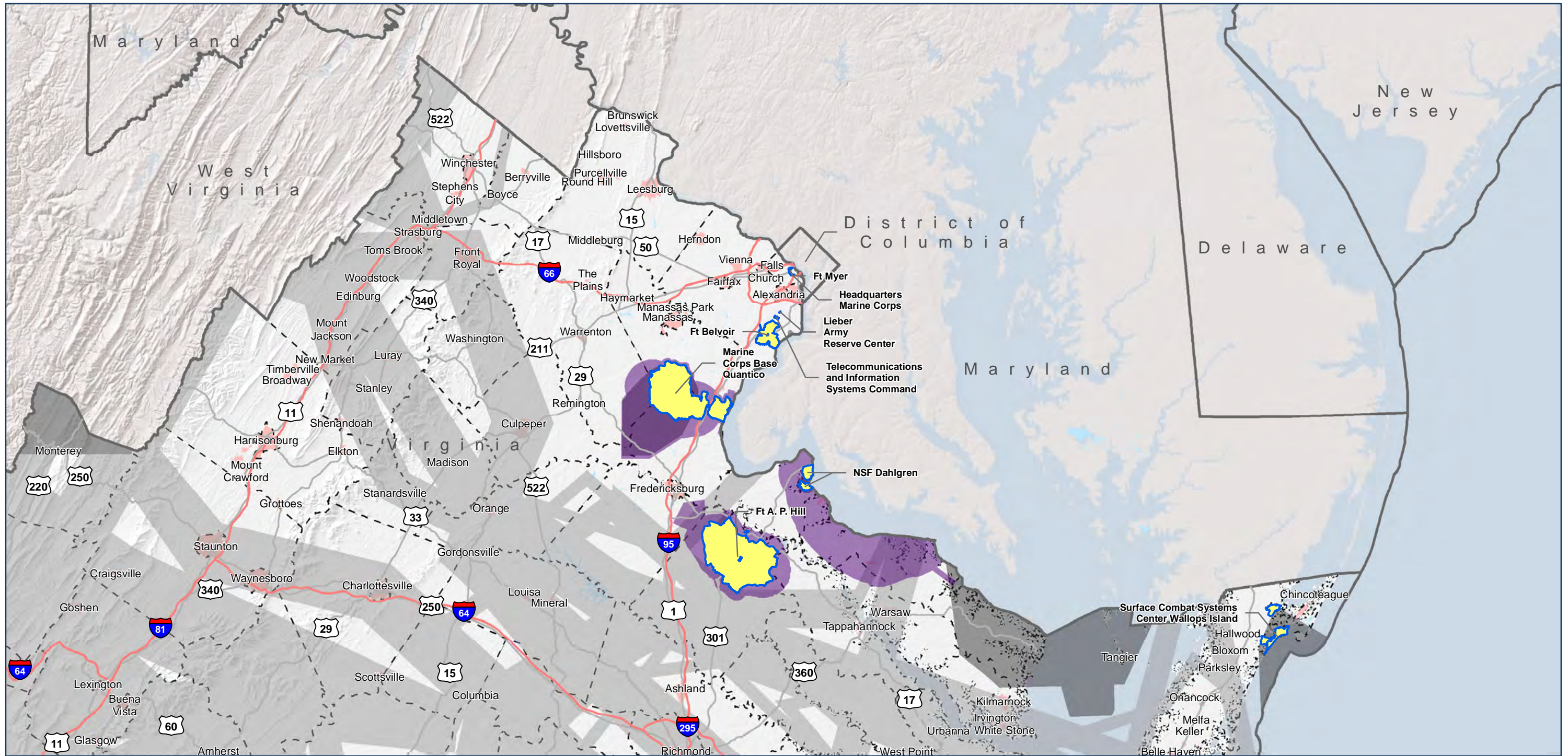


**Legend**

Major Installation Military Influence Area Identified by a JLUS	Military Installation	Municipality	Interstate	Waterbody
Military Training Routes	County	US Highway	State	
Special Use Airspace				

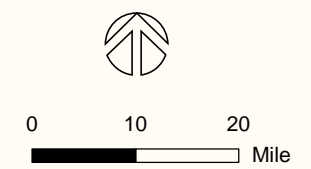
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**Legend**

- Major Installation Military Influence Area Identified by a JLUS
- Military Installation
- Municipality
- Interstate
- Waterbody
- Military Training Routes
- County
- US Highway
- Special Use Airspace
- State

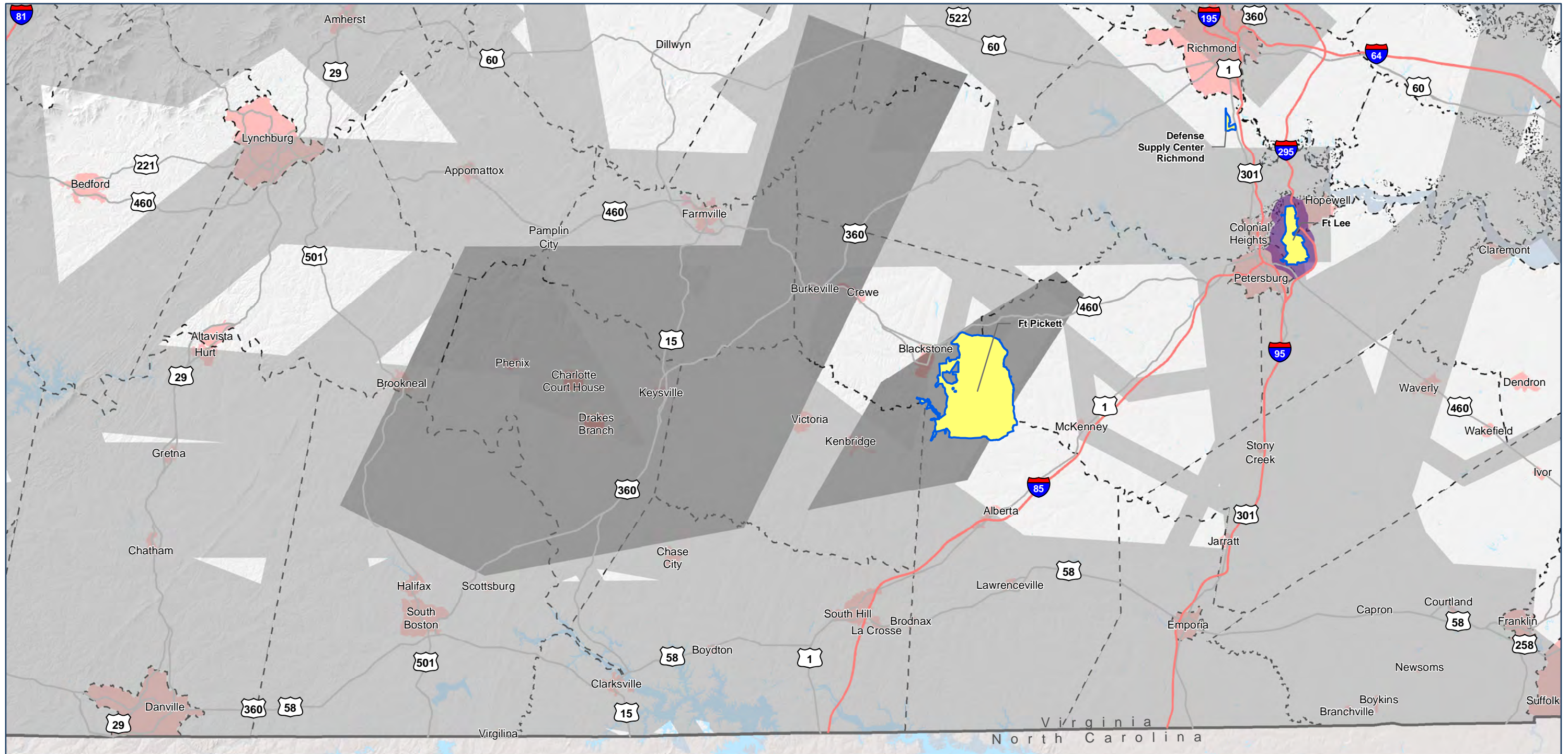


Sources: US Census TIGER, 2015. Virginia Geographic Information Network, 2016. USGS, 2016.

**Figure 2**  
**Comprehensive Influence Areas - North**

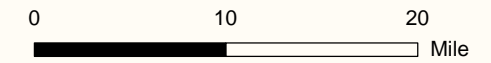
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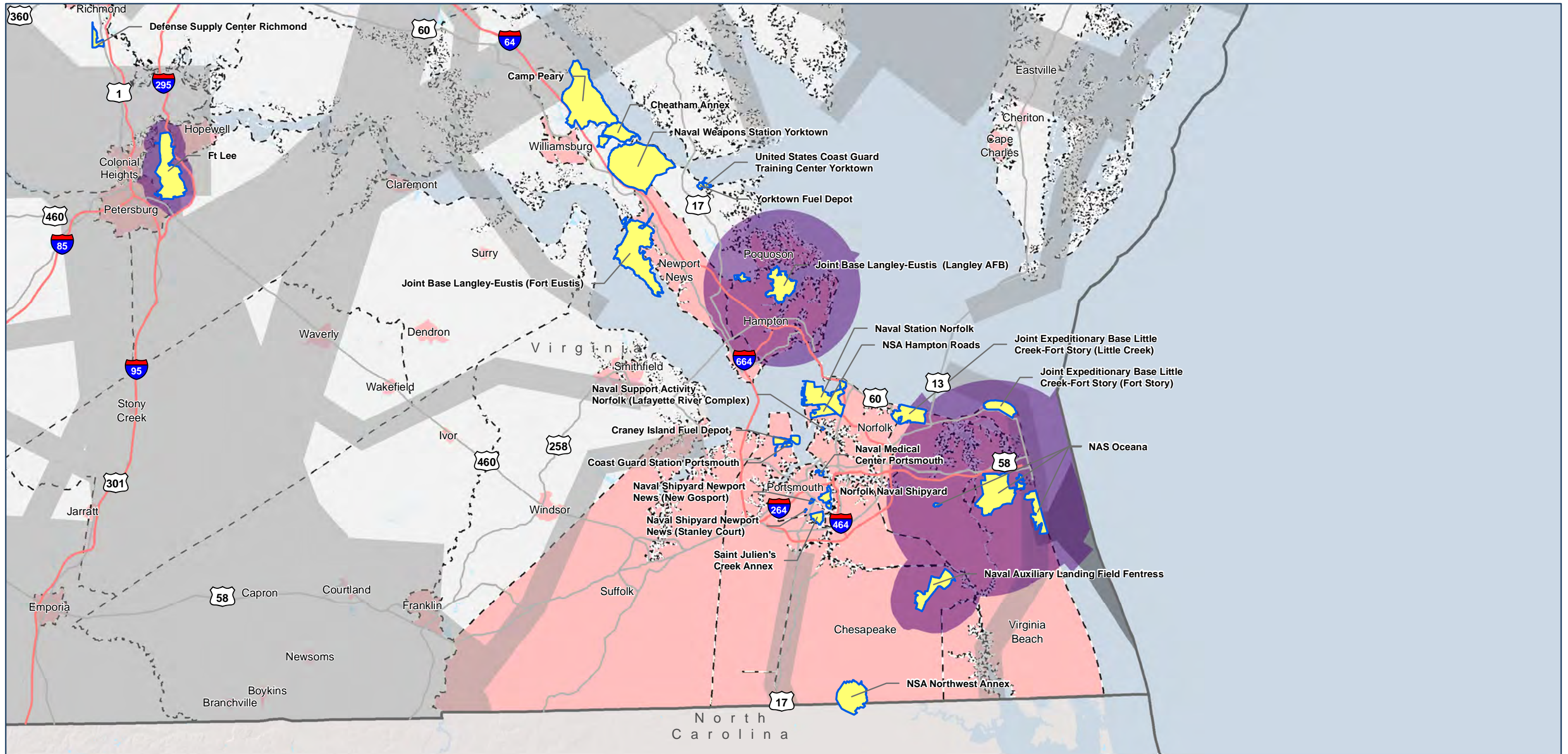
- Major Installation Military Influence Area Identified by a JLUS
- Military Installation
- Municipality
- Interstate
- Waterbody
- Military Training Routes
- County
- US Highway
- Special Use Airspace
- State



Sources: US Census TIGER, 2015. Virginia Geographic Information Network, 2016. USGS, 2016.

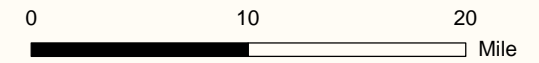
**Figure 3**  
**Comprehensive Influence Areas - Central**

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**Legend**

- Major Installation Military Influence Area Identified by a JLUS
- Military Installation
- Municipality
- Interstate
- Waterbody
- Military Training Routes
- County
- US Highway
- Special Use Airspace
- State



Sources: US Census TIGER, 2015. Virginia Geographic Information Network, 2016. USGS, 2016.

**Figure 4**  
**Comprehensive Influence Areas - Hampton Roads**

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## METHODOLOGY

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The methodology used to develop the Virginia Regional JLUS Implementation Strategy included three phases:

- data collection;
- data analysis;
- and report / recommendation development.

### Data Collection

Information was gathered from existing reports, studies, and other sources of relevant data to develop a comprehensive baseline. Matrix collected Joint Land Use Study (JLUS) reports for six installations and the report commissioned by the Virginia Commission on Military Installations and Defense Activities titled, *Growing the Military Mission in the Commonwealth of Virginia*, and other pertinent reports relevant to this project. A comprehensive list of data sources is available in Appendix A. One of the guiding principles was to avoid duplication of previous efforts and burdening installation and communities with unnecessary requests for information.

The analysis began with a review and data extract of the installation's JLUS reports to understand the issues identified for each installation. The extracted military issues and recommendations were compiled in order to perform an analysis of trends, commonalities between issues and recommendations across all the reports. A comprehensive listing of the identified issues and recommendations of all military compatibility reports for this study is provided in Appendix B.

After trends, common issues, and recommendations from the military-community reports were identified, Matrix synthesized the data and developed common unifying goals and objectives that are the foundation of this report. Recognizing the goals and objectives needed further evaluation in order to prepare and develop statewide recommendations for this RJIS, Matrix collected open source information (i.e., Comprehensive Plans and Zoning Ordinances) from each jurisdiction to assess existing policies and regulations for land use compatibility planning including notification of changes in land uses. A list of the open-source data reviewed from jurisdictions is provided in Appendix A.

### Data Analysis

From the collected, synthesized data, a detailed analysis of the local compliance with existing state laws was performed. All available jurisdictional comprehensive plans, zoning ordinances, city codes, and subdivision regulations were evaluated to assess the local implementation of Virginia laws and whether the local implementation was reflective of the current military compatibility guidance that would protect the military missions.

Themes for successful mission enhancement and growth, such as leveraging military assets like land, buildings, equipment and technical expertise were identified and analyzed. These arrangements can produce creative innovation through Public-Public, Public-Private (P4) partnerships (Pursuant to 10 U.S. Code, Chapter 137 § 331 Intergovernmental support agreements with State and local governments), land use modifications, business incubators or other opportunities not customarily associated with military assets. This analysis is the foundation for the detailed recommendations and actions proposed.



## Report / Recommendation Development

The analysis resulted in a significant amount of information integrated into this report. Included are specific actions that community and Virginia governments could take to enhance the military value of each installation and increase the return-on-investment for each community. The report provides comprehensive recommendations, e.g. state-level policy, modifications to existing codes, as well as tailored community actions to better protect Virginia's military bases and provide greater economic benefit to indirectly-impacted communities. The goal of the report is to provide brief, important, and useful specifics about the opportunities and threats at the state-level and associated with each installation and community.





# Compatibility Goals and Objectives





# Compatibility Goals and Objectives

## STATEWIDE MILITARY COMPATIBILITY GOALS AND OBJECTIVES

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The Secretary of Veterans and Defense Affairs (VDA) for the Commonwealth of Virginia through the Virginia Military Advisory Council (VMAC) is the agency charged with elevating issues related to the state's military including veterans. As an advisory council under the VDA, the VMAC's mission is to represent the state government in matters of military affairs including maintaining a collaborative, cooperative, and communicative relationship between the Commonwealth and the leadership of Virginia's military installations. The VMAC examines relevant issues that interface with both the military and communities including quality of life for service members and families, relationships between communities and installations, and encroachment issues affecting military readiness.

Much like the Council, this Regional JLUS Implementation Strategy (RJIS) was developed to ensure the issues identified in the various community-military studies can be reasonably and appropriately addressed and progress towards achieving desired outcomes measured from a statewide perspective. After review of the collected data and all compatibility issues, the following mission, goals, and objectives were developed for the Virginia RJIS to create a desirable end-state for implementation:

*Provide for an enhanced military presence and leverage federal investment through formal, open lines of communication and coordination, reliable information sharing, the creation of dedicated funding mechanisms for military compatibility planning and assistance, and the preservation and protection of the Commonwealth's natural resources.*

This RJIS report proposes to include other organizations, including other states that would assist the Commonwealth in protecting the military installations in Virginia, preserve the Commonwealth's natural resources, and provide for continued and sustained economic opportunities to communities impacted by military missions. To accomplish this, the RJIS includes a set of goals and objectives that make it possible for the Commonwealth to take appropriate actions to enable further economic development for all military-affected jurisdictions and increased protection for the military installations and missions in Virginia. The Virginia RJIS goals and objectives are:

### ***Goal 1. Enhance Ongoing Communication and Coordination between the Commonwealth of Virginia and the Military***

#### **Goal 1 Objectives**

1. Institutionalize formal communication between the Commonwealth and its military installations.
2. Formalize communication among Virginia's military installations by enhancing the standard procedures for communication and coordination with military installations provided by state laws.



3. Maintain and monitor effectiveness of communication and coordination between the Commonwealth and military to ensure issues are addressed and actions are executed in a timely manner.
4. Enhance notification / coordination by developing a Compatibility-Military Land Use Assistant tool through the use of GIS mapping of military critical training areas.
5. Establish a Local Governmental Liaison Program.

***Goal 2. Establish and Maintain an Interactive Mapping and Public Domain Data Repository between the Commonwealth and Military***

**Goal 2 Objectives**

1. Identify the appropriate host for data and the types of data that would be collected, maintained, and ideally, shared with various agencies, interest groups on an as requested basis.
2. Establish guidelines for data updating and points of contact.
3. Establish parameters for the sharing of data with certain interest groups including the local government units and development community.
4. Establish security measures and procedures for the repository to monitor data security.

***Goal 3. Adopt Statewide Military Compatible Land Use Planning Guidelines for Local Governments to Integrate into Regional and Local Planning and Zoning Documents***

**Goal 3 Objectives**

1. Develop statewide land use planning guidelines incorporating military compatibility policy and regulations that local governments can integrate into local planning tools.
2. Consider best practices that have benefitted jurisdictions in Virginia to-date as well as jurisdictions across the country.
3. Adopt policy that fosters military compatibility in local planning tools, such as the Federal Aviation Administration (FAA) Part 77.17 Compliance regulations.
4. Adopt policy that encourages local governments impacted by military operations including activities that generate noise and use airspace to require military compatibility planning by using the most recent Department of Defense studies and resources including but not limited to Department of Defense Instruction (DoDI) for Air Installation Compatible Use Zone (AICUZ), the latest installation-specific AICUZs and Installation Development Plans (IDPs) or Real Property Development Plans (RPDPs).
5. Provide for a dedicated state planning coordination effort to oversee the recommendations relevant to land use planning and to assist in creating policy that benefits both the Commonwealth and its jurisdictions.

***Goal 4. Establish Procedures for Permitting Renewable Energy Development in Consideration of Military Compatibility***

**Goal 4 Objectives**

1. Adopt policy on permitting of commercial size renewable energy development to require military mission compatibility evaluation and mitigate adverse impacts on the military.
2. Establish procedures for monitoring and updating the permitting policy for renewable energy development, especially as technologies change.
3. Establish procedures for coordinating renewable energy development projects in the state with DoD officials and the DoD Siting Clearinghouse.

***Goal 5. Establish Permanent Funding Sources for Military Compatibility Planning and Assistance for Local Governments and Other Agencies***

**Goal 5 Objectives**

1. Evaluate funding mechanisms used by other states to establish dedicated permanent programs and funding streams to assist military-affected communities with military compatibility planning.
2. Prepare enabling legislation to establish programs, funding streams, and metrics for dispensation of funds.
3. Establish ongoing, monitoring procedures and performance measures to ensure funding is distributed appropriately and utilized purposefully.

***Goal 6. Leverage Federal Investment through Education and Awareness of Available Programs and Grant Federal Funding Opportunities***

**Goal 6 Objectives**

1. Enhance the VDA to incorporate existing program information, e.g. Procurement Technical Assistance Program and Centers (PTAP) and Defense Access Roads (DAR) Program information on its websites and informational brochures.
2. Establish an email database for the VMAC Encroachment / Compatibility Subcommittee to disseminate information about notices of funding availability (NOFA) to military-affected jurisdictions.
3. Utilize workforce development funding streams to enhance workforce through specialize training and education programs.

***Goal 7. Enhance Real Estate Disclosure Laws in the Commonwealth of Virginia***

**Goal 7 Objectives**

1. Protect the residents and visitors of the Commonwealth of Virginia by enhancing real estate law to include noise generated from military range activities.
2. Protect the citizens of the Commonwealth and the local governments by requiring real estate disclosure from all real estate agents and licensed realtors that are within a military influence area including airfield safety and noise zones and airspaces utilized by the military.



***Goal 8. Protect the Commonwealth of Virginia's Public Resources Utilized by both Virginia's Military Installations and Local Communities***

**Goal 8 Objectives**

1. Protect the airspace over the Commonwealth of Virginia and the States of Maryland and North Carolina for military training that occurs at Virginia military installations.
2. Maintain and strengthen interstate collaboration for the purposes of protecting the abundant land, air, and water resources for realistic military training.
3. Preserve public lands and waterways for multi-purposes including recreational and natural resource protection and military training.
4. Maintain and protect the Potomac and York Rivers for strategic military training purposes.
5. Maintain the Potomac River Test Range (PRTR) to enable testing of all the leading, cutting-edge technologies and the latest military training capabilities.
6. Maintain the PRTR as an obstruction free area to include no cell towers or alternative energy development structures located within the range area.
7. Maintain the PRTR free from radio frequency interference due to cell tower development and other development that promotes the use of radio frequencies.

The following pages provide an evaluation of these goals and objectives based on the information found in the completed JLUS reports of the six Virginia installations: Fort Lee, Naval Support Facility Dahlgren, Marine Corps Base Quantico, Naval Air Station Oceana, Joint Base Langley-Eustis, and Fort A.P. Hill.



# Analysis and Findings







## Analysis and Findings

### ANALYSIS AND FINDINGS

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#### ***Goal 1: Enhance Ongoing Communication and Coordination between the Commonwealth of Virginia and the Military***

The VMAC is a component of Virginia’s Secretary of Veterans and Defense Affairs that among other things provides advocacy on issues related to encroachment of military installations. The Commonwealth has established policy to initiate and foster continued enhancement of a sustainable and reliable communication and coordination network between the state and local governments and the military. The Commonwealth’s policy has facilitated positive strides in local communication and coordination between the local jurisdictions and military installations. However, it is unknown whether the coordination and communication is effective and achieving the policy’s intent—integrated and coordinated solution sets which address issues related to encroachment and promote the beneficial coexistence of both community and military organizations.

The Commonwealth of Virginia promotes the ongoing communication and coordination of local planning matters and as such has passed laws authorizing the local governments to engage with military installations in Virginia’s to facilitate the successful coexistence of both the local jurisdictions and military mission. Virginia Code Section (§) 15.2-2211 titled: Localities may permit existing encroachments, establishes the provision of cooperation between local jurisdictions and military installations requiring the planning commission of a jurisdiction to communicate with an installation commander regarding any proposed planning and development to protect the military installation from adverse impacts caused by uncoordinated potential development. While this law establishes the requirement for communication between jurisdictions’ planning commissions and the military, the law does not set parameters for this communication and coordination including triggers such as location and type of land use action and response times.

The lack of parameters in Virginia Code § 15.2-2211 provides the impetus for additional policy direction requiring local governments to coordinate with the military, but lacks parameters to be effective. Thus, Virginia Code § 15.2-2204D was adopted; it requires the local commissions to give a 30-day written notice to the installation commander about a proposed comprehensive plan or amendment to an existing plan; a proposed change to a zoning map classification; or an application for a special exception for a change in use that involves a parcel located within 3,000 feet of a military installation’s boundary. These laws are good measures relative to promoting compatibility; however the 3,000 feet notification area may be enhanced to better address the impact of a proposed land use change on the installation and its mission footprint, or operational areas. The overall, statewide comprehensive military influence area is shown on Figure 1. Figures 2 through 5 illustrate the same influence areas but broken up into four geographic regions.

The majority of the jurisdictions impacted by one of Virginia’s six military installations assessed in this report have adopted the military notification requirements per the Virginia Code. However, there are several that have not adopted military notification requirements. This lack of adoption of military notification requirements is most likely because the jurisdiction is not within the designated 3,000 foot notification area.



Jurisdictions such as the Town of Colonial Beach and the County of Dinwiddie have not adopted military notification requirements because they are not within the designated notification area. While these jurisdictions are not within the designated notification area, the military mission operational footprint can impact various land uses in these jurisdictions, potentially causing concern for future military compatibility planning in various jurisdictions. There are numerous military installations (i.e., Fort Pickett) that have mission operational footprints that impact land uses within the designated notification area. Fort Pickett's mission as a maneuver training center provides various capabilities including live fire training and urban assault. These range activities can generate noise that would impact community activities and nearby land uses.

In theory, the Virginia Code § 15.2-2211 provides the authority for other jurisdictions' planning commissions to coordinate with the military. While this section of the code does not describe how to communicate or what triggers required coordination with the military, this law establishes the general requirement for local planning commissions to coordinate with the installation regardless if the commission's jurisdiction is located within designated notification area. In addition, this part of the Virginia Code does not require the military to communicate or coordinate with local governments for activities, planning, or military construction that could impact community activities. There is no state or installation-specific parameters for the military to communicate or coordinate with the communities in the event of shared services or other types of military-related development that could either impact the local governments positively or negatively.

### **Findings for Goal 1: Enhance Communication and Coordination**

- Several jurisdictions have not established any means to coordinate with the military regarding proposed land uses, plans, amendments to plans, and developments near military installations or in areas having the potential to impact military operations.
- Not all jurisdictions within the designated notification area outside one of the six assessed installation boundaries have adopted the military notification requirement.
- A few communities, where resources are limited, have not established military notification or coordination measures to ensure proposed development is compatible with the military footprint impacting the community.
- Military influence extends beyond the State Law-designated notification area feet from an installation boundary as depicted in the existing military mission influence areas in Figure 1.
- State policies and procedures do not establish communication and coordination standards for the military to communicate with local governments on events or activities that impact local jurisdictions.

### ***Goal 2: Establish and Maintain an Interactive Mapping and Public Domain Data Repository between the Commonwealth and Military***

Of all the jurisdictions impacted by the military in the Commonwealth of Virginia, none have a single repository of geographic information systems (GIS) data from which to use in long-range project-specific planning. An optimal GIS database would contain planning and zoning information for all jurisdictions, military installations, and encompass military influence areas including military training routes, special use airspaces, and 3,000 foot notification area immediately outside of the installation. For jurisdictions involved with the military through a joint land use study (JLUS), there is usually a compact disc (CD) or digital video disk (DVD) that has all the GIS layers developed and mapped for all the maps that are developed and documented during the

JLUS process. This GIS database usually contains the specific GIS layers for the different military influence areas including airfield safety zones and noise contours for both aircraft and range operational noise.

In addition, the Commonwealth does not possess all the GIS data for each installation within the state. It is important to note that the specific GIS data necessary to address compatibility includes the military's footprint that extends beyond the installation's boundaries. Specifically, these footprints include imaginary surfaces, explosive safety quantity distance (ESQD) arcs, special use airspace (SUA), military training routes (MTRs), surface danger zones (SDZs), weapons danger zones (WDZs), impact areas, accident potential zones (APZs) including clear zones (CZs), and noise zones.

The objective of this Data Repository goal is to develop a current geodatabase of military influence areas from which regional and local governments, the development community, and any special interest groups like The Nature Conservancy, Audubon Society, land trusts, and other similar organizations may use as a resource in long-range planning. Having a single Data Repository of current GIS layers and associated consolidated information can help integrate military operational requirements into local planning policies, plans, processes, and decision-making to increase awareness while simultaneously providing enhanced information to key groups engaged in long-range planning.

Comprehensive plans and zoning ordinances are two key tools developers and community planners use to guide development and make land use decisions, thus providing digital mapping information to agencies and stakeholders for awareness of areas influenced by military operations. This information helps shape compatible land use policy and regulation development addressing the needs of both the communities and military installations. Most of the communities surrounding the six military installations assessed do not identify military installations or their influence areas in their comprehensive plans or on future land use or zoning maps. By not identifying military influence areas, decision makers may not consider the military installation as a planning factor when making decisions. This can lead to uncoordinated incompatible development that may adversely impacts military installation missions and ultimately its long-term sustainability.

Many jurisdictions have an interactive online GIS portal accessible through their website that is accessible to developers and community planners that work in these communities. Although, these jurisdictions do not provide military installation data, it may be easily added to the library as communities obtain and recognize military influence areas. This system can help provide up-to-date information and bridge the gap between comprehensive plan updates.

### Findings for Goal 2: Public Domain Data Repository

- There is no single entity that holds all data for each military installation, including installation boundaries. These footprints typically are public information and do not pose a security risk.
- There is no legislation or authority that has been established or that would be required to establish a single repository.
- Most jurisdictions do not maintain spatial data for military installations in their comprehensive plans or on their zoning maps, suggesting these communities either do not have the data or they do not acknowledge it as a planning factor.
- Many jurisdictions impacted by military operations assessed in this report have an interactive GIS portal that can be supplemented with military influence area layers.



***Goal 3: Adopt Statewide Military Compatible Land Use Planning Guidelines for Local Governments to Integrate into Regional and Local Planning and Zoning Documents***

Consideration of military installations requirements in local jurisdiction’s comprehensive plans and zoning regulations is provided for in Virginia Code Title 15.2, Chapter 22 Counties, Cities and Towns. Military compatibility is referred to in this chapter of the Code relative to land use planning in § 15.2-2284. This section does not include military installations as a matter to be considered when applying zoning regulations. Virginia Code § 15.2-2283 Purpose of Zoning Ordinances establishes the general purposes and provisions for zoning ordinances in the Commonwealth which is to consider certain military-related functions when establishing zoning ordinances. Virginia Code § 15.2-2283 ix and xi establishes that zoning ordinances are to protect approach slopes and other safety areas of licensed airports including military airports, and ordinances are to provide reasonable protection against encroachment on military installations, bases, and airports excluding Virginia National Guard armories. Although military airport facilities are discussed in the Code as they apply to accident potential zones associated with an active military airfield and noise attenuation measures in structures, it is only referred to as related to military air installations and does not cover all military influence areas surrounding each installation. This can result in miscommunication and land development issues that impact military installations when incompatible land uses are planned outside municipal airport safety zones but within military influence areas. In addition, while there is precedent for consideration of military bases, installations, and airports in the development or amendment of zoning ordinances, there is no provision for specific operational areas excluded from these parameters including, operational noise areas, airspace used by the military outside of the FAA imaginary surfaces of an airfield, and range compatibility zones. In addition, § 15.2-2283 excludes armories for the Virginia National Guard which can create incompatibilities relative to land uses planned near such facilities where safety is of utmost importance.

Virginia Code § 15.2-2223 Comprehensive Plan to be Prepared and adopted; scope and purpose requires jurisdictions to adopt a comprehensive plan that establishes long-range recommendations for general development, such as transportation. However, establishing long-range recommendations for military bases, military installations, and military airports, and their adjacent safety areas is discretionary. Furthermore, this does not extend to military influence areas beyond defined safety areas. This legislation does not require those localities that do not have a military installation within their jurisdiction to establish long-range compatibility planning recommendations in their comprehensive plans. No guidance is provided on what extent military compatibility planning should be studied, implemented, and what compatibility issues should be covered in a comprehensive plan.

Stafford County adopted a proactive approach by incorporating military compatibility into their policy document. The county adopted the Quantico MCB 2006 Range Compatibility Use Zone (RCUZ) Study into their comprehensive plan, and created several policies to support the findings in the study, including a “Military Facility Impact Overlay District.”

Text from Stafford County’s Comprehensive Plan Goal 4, Objective 4.8 reads:

*Minimize the noise impacts, vibration impacts, and potential safety hazards generated by the use of live fire ranges and aircraft overflight and aviation impacts in general at Marine Corps Base (MCB) Quantico.*

Each of the following nine policies supports this objective and set standards for the county's long-range implementation. These policies are:

- *Policy 4.8.1. Amend the existing Military Facility Impact Overlay District boundary map to include the following areas as depicted in the Marine Corp Base Quantico Joint Land Use Study, dated June 2014:*

- *All land shown within the Military Influence Area zones.*

*Policy 4.8.2. Amend the Military Facility Impact Overlay District ordinance to encourage the following residential densities within the District in areas outside of the County's Urban Services Area:*

- *Within the Military Influence Area Zones 2.1 and 2.4, reduce or maintain a density at 1 dwelling unit per 3 acres.*

*These densities should be accomplished through means such as conservation easement, Purchase of Development Rights, Transfer of Development Rights, and continuation and establishment of agricultural uses and coordination with the Base on their encroachment control plans.*

*Policy 4.8.3. Amend the Military Facility Impact Overlay District ordinance to include Noise Level Reduction (NLR) requirements in building codes for structures within the District.*

*Policy 4.8.4. Require written noise disclosure, as permitted by law, for potential purchasers and lessees within the Military Facility Impact Overlay District of military operation impacts through means that include, but are not limited to, the requirement of a note on subdivision plats or exploring the possibility of revisions to the County's Noise Ordinance.*

*Policy 4.8.5. Amend the zoning ordinance to establish a maximum height restriction of 450 feet above mean sea level for towers, structures, buildings or objects in areas within the Quantico MCB Range Safety Zone C depicted in the Quantico MCB 2006 RCUZ Study.*

*Policy 4.8.6. Evaluate the need to adopt regulations that promote compatible land uses in areas outside the Military Facility Impact Overlay District, but within sufficient proximity to MCB Quantico to experience noise and/or vibration impacts.*

*Policy 4.8.7. Designate the boundaries of an Airport Impact Overlay Zone for the approach to the MCB Quantico air facility. The primary approach to the landing strip at Quantico, known as Turner Field, is a north south orientation located over the eastern portion of the County, including areas such as Crow's Nest and the Widewater peninsula. It is illustrated in Figure 5.14 of this document.*

*Policy 4.8.8. Notify the Commander and Community Plans and Liaison Officer of MCB Quantico MCB and the Civilian-Military Community Relations Council, of any proposed extension of water or sewer service outside the Urban Services Area on lands within five miles of the boundary of MCB Quantico MCB.*

*Policy 4.8.9. Work cooperatively with MCB Quantico to limit land uses to those compatible with military training activities within the Military Facility Impact Overlay Noise Zones and Range Safety Zones as recommended in the June 2014 Joint Land Use Study and included in Chapter 3 of this document.*



The City of Virginia Beach has also been proactive in ensuring the sustainability of Hampton Roads-NAS Oceana. The city established two policies regarding noise pollution surrounding military installations in their comprehensive plan. However, as written, these policies are only recommended for the city. These recommended policies state:

Recommended Policies: Noise Pollution

*Adhere to Air Installation Compatibility Use Zones (AICUZ) and other policy and programmatic recommendations cited in the Oceana Land Use Conformity Program (<http://www.yesoceana.com/about-oceana-land-use-conformity/>) and the 2005 Hampton Roads Joint Land Use Study (<http://www.vbgov.com/government/departments/planning/areaplans/Documents/Oceana/JointLandUseStudy.pdf>) both adopted by City Council.*

and

*Relocate existing and locate proposed higher noise generating businesses and activities to locations inside the City's higher AICUZ zones and away from residential areas.*

The City of Virginia Beach also identifies three separate Special Economic Growth Areas (SEGAs) in the Economic Vitality section of their Comprehensive plan that are adjacent to NAS Oceana. Each has its own set of recommendations based on information in the Air Installation Compatibility Use Zones (AICUZ).

The City of Chesapeake is also proactive in ensuring the sustainability of U.S. Naval Airfield Fentress Station, Chesapeake Municipal Airport, and the Hampton Roads Airport. These airfields support Navy installations in the Hampton Roads region including NAS Oceana, Naval Auxiliary Landing Field (NALF) Fentress, and Chambers Field (formerly Naval Air Station Norfolk). The city established one goal, one policy, and five strategies to address noise pollution surrounding military installations in their comprehensive plan natural resources element. The goal, policy, and strategies state:

The City's natural resources goal that is indirectly relevant to military compatibility guidance and noise pollution:

*The City will require the minimization of the impact of development on natural resources to include buffering and screening where appropriate.*

The policy that furthers the city's goal regarding noise pollution is:

*The City will continue to manage detrimental impacts from noise.*

The City's strategies or action items to facilitate the management of noise impacts relative to military operations and community activities are:

*The City will maintain its working relationships with representatives of the US Naval Airfield Fentress Station, Chesapeake Municipal Airport, and the Hampton Roads Airport to mitigate the noise generated by air traffic and to update, if appropriate, and enforce land use controls within the adopted Fentress Airfield Overlay District.*

*The City will continue to implement the recommendations of the Chesapeake Jet Noise Task Force, as contained in their final report, dated May 2, 2001.*

*The City will actively participate in the Joint Land Use Study with the Cities of Virginia Beach and Norfolk, the Commonwealth of Virginia, and the US Department of the Navy, which seeks*

*to address land use issues associated with the operation of Naval Air Station (NAS) Oceana, Naval Auxiliary Landing Field (NALF) Fentress and Chambers Field (formally Naval Air Station Norfolk).*

*Off-site impacts of noise associated with certain land uses and transportation facilities will be minimized by combining careful selection of alignment, buffers, landscaping, and sound barriers which provide the most cost-effective noise mitigation benefits.*

*Consideration will be given to minimum distances of separation between various incompatible land uses, such as between industrial and manufacturing processes and residential uses, during development review.*

The combined efforts of the jurisdictions mentioned in this section establish a best practice for these jurisdictions. As identified, each jurisdiction has a unique situation; therefore, it is important to consider each jurisdiction's unique circumstances when designing future military compatible guidance and regulations. However, overall it is also important to consider that while each jurisdiction has a unique situation, the military compatible guidance and regulations should result in the same common goal for both the military installation and the jurisdiction—preservation and protection of military readiness, national defense strategy and the federal investment in local jurisdictions that benefits them.

### **Findings for Goal 3: Statewide Land Use Planning Guidelines in Consideration of Military Compatibility**

- The Commonwealth of Virginia's comprehensive planning law recommends military compatibility awareness elements in comprehensive plans. There is no requirement or mandate that any guidelines or policies to be adopted in such documents. When jurisdictions surrounding military installations do not establish long-range planning goals, objectives, and policies that support military compatibility, the installations can potentially be impacted by uncoordinated incompatible development or encroachment.
- The Code of Virginia does not specifically define military installation influence areas.
- The Code of Virginia does not describe what compatibility planning measures should be considered by jurisdictions located within military influence areas.
- Some jurisdictions have implemented land use planning guidance and regulations which may be used as best practices for other Commonwealth jurisdictions that are considering implementing military compatible land use planning guidance and regulations.

### ***Goal 4: Establish Procedures for Permitting Renewable Energy Development in Consideration of Military Compatibility***

As the United States continues to strive to meet goals regarding the use of renewable energy sources, more and more renewable energy development projects are occurring nationwide, including offshore energy development projects. These renewable energy developments, specifically wind energy projects, can provide numerous benefits and economic development opportunities for many stakeholders. Conversely, these projects can have significant adverse impacts on aviation operations and radar and satellite communications systems if not sited in a coordinated manner. These wind energy systems can create a halo effect, which can



interrupt or interfere with communications. The impacts can have detrimental effects on military training operations including aviation communications, command and control between pilot and ground control landing facilities and signal communications between radar and satellite operations.

Despite the impacts and issues, it is important to promote renewable energy development to benefit consumers and reduce long-term reliance on finite resources and diminish environmental impacts from the burning of fossil fuels. However, the U.S. must promote this opportunity in a way that is compatible and sustainable for all users of the airspace and underlying land.

An evaluation of the National Renewable Energy Laboratory (NREL) data for Virginia indicates the Commonwealth has moderate to high potential for wind energy with the greatest potential found in the North and Hampton Roads regions. As illustrated in Figures 2 through 5, the regions have an extensive military influence area; this coincides with the geographic area with the greatest potential for wind energy development. Thus, the two activities require airspace in the same area to either support military aviation training or wind energy generation can potentially create conflicts for both activities. In addition, military activities not only require airspace but also clutter-free radio and radar communications to perform activities properly and reliably. Further assessment is needed to determine definitive areas for alternative energy development that would not interfere with critical military training.

The Code of Virginia contains provisions that advocate for alternative energy systems that support a reduced dependency on fossil fuels, but this gives local government's discretionary authority to determine where alternative energy systems are appropriate among other authorities. The Code of Virginia requires a resale of property certificate to include restrictions limiting or prohibiting the installation and / or use of solar energy collection devices. Most jurisdictions, however, do not control locations where alternative energy develops, such as areas where solar energy collection devices are incompatible with military installations. Furthermore, there are no regulations requiring jurisdictions to notify or communicate with military installations within the region prior to establishing ordinances regarding alternative energy development.

Despite the Commonwealth's efforts to seek alternatives to traditional sources of energy, the Commonwealth's Energy Plan does not contain any objectives that protect other viable industries such as the Defense Industry from the impacts of uncoordinated energy developments.

The Virginia Code Title 67, Chapter 3, § 67-300 Offshore Energy Resources establishes guidance for off-shore energy development that extends to 50 miles or more off the Atlantic shoreline. This is a good compatibility measure that considers the impact to jurisdictions, the United States Armed Forces, and the mid-Atlantic regional spaceport. While this portion of the law considers these stakeholders, it does not specify parameters for permitting developments with consideration for military and community compatibility.

While some jurisdictions acknowledge the Code of Virginia's alternative energy aspirations, none regulate the location of alternative energy developments. Although most jurisdictions identified in this report are not within immediate military installation influence areas or safety areas, alternative energy developments have the potential to be sited in areas which may cause vertical obstructions, radar interference, or glare, which can hinder the sustainability of an installation mission and training.



## Findings for Goal 4: Permitting of Renewable Energy Developments in Consideration of Military Compatibility

- The Commonwealth’s Energy Plan does not contain goals and objectives that support renewable energy development that addresses military compatibility.
- The Commonwealth of Virginia does not regulate renewable energy developments; rather the Commonwealth authorizes localities to establish their own regulations based on what they deem appropriate.
- None of the jurisdictions identified in this report have implemented any standards or regulations that consider the siting or impact of alternative energy development projects on the military including notification to surrounding military installations.

## *Goal 5: Establish Permanent Funding Sources for Military Compatibility Planning and Assistance for Local Governments and Other Agencies*

State funding mechanisms for military-affected jurisdictions have proven beneficial throughout the United States. Several states have enacted and budgeted for various funding vehicles to provide financial assistance to military-affected jurisdictions. These funding mechanisms include assistance for several components for military compatible land use planning, such as funding assistance for infrastructure and roadway projects, financial assistance for economic development, workforce, and education and training, and for acquisition of land to protect the viability of military missions into the future while simultaneously protecting the general public from military-related impacts such as accident potential and noise.

Since Virginia has minimal financial programs to assist communities with military compatible land use planning, this goal identifies initiatives from other states to assist communities directly impacted by military-related activities and operations. States can ensure compatible land use around military installations by leveraging federal funds to purchase property or development rights to create “buffer” areas. Partnerships for buffer areas—created between state and local governments, federal entities and nongovernmental groups—can be used to acquire land around military installations so that it remains undeveloped and is protected from future encroachment. In many cases, these areas have the potential to partner with agricultural working lands or serve as refuges for the nation’s threatened and endangered plants and animals—an issue that is also of concern to many citizens and legislatures, as well as the military.

Table 1 identifies the state and statute the funding mechanism is codified under. Summations of the code are found in the summaries below the table.

**Table 1. State Funding of Land Acquisition for Military Land Use Compatibility**

State	Land Acquisition
Arizona	Ariz. Rev. Stat. § 28-8480
California	Cal. Pub. Res. Code § 10230
Florida	Fla. Stat. §§ 215.618, 259.105
North Carolina	N.C. Gen Stat. Chapters 113, 113A, 142, 143, 147, § 113-44.15, 113-77.7, 113-77.9, 113A-253, 113A-256, 142-100, 142-101, 142-95, 143-719, 147-86.30 - Session Law 2004-179 (HB 1264)
Oklahoma	2006 Okla. Sessions Law § 234



State	Land Acquisition
South Carolina	S.C. Code § 6 1 320(B)
Texas	Tex. Admin. Code 1-1-4-A § 4.1; Tex. Const. Senate Joint Res. No. 55 Tex. S.B. 318
Virginia	Va. Code § 2.2-2666.3
Washington	Wash. Rev. Code § 89.08.540

## STATES

### Arizona

Arizona General Assembly passed several provisions to protect military and military airport operations. These measures enable a political subdivision to acquire, execute land exchanges, purchase, lease, condemn and devise land or land interests to maintain continued military operations.

### California

The California Assembly enacted law establishing the California Farmland Conservancy Program Fund for the purchase of agricultural conservation easements, fee title acquisition grants, land improvement and planning grants, technical assistance, and technology transfer activities through the California Infrastructure and Economic Development Bank.

### Florida

The Florida Forever Act, a 10-year, \$3 billion program enacted in 2009, allocated funds to acquire and preserve valuable land, including land near military installations. Agencies receiving funds under the program were expected to cooperate with military partners to protect and buffer military installations and military airspace.

### North Carolina

The North Carolina General Assembly passed a law for funding land acquisition or conservation easements near military bases. The law authorizes state borrowing up to \$20 million to acquire by conservation easement or fee simple up to 17,000 acres near North Carolina military bases in order to prevent encroachment of incompatible development.

### Oklahoma

The Oklahoma legislature enacted Senate Bill 1675 in 2006, which created the \$1 million Oklahoma Military Base Protection Grant Program. Local communities can apply for a matching grant for critical infrastructure improvements, addressing encroachment and transportation issues, and to assess needs, utilities, communications, housing, environment and security in order to prevent adverse realignment or military base closure.

### South Carolina

In 2002, South Carolina's Legislature passed the South Carolina Conservation Bank Act. The funding began in July 2004 through deed recording fees, during which time the Bank pursued its mission of conserving significant sites from willing landowners that allows the state to maintain its natural resources. The Bank program simultaneously protects valuable natural resources and private property rights. Property owners that want to voluntarily participate can sell their property outright or place their property in conservation easements to retain traditional ownership of the land. The Bank provides conservation and financial assistance

for the acquisition of land or conservation easements that conserve open space, farmland, wildlife, and rare or endangered species. The fund is anticipated to provide \$10 million annually.

### Texas

The Texas Legislature passed Texas Administrative Code 1-1-4-A § 4.1 to assist communities that host military installations, including establishing the Texas Military Revolving Loan Fund. This Fund aids community planning initiatives through the development of a comprehensive defense community strategic impact plan, planning manual, formalized consultation measures with the military, job creation through economic development projects, and financial assistance to defense communities for infrastructure projects that accommodate new or expanded military missions resulting from a BRAC decision that occurred in 2005 or later. This Fund is administered by the Texas Military Preparedness Commission.

In a Texas special election in 2003, Senate Joint Resolution No. 55 was approved, which amended the Texas constitution to authorize the issuance of general obligation bonds not to exceed \$250 million from general revenues to provide loans to defense-related communities. The loans are repaid by the defense-related community, and are used for economic development projects, including projects that enhance the value of military installations.

The Texas Legislature passed SB 318 in 2015 to amend certain elements of the Defense Economic Adjustment Assistance Grant (DEAAG) program including the amount of award and the types of projects eligible. This law was designed to assist communities to prevent Base Realignment and Closure (BRAC) actions from resulting in closure or realignment of certain military bases and missions within the state. The DEAAG is a grant program where funds are allocated by the state to assist military impacted communities in planning, technical and educational assistance, and to provide funding or matching funds for infrastructure construction projects and other projects to prevent realignment and closure of military bases in military-impacted communities. The minimum amount of award is \$50,000 and the maximum amount is \$5 million. Funds may also be used to train displaced workers or train workers at the military installation to encourage continuity if missions change.

The funding for the DEAAG program is allocated by the state and administered by the Texas Commission on Military Preparedness. The commission has established criteria for the program that includes eligibility requirements for award of DEAAG funding. A similar funding mechanism could be used in Virginia as it is intended for all eligible defense-impacted communities.

### Virginia

The Virginia Legislature enacted laws to provide for state funding to address incompatible development including the acquisition of property within the NAS Oceana accident potential zones per the AICUZ. To prevent further encroachment, the governing body of any locality in which a United States Navy Master Jet Base is located is required to adopt ordinances to establish a program to purchase or condemn incompatible use property or otherwise seek to convert such property to compatible use and prohibit new uses or development deemed incompatible with air operations in the Accident Potential Zone 1 (APZ-1) and Clear Zone areas as depicted in the Navy's 1999 AICUZ Pamphlet, and fund and expend no less than \$15 million annually in state and local funds in furtherance of the program to the extent that properties or development rights are reasonably available for acquisition or their use reasonably may be converted. Such funding and expenditures are subject to annual appropriations from the state and locality, and shall continue until such time as all reasonably available properties or development rights have been acquired in the designated areas.



### Washington

In 2007, the Washington Legislature created the Agricultural Conservation Easement Program (ACEP), which is designed to protect valuable, active agricultural land in the state. Program funding is maintained in an ACEP account and the expenditures are charged to local government units or private, non-profit entities on a match or no-match basis dependent on the state's commission discretion. The funding may only be used for the purchase of easements in perpetuity or lease or purchase easements for a fixed timeframe.

### **Findings for Goal 5: Establish Permanent Funding Sources for Military Compatibility Planning and Assistance for Local Governmental Units and Other Agencies**

- While there is a funding tool for acquiring land to protect both natural resources and military operations areas, there is no funding mechanism for assisting communities with planning for growth or loss situations in the event of future BRAC actions.
- Other states across the country have enacted various laws to assist defense communities with various aspects of planning including construction, infrastructure, education and workforce planning and training that provides the communities with resources to manage and address sustainability and / or encroachment.

### ***Goal 6: Leverage Federal Investment through Education and Awareness of Available Programs and Grant Federal Funding Opportunities***

This goal focuses on leveraging existing federal funding and investment in local communities through educational and awareness methods in an effort to access and obtain more business and funding opportunities in Virginia. Examples of federal investment programs that are available to local communities include the Procurement Technical Assistance Center (PTAC) Grants and the Defense Access Roads (DAR) Program. These programs are supported by federal funding and provide direct financial and technical assistance to state and local governmental agencies.

The Virginia Procurement Technical Assistance Program (PTAP) website identifies several PTACs in the Commonwealth of Virginia available to assist small business to prepare them to bid appropriately on federal, state, and local contracts. The PTAP is a grant administered by the United States Small Business Administration through the Commonwealth's administrator, also named, the PTAP. George Mason University has been administering, coordinating and offering the PTAPs assistance throughout the Commonwealth of Virginia. PTACs offer education courses and provide technical assistance to small businesses preparing to do business with the DoD and other federal agencies, assistance in positioning them to do business with the federal government through educating and assistance with marketing materials such as capabilities statements, and provides opportunities to meet with federal agencies to learn how small business services and goods can fulfill agency needs. The Virginia PTAP is offering an inaugural conference for small businesses to learn to do business with the DoD and other federal agencies overseas.

The DAR Program is jointly administered by the Federal Highway Administration and the Military Surface Deployment and Distribution Command. The purpose of these federal funds is to assist local communities with the expenses of maintaining roadways that are unusually impacted by military use. There is a military-community process for identifying a roadway and associated improvements and funding that requires congressional approval. While this is another opportunity for local businesses to assist in roadway

infrastructure work, it is limited in scope and can be lengthy process. However, it is important to reference in this report in the event additional funding is needed for unique roadway improvements that are required due to unusual military utilization.

Other sources of federal funding include funding for land use planning around sensitive mission critical areas and sensitive biological areas. These opportunities include funding for Alternative Energy Facility Siting, OEA Grants including regional JLUS planning projects, Readiness Environmental Protection Integration funding, and the Army Compatible Use Buffer program

Another opportunity for leveraging federal investment is through the various workforce and education and training programs for civil service and / or military personnel that have retired from the military service or have been displaced due to realignment actions. The Commonwealth of Virginia has recently invested in veterans in various ways including providing incentives for business startups and using military course work towards college credit.

## Findings for Goal 6: Leveraging Federal Investment Locally

- There are several existing resources in the Commonwealth that are designed to aid communities and small businesses; however, the awareness of these resources may be minimal in communities where traditional planning is performed by the more urbanized jurisdictions.
- There has been no legislation in recent years to provide a funding mechanism for military compatibility planning including infrastructure and economic development planning to jurisdictions and communities impacted by military training operations.
- There are several federal funding opportunities that the Commonwealth of Virginia and its jurisdictions can utilize to assist in land use planning around military installations.

## Goal 7: Enhance Real Estate Disclosure Laws in the Commonwealth of Virginia

Several of the installations assessed in this JLUS report included recommendations in their independent JLUS reports to enhance real estate disclosures for properties located adjacent or near a military installation. The reports indicated current state law only establishes provisions for noise generated by air installations, rather than all military installations including those that conduct activities that generate noise on ranges. Virginia Code § 55-519.1 Required Disclosures requires disclosures pertaining to military air installations. The Virginia Code states the following:

*Such disclosure shall state the specific noise zone or accident potential zone, or both, in which the property is located according to the official zoning map.*

While this law provides a first step for enforcing real estate disclosures associated with military impact, there are some enhancements needed to facilitate improved real estate disclosure in military influence areas. This law only applies to noise generated from military aircraft; it does not address noise generated from range training activities, such as small and large arms firing, impulse noise, detonation, and other similar activities. Secondly, the law only applies to properties in localities that have memorialized the military installation's influence areas on the official zoning map. Thus, if a jurisdiction or locality has not designated the military installation influence areas on the map, then the Real Estate Board serving that locality is not required to include disclosure of the military influence on a particular parcel. The cities of Chesapeake, Hampton, and Virginia Beach are the only cities that have incorporated the Air Installation Compatible Use Zone (AICUZ) noise



contour zones as an overlay district in their zoning ordinances and on the official zoning map. These are the only jurisdictions where disclosure about the military impact on parcels is required for a transfer in property ownership.

### **Findings for Goal 7: Enhance Real Estate Disclosure Laws in the Commonwealth**

- Current real estate disclosure law only applies in jurisdictions where APZs and noise contours associated with military air installations are documented on the jurisdiction's official zoning map.
- Current real estate law does not address noise generated from range training activities.

### ***Goal 8: Protect the Commonwealth of Virginia's Public Resources Utilized by both Virginia's Military Installations and Local Communities***

This goal protects the various public resources that are used by the Commonwealth's military and the public. Virginia and a portion of Maryland have an abundance of resources that require protection for multi-purposes. The Virginia resources that are unmatched anywhere else in the U.S. are its airspace, public lands used for joint uses—military training and preservation of natural resources including recreation, and public waterways within the Commonwealth and the State of Maryland (i.e., Potomac River and Atlantic Ocean). These resources provide numerous capabilities to the DoD for a variety of military training assets. The following is a brief discussion of each resource and its importance in the nation's defense strategy.

#### **Airspace Utilization**

When assessing military compatibility, it is important to consider the use of public airports for military operations. Like many states, military flight operations in Virginia do not occur only at military installations. The Air Force and Navy, and to some degree Army, Marine Corps, and Coast Guard, often use public airports in Virginia for military operations. In addition, some National Guard units are based at public airports. Military use of public airports may also provide economic benefit to the airports of communities, as the military typically pays for the use of the runways or airport facilities.

There are more than 60 public airports in the Commonwealth of Virginia, of which 43 (65 percent) are used by military aircraft for various purposes, which may range from aircraft beddown to occasional touch-and-go landing and takeoff procedures, and at various frequencies, from daily to occasionally. Of the 43 airports, approximately five of the public-use airports attribute one-third of their operations to the military.

With the understanding and knowledge that over 85 percent of the state is influenced by the military based on the various military training footprints and 65 percent of the public-use airports in the state are used by the military, it is important to protect these resources so that local jurisdictions in the Commonwealth of Virginia can continue to benefit from the military use, especially in rural areas with publicly-owned airports that accommodate military training.

#### **Public Lands Utilization**

Virginia is home to numerous state and federally-protected public land, which can serve a dual purpose for providing recreation and wildlife opportunities and benefits to the communities as well as for military training. While not initially part of this assessment but equally important to note and consider, there are several military installations including National Guard Centers that utilize public land such as forests and open land for training purposes across the nation.

Due to environmental and / or physical constraints within the DoD and installations, it is necessary to utilize public land for training. For example, Fort Indiantown Gap in Pennsylvania and Stones Ranch and Camp Niantic in Connecticut utilize forested lands near the installation for training. These lands are also used by the general public for recreation activities, including hiking. In other portions of the U.S., agreements, known as memorandum of agreement (MOA), are made between public agencies (e.g. Bureau of Land Management (BLM), U.S. Forest Service (USFS)) that manage the public land with the military to enable the military to train in certain capacities. In the west, desert public land is under agreement between the BLM and certain military installations to allow aircraft maneuvering and training in advanced combat skills. Ultimately, the use of public land for both purposes—military training and recreation—is important to preserve and protect from degradation.

### **Public Waterways Utilization**

Similar to the public land discussion, public waterways are used for multi-purposes including military training and operations and recreational and commercial fishing and boating activities in Virginia. Specifically, the North and Hampton Roads Regions of the Commonwealth are home to strategic public water and military assets including the Appomattox, James, and Potomac Rivers and the Atlantic Ocean. It is important to note, however, that a majority of the Potomac River is within the jurisdiction of the State of Maryland. This multi-jurisdictional relationship can present additional coordination challenges for this resource.

For Virginia military installations, the Potomac River areas provide numerous opportunities for a variety of military mission capabilities including research, development, testing, and evaluation of various weapons systems and airspace for aviation training and maneuvering. Figure 6 illustrates the Potomac River military influence areas. This map does not include the areas of the river used by Fort Belvoir and the Lieber Army Reserve Center as these installations were not included in this assessment; however, it is important to note those installations' operations also impact the Potomac River.

Moreover, other installations not initially identified for this study utilize public waterways including Fort Eustis and Naval Weapons Station Yorktown. The James and York Rivers are adjacent to both of these premier logistics installations. These installations currently use the rivers for various training capabilities including logistics training, loading, and other range-type weapons training. These public waterways are also used for commercial boating and shipping and recreational activities. While both purposes are desired to ensure diverse economic activity for the surrounding regions and sustained national military superiority, the goals for both activities can conflict with one another causing delays or postponements of military training or lost opportunities for commercial fishing and boating. The shared use can also result in lost opportunities for recreation and tourism by the surrounding communities.

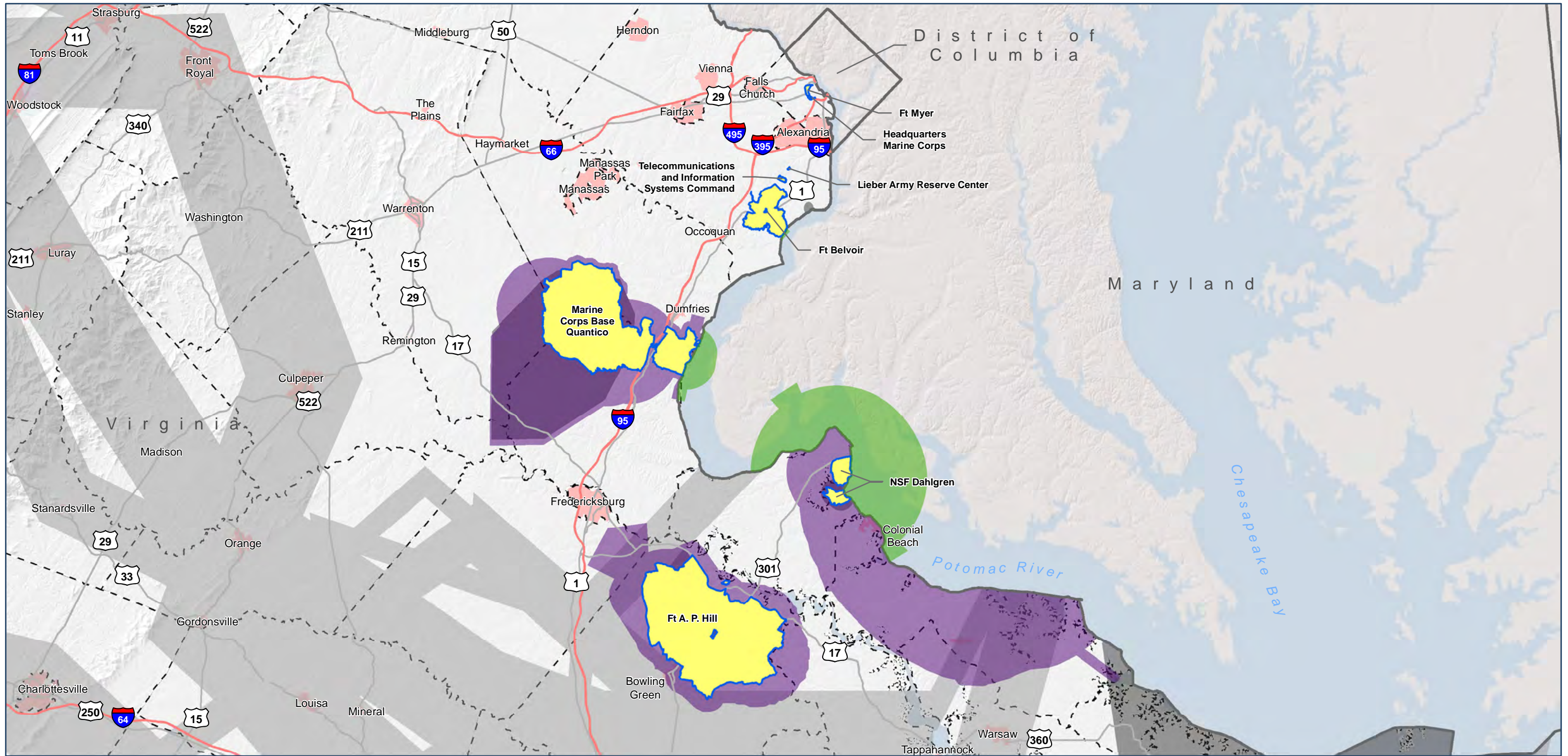
The public waterways in several states including Virginia, Maryland, and even North Carolina require protection for these purposes—military operations and commercial fishing and boating and recreation. Multi-jurisdictional collaboration is needed to understand the extent, nature, and value of these activities and assist in addressing ongoing concerns or issues.

The remaining portion of this section provides an itemized breakdown of capabilities that the Potomac River provides for the installations assessed in this report. It is important to itemize these capabilities to facilitate a comprehensive understanding of the existing mission capabilities this public waterway provides to two of the six installations assessed in this report. The Potomac River is more than likely impacted by other military installations in the Commonwealth including Fort Belvoir. Further assessment is needed to determine impact of the upper portion of the Potomac River and the James and York Rivers.



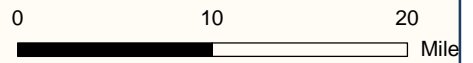
Please see the next page.





**Legend**

- Major Installation Military Influence Area Identified by a JLUS
- Military Training Routes
- Military Installation
- Municipality
- Interstate
- Influence Areas associated with Virginia Military Installations in the State of Maryland
- Special Use Airspace
- County
- US Highway
- State



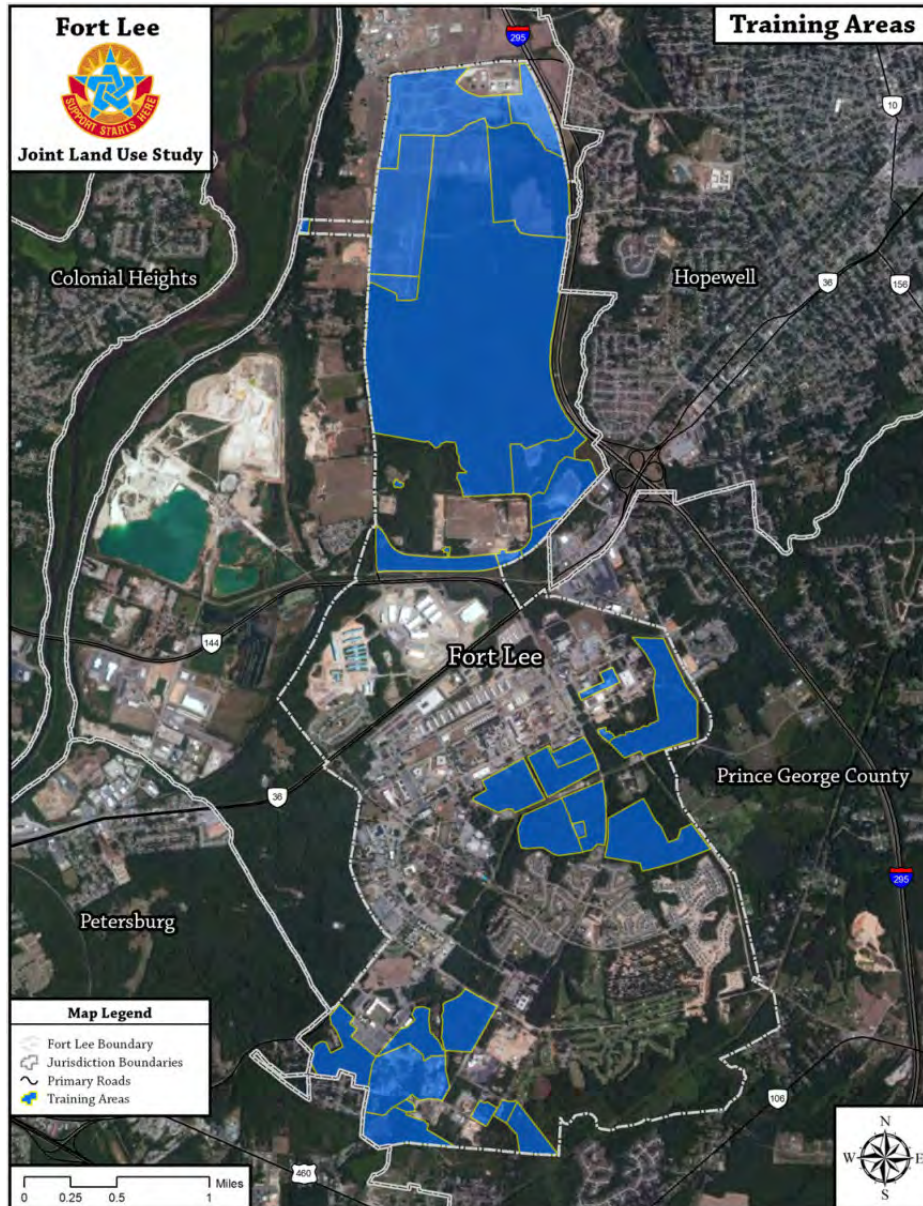
Sources: US Census TIGER, 2015. Virginia Geographic Information Network, 2016. USGS, 2016.

**Figure 6**  
**Potomac River Influence Areas**

Please see the next page.

**Appomattox River**

Fort Lee maintains 33 training areas including an Appomattox River Training Center that provide various capabilities for Fort Lee and its tenants to train soldiers. While specific training operations at the Appomattox River Training Center were unavailable during the development of this report, the training area combined with the other training areas at Fort Lee provide the accommodations for training for individual military occupational specialties, such as petroleum distribution and water supply, general maneuver areas that can be used for tactical field training exercises and weapons skills proficiencies.



Fort Lee Training Areas

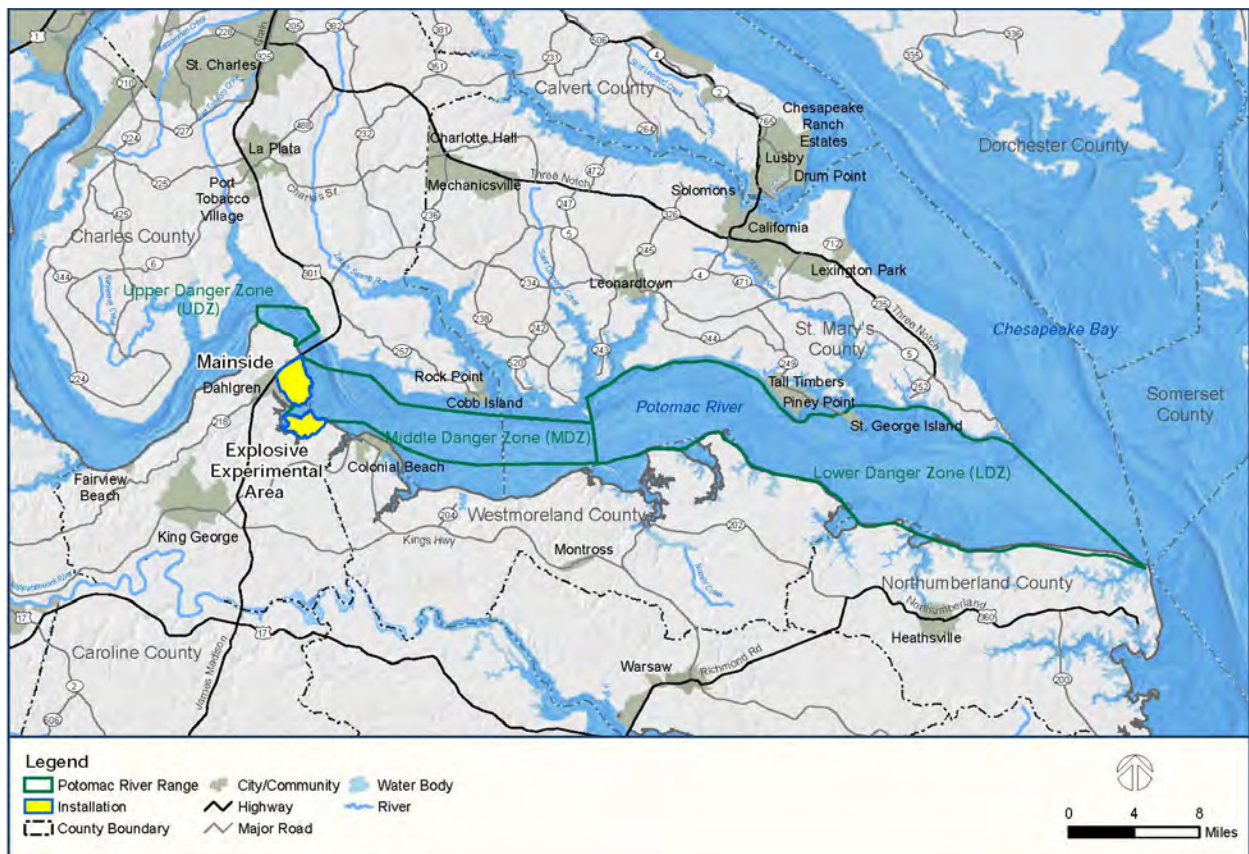
Source: Fort Lee Joint Land Use Study, March 2014



**Potomac River Test Range: NSF Dahlgren**

The Potomac River Test Range (PRTR) comprises areas that are managed and supported by Naval Support Facility (NSF) Dahlgren. The PRTR Complex is located both in the Commonwealth of Virginia and the State of Maryland consisting of 715 acres of land and 169 square nautical miles (nm) of water test areas that support Research, Development, Testing, and Evaluation (RDT&E) of warfare systems integration, ordnance, lasers, electromagnetic energy, sensors, unmanned systems, and chemical simulants. The PRTR allows for the safe conduct of testing in a realistic, controlled environment, effectively serving as a “ship on shore” environment to collect real-time data from a number of instrument stations. The PRTR provides numerous capabilities for the U.S. Navy for water ranges, special use airspace, ordnance activities, unmanned systems, manned vehicles.

The water portion of the range is 51 nm long, covers 169 square nm, and is divided into three danger zones - the upper, middle, and lower danger zones. These zones are designated for the area and the specific purpose they serve in weapons testing; they do not necessarily denote the level of safety or danger associated with the zone. The PRTR is primarily in the state of Maryland, with only a small portion in Westmoreland and Northumberland Counties in Virginia. It provides the impetus for multi-state coordination. The following map illustrates the PRTR and its danger zones on the Potomac River.



NSF Dahlgren  
Potomac River Test Range Danger Zones

Source: NSF Dahlgren Joint Land Use Study, January 2015

Certain types of tests, such as those involving large caliber weapons firing, require that all or most of the middle danger zone be restricted; however, other tests, such as the use of lasers across the entrance to Upper Machodoc Creek, require that only part of the danger zone be restricted. When active, range boats patrol the area to keep unauthorized watercraft out of the danger zone. The Navy also employs a series of range stations to ensure public safety and to monitor testing. Many of the stations contain instruments for measuring and reporting noise generated by testing and are used to assess real-time weather and environmental conditions to determine whether tests can proceed or should be postponed based on exceeding predicted sound limits.

When RDT&E events are scheduled, the river range in use is closed to vessel traffic. The range operations center works with vessel operators to minimize delays by allowing transit during pauses in operations. Activities involving the use of large caliber guns at NSF Dahlgren mainly fire inert (non-explosive) projectiles; however, the firing of live (explosive) projectiles into the Potomac River is also conducted.

Weapons testing includes 155 mm (6.1 inch) and 203 mm (8 inch) howitzers used by the Marine Corps and Army and the more frequently discharged 127 mm (5 inch) caliber rounds, which have a maximum firing rate of 20 rounds per minute and a range of 26,000 yards (approximately 13 nautical miles). The number of projectiles the Navy fires annually with the large caliber guns on and from the land ranges of the PRTR Complex varies based on the type of test being conducted.

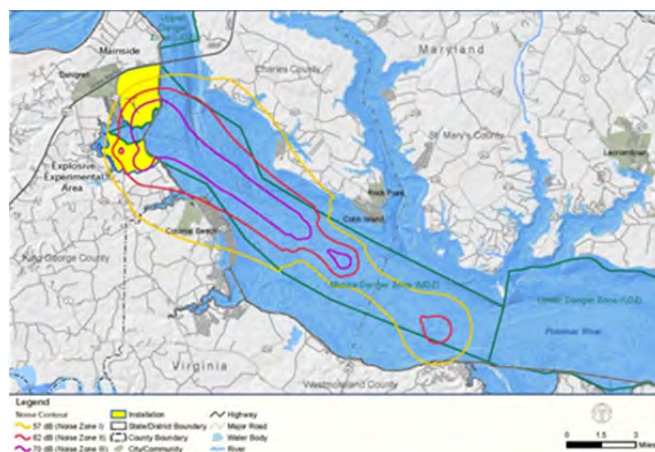
Small arms are defined as having a projectile diameter of less than or equal to 20 mm (0.8 inches) and can be fired on any of the ranges, but primarily on the Machine Gun Range, AA Fuze Range, and Main Range. In addition to the small arms fire, the Machine Gun Range is used to test the penetration of light armor materials and of primers (caps or tubes containing a small amount of explosive used to detonate the main explosive charge of a firearm). A gun projectile that is smaller than or equal to 20 mm (0.8 inches) is referred to as a bullet, and roughly 6,000 bullets are fired outdoors on the ranges annually.

The Navy uses Unmanned Aerial Vehicles (UAVs) for various RDT&E functions. The UAVs can be used for targeting, reconnaissance, surveillance, and communications relay. These vehicles can also carry lasers, radar, and ordnance. The UAVs used by the Navy range, from micro air vehicles, that can be carried by personnel and assembled and launched by hand, to the Tiger Shark with a wingspan range of 17 to 21 feet and a weight of 400 pounds. There are two UAV runways located at NSF Dahlgren on the Terminal. These runways are dedicated to UAV operations and operating aircraft are only permitted to fly within the Special Use Airspace (SUA) located south and southwest of NSF Dahlgren including the PRTR. The SUA is illustrated on the following map.



These aviation and range operations generate noise. There are two types of noise resulting from range activities that add to ambient noise levels.

- **Ammunition & Explosive (A&E) Tests** – Impulse noise (sudden, short-duration, and sharp noise) occurs from small arms firing, large caliber gun firing, and explosive detonations.
- **Aircraft Flights** – Noise is generated from helicopters using the NSF Dahlgren airfield, aircraft brought from other installations used in tests, and UAVs launched from the land ranges of the PRTR Complex and the Environmental Explosives Area Complex and flown within the SUA.



*Standard noise contours for the Potomac River Test Range*

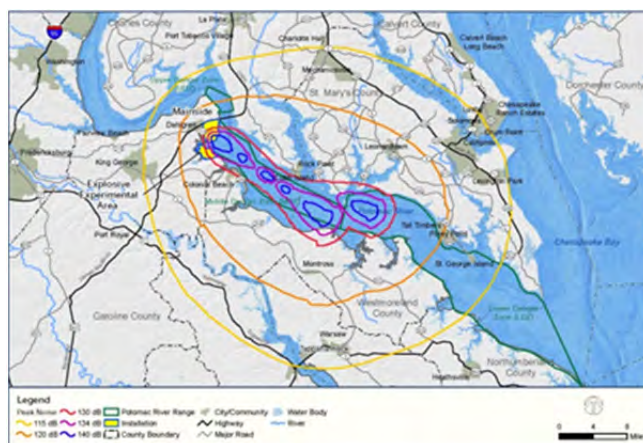
Source: NSF Dahlgren Joint Land Use Study, January 2015

Impulse noise at NSF Dahlgren is caused in part by large caliber gun and small arms firing in the PRTR but includes firing of an electromagnetic launcher. Most of the louder noise generated by these activities is contained within the installation; however, there are instances when noise escapes the installation. This causes concern by nearby property owners and residents.

In addition to the standard noise contours identified using DoD guidance, composite peak noise contours that extend beyond the PRTR and over portions of King George, Westmoreland, Charles, and St. Mary's Counties have been identified by the Navy. The peak noise contours account for events when noise levels and disturbances may be exacerbated by an increase in testing and other environmental conditions that affect the propagation of noise.

The noise level area of 130 – 140 dB (i.e., high risk of complaint) extends off-base over land in portions of the Potomac Beach, Colonial Beach, Swan Point, Cobb Island, and Coltons Point. Development in this area may generate a high level of noise complaints. The 115 – 130 dB exterior noise area encompasses almost all the areas along the Potomac River within approximately 10 miles of the river. Moderate noise complaints can be anticipated in this area.

All these noise zone areas are important to recognize and consider as the potential for increased impacts resulting from both current and the potential expansion of mission to the community is likely.



*Peak noise contours for the Potomac River Test Range*

Source: NSF Dahlgren Joint Land Use Study, January 2015

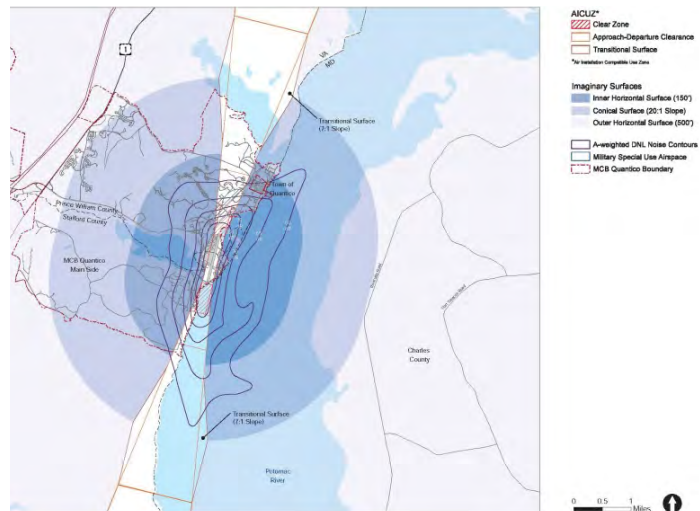


### Potomac River at MCB Quantico

The portion of the Potomac River managed by the MCB Quantico comprises several miles of the River shoreline. While this area is not used as extensively for formal testing capabilities as NSF Dahlgren PRTR, the MCB Quantico portion of the Potomac River provides airspace and areas for important military aviation training. Currently, this portion of the Potomac River assists with aviation activities that originate with the airfield at MCB Quantico including the imaginary surfaces. It was recommended in the MCB Quantico JLUS to utilize the PR corridor for increased aircraft military training to mitigate the impacts of aircraft noise over other portions of the communities surrounding MCB Quantico. This could be an option given the appropriate amount of research, assessment, and potential additional investment.

The Marine Corps Air Facility Quantico (MCAF Quantico) is located on the Main Side west bank of the Potomac River. The air facility provides support to Marine Helicopter Squadron One and other MCB Quantico tenants, service to the Fleet, and hospitality for important events at MCB Quantico such as the Modern Day Marine Corps Exposition. MCAF Quantico also supports Marine aircraft that are used for presidential helicopter transport. Aircraft based at MCAF Quantico perform executive and emergency transport missions for the President of the United States, members of the President’s Cabinet, foreign dignitaries, and other personnel as directed by the White House Military Office. The aircraft also support training at MCB Quantico, including helicopter indoctrination training for Marines at Officer Candidates School and advanced training for entities such as The Basic School and Infantry Officers’ Course. Aircraft at MCAF Quantico support Marine Corps Combat Development Command and Marine Corps Systems Command in the development of helicopter tactics, techniques, and equipment.

Currently, some of the imaginary surfaces— Approach / Departure Surface and the Outer Horizontal Surface—project off-installation into the PR. This footprint based on imaginary surfaces should be protected to ensure the sustainability of the existing air operations and also to potentially expand on MCB Quantico’s air capabilities.



*Imaginary Surfaces of MCB Quantico over the Potomac River and into the State of Maryland*

*Source: MCB Quantico Joint Land Use Study, June 2014*



## Findings for Goal 8: **Protect the Public Resources in the Commonwealth of Virginia and State of Maryland Utilized by Virginia's Military Installations**

- Majority of the Potomac River is under the jurisdiction of the State of Maryland and requires ongoing coordination and protection by both the Commonwealth of Virginia and the State of Maryland.
- Further assessment of other military installations in the Commonwealth of Virginia is needed to determine impact and capabilities of the military on public resources in the state.
- Public airspaces and airports used by the military in the Commonwealth should be identified to facilitate the understanding of the military influence in Virginia and quantify the impact of these airports and associated airspaces on the economy of the state.
- There are public lands adjacent to military installations that could be impacted or impact military training activities in the Commonwealth. Further assessment is needed to quantify the impacts of public lands on the military and vice versa, including the impacts on the military due to protection of public lands.
- There are several public waterways including the Appomattox, Potomac, James, and York Rivers that provide invaluable training assets and realistic training environments for the military; however, these public waterways are also utilized by the general public and commercial business. These waterways should be protected to support ongoing multiple uses.
- The PRTR provides numerous capabilities that support multiple armed services including Air Force, Navy, and Marines through weapons testing and significant RDT&E. These assets are important to protect as this military training environment is unmatched elsewhere in the U.S.
- Increased commercial boating operations, noise complaints, safety risks, vertical obstructions, and alternative energy development increase the risk profile of the public resources utilized by Virginia's military.
- Further assessment is needed to evaluate other military service operations for changes in locations of training activities including increased aviation training operations over the MCB Quantico portion of the Potomac River.
- Further assessment is needed to determine impact and appropriate recommendations to support ongoing and future use of the upper portion of the Potomac River and York River.



Please see the next page.



# RJIS Recommendations





# RJIS Recommendations

## REGIONAL JLUS IMPLEMENTATION STRATEGY RECOMMENDATIONS

The recommendations for the Regional JLUS Implementation Strategy (RJIS) were developed through the assessment of six JLUS reports: Fort Lee, Naval Support Facility Dahlgren, Marine Corps Base Quantico, Naval Air Station Oceana, Joint Base Langley-Eustis, and Fort A.P. Hill. These reports reflect the collaborative efforts between representatives of participating stakeholders including, state and federal agencies, military leadership, local organizations, the general public and other stakeholders that own or manage land or resources in the region.



The resulting RJIS recommendations can be implemented by the state to promote compatible land use and resource planning by resolving or mitigating existing and potential incompatibility issues. These recommendations are the heart of the RJIS document and are the culmination of the assessment. It is important to note that the RJIS is not an adopted plan, but rather a set of recommendations which should be considered and implemented by the RJIS stakeholders to address current and potential future incompatibility issues, consistent with the goals identified in this RJIS report.

The key to the implementation of these recommendations is the establishment of an Encroachment / Compatibility Subcommittee (see Recommendation 1B) to oversee the RJIS implementation. This committee will work with local jurisdictions, the military, and other interested parties to continue collaboration to establish communication and coordination procedures, recommend or refine specific actions for member agencies, and make adjustments to recommendations over time to ensure the RJIS process continues to address key compatibility issues through realistic recommendations and implementation.

### Recommendations Guidelines

The key to a successful plan is balancing the needs of all involved stakeholders. Several guidelines form the basis upon which the recommendations were developed including:

- The recommendations must not result in a taking of property value as defined by state law.
- The goal of the RJIS is to develop a set of goals that can be addressed either regionally or by means of state legislation to encourage and facilitate land use planning compatible with military operations throughout the Commonwealth while maintaining the economic vitality of communities.
- The goal is to create a solution or recommendation that meets the needs of all parties. In lieu of eliminating recommendations that may not have 100 percent buy-in from all stakeholders multiple recommendations may be proposed to address the same issue but tailored to individual circumstances.
- The Commonwealth's effort should be aligned with both community and military interests and build upon successes already realized by the stakeholders. Nothing within the Commonwealth's efforts should negatively impact existing agreements, procedures, and tools.

- The RJIS is intended to be a “living document”. State and federal regulations change, therefore before implementing recommendations, the responsible jurisdiction or party should ensure there is no conflict between the recommendation and current state or federal law at the time of implementation.
- Since this RJIS is a living document, it is recommended that it be used to inform any future JLUS completed for other installations. In addition the RJIS should be expanded upon when other jurisdictions have joint land use studies prepared for the remaining military installations in the Commonwealth. This will ensure a comprehensive and best practices approach is considered for the state and its jurisdictions and military as it relates to implementation of these recommendations.

## How to Read the RJIS Recommendations Table

The recommendations are designed to support the goals identified during preparation of the RJIS as discussed in Section 3. The purpose of the recommendations is to:

- avoid future actions, operations, or approvals that would create a compatibility issue,
- eliminate or mitigate existing compatibility issues where possible, and
- provide for enhanced and on-going communications and collaboration.

To make the recommendations easier to use, they are presented in Table 2. Virginia Regional JLUS Implementation Strategy Recommendations Organized by Goal which provides the recommendation, applicable geography where the recommendation should apply, and the party responsible for implementing the recommendation. The recommendations are organized according to their respective goal to establish the relationship between the recommendation and the condition it is intended to address. The following explains how to read the table.

**Goal or Action Identification (ID).** The Goal # and Action ID # are unique alpha-numeric identifiers that provide a reference for each specific goal and recommendation. Each recommendation is referenced by its Action ID, e.g., 1A, 1B, etc.

**Region ID.** In bold type is a symbol for the region ID. This column contains a symbol representing each of the regions where a recommendation applies. If a recommendation only applies in one region, one of six symbols is shown in this column for that recommendation. Some recommendations may apply to more than one region or area, but would not necessarily be applied statewide.

- A “S” (**S**) indicates the recommendation applies statewide and including the regions.
- An “N” (**N**) indicates the recommendation applies to the Northern Virginia Region.
- A “C” (**C**) indicates the recommendation applies to the Central Virginia Region.
- An “H” (**H**) indicates the recommendation applies to the Hampton Roads and Virginia Beach Region.
- A “W” (**W**) indicates the recommendation applies to the Western Virginia Region.
- A “P” (**P**) indicates the recommendation applies to the Potomac River Influence Area.

**Goal / Recommendation.** In bold type is a title that describes the goal or recommendation that addresses the issues identified from the six Virginia installation JLUSs assessed in this report followed by recommendation statements that describes each recommended action to accomplish the goal.



**Responsible Party.** To the right of the recommendation table are three columns, one for each broad responsible part/ / stakeholder group including, the state and its respective Agencies, local government units and Agencies, and the Military. The columns denote responsibility for implementing a recommendation. One of two symbols is shown under each column. A solid, red square (■) indicates that the entity identified is responsible for implementing the recommendation. A hollow, red square (□) indicates that the entity plays a key supporting role, but is not directly responsible for implementation.



*A Landing Craft, Air Cushion (LCAC) 60 lands on the beach in Virginia Beach, VA for the 2015 Patriotic Festival*

**Table 2. Virginia Regional JLUS Implementation Strategy Recommendations Organized by Goal**

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
<b>Goal 1</b>	<b>Enhance ongoing communication and coordination between the Commonwealth of Virginia and the Military</b>				
<b>1A</b>	<b>S</b>	<p><b>Consider Improving Communication</b>            Identify the most effective way for notification to the military from all government jurisdictions located within a military influence area of an active military installation. Consider the following actions as triggers for communication:</p> <ul style="list-style-type: none"> <li>■ Changes to zoning maps.</li> <li>■ Changes that affect the permitted land uses including but not limited to variances and conditional use / special use permits.</li> </ul>	□	■	□

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
		<ul style="list-style-type: none"> <li>■ Changes relating to existing telecommunications towers and windmills and proposed telecommunications towers and windmill developments.</li> <li>■ Triggers for communication / coordination, e.g. buildings / structures exceeding 75 feet within a military influence area of the installation as determined.</li> <li>■ Annexations.</li> <li>■ Changes to proposed new major subdivision preliminary plats.</li> <li>■ An increase in the size of an approved subdivision by more than fifty percent (50%) of the subdivision’s total land area including developed and undeveloped land.</li> <li>■ Early formal review of proposed development projects during a pre-application process.</li> <li>■ Changes in infrastructure including adding capacity for roadway infrastructure (considerations for the use of Defense Access Roads funding should be explored on eligible roadways), and water and sanitary sewer extensions / expansions.</li> </ul> <p>Encouraging early review by the military is intended to reduce potential cost of modifications that would otherwise result from military review at the approval stage of development applications.</p> <p>The Virginia Military Advisory Council (VMAC) Subcommittee identified in Recommendation 1B can assist with technical guidance and best practices to facilitate effective communication and development review protocols for all jurisdictions understanding that there may be unique circumstances for each jurisdiction.</p>			





## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
<b>1B</b>	<b>S</b>	<p><b>Consider Establishing an Encroachment / Compatibility Subcommittee of the VMAC</b></p> <p>The Virginia Legislature should consider, by resolution, establishing an Encroachment / Compatibility Subcommittee of the VMAC to monitor the progress of the implementation of RJIS recommendations and provide technical guidance to the VDA on military compatibility issues. This VMAC Subcommittee should also act as a forum for continued communication and sharing of information and current events germane to military compatibility.</p> <p>The VMAC Subcommittee should have the latitude to convene internal working groups for specific issues and initiatives, as necessary.</p> <p><i>Note: The VMAC Subcommittee should also be a representative of local JLUS Policy Committee members or have means for direct communication with local JLUS Policy Committee members.</i></p>	■	□	□

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
1C	N, C, H, W, P	<p><b>Consider Developing Memorandum of Understanding to Communicate / Coordinate with Military</b></p> <p>To complement Recommendation 1A, the military-affected jurisdictions and communities within a military influence area should consider developing or identifying an existing memorandum of understanding (MOU) that can be modified to delineate communication and coordination protocols between jurisdictions and military installations. The MOU is intended to establish uniform communication and coordination procedures between the military and the jurisdictions to strengthen relationships and address issues as they arise. The MOU could be modified as appropriate to the specific jurisdictions, but the major components should be consistent to ensure a level of uniformity across the state. The following, at a minimum should be included in the MOU:</p> <ul style="list-style-type: none"> <li>■ Means for communication or a combination of types of communication, e.g. email.</li> <li>■ Points of contact information for community and military, i.e. for military—commanders and Community Plans Liaison Officer for Navy installations, etc.</li> </ul> <p>The intent of a single MOU that is modified for jurisdictions is to formalize coordination and communication procedures to ensure continuity in the event of vacancies in both community and military positions.</p>		■	□



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
1D	N, C, H, W, P	<p><b>Consider Monitoring Effectiveness of Communication / Coordination Procedures</b>            The military-affected jurisdictions should consider monitoring communication / coordination procedures with the military to assess their effectiveness. Consider using best practices or performance metrics for the evaluation of procedures. Metrics that may be helpful to consider include:</p> <ul style="list-style-type: none"> <li>■ Assessing timely response from military regarding proposed changes.</li> <li>■ Response times via emails.</li> <li>■ Addressing immediate issues that arise, i.e. three days to address matter.</li> <li>■ Ensuring military is notified during pre-application period.</li> <li>■ Best practices or metrics for ensuring continuity in the absence, vacancy, or retirement of critical personnel.</li> </ul> <p>The accepted best practices or procedures should be evaluated for ongoing improvements and incorporate specific practices that effectively address issues and provide recommendations when they are not addressing issues effectively.</p>		■	■
1E	S	<p><b>Identify Military Influence Areas of Concern</b>            The VMAC Subcommittee should facilitate a process for military installations and communities to work collaboratively to identify military influence areas of concern where community development and military operations require coordination. These areas may be established through existing JLUS findings and analysis, through future JLUS reports or as determined through a dialog between the community and military. These influence areas should be the focus of ongoing coordination actions in the recommendations of this RJIS report.</p>	□	■	■

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
1F	S	<p><b>Consider Developing an Interactive Geographic Information Systems (GIS) Database and Mapping Tool</b></p> <p>The Virginia Legislature should consider encouraging and implementing a statewide GIS Database / Mapping tool to enable improved information-sharing, understanding and enhanced coordination between the military and jurisdictions, special interest groups, and development community. The Statewide Mapping Tool should include, at a minimum:</p> <ul style="list-style-type: none"> <li>■ All Military Training Routes (MTRs) and slow routes (SRs) illustrative of low-altitude aviation operations,</li> <li>■ All Special Use Airspaces (SUAs) including Military Operating Areas,</li> <li>■ Jurisdictional boundaries,</li> <li>■ A buffer around each installation pursuant to VA Code 15.2-2204D</li> <li>■ FAA imaginary surfaces including slopes and height guidance,</li> <li>■ Unclassified installation boundaries,</li> <li>■ JLUS-identified operational areas that are not sensitive information, and</li> <li>■ Alternative energy development (proposed and constructed).</li> </ul> <p>The intent of this tool is to provide as much public domain, non-classified information to appropriate stakeholder groups (i.e. development community) to facilitate understanding of positive attributes and constraints of land in the Commonwealth. In addition to developing this tool, the state should establish privileges and measures to monitor and update data as necessary when military missions or legislation changes.</p>	■	□	□



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
IG	N, C, H, W, P	<p><b>Consider a Governmental Liaison Program</b>            The jurisdictions within the military influence areas should consider developing a governmental liaison program in which a representative or a collective group, (e.g. Board of Commissioners / Supervisors, Planning Commission) would understand the military mission and the jurisdiction’s vision and mission and collaborate with appropriate organizations and the military to identify common goals that can be resolved through mutually beneficial actions. At minimum, program should include:</p> <ul style="list-style-type: none"> <li>■ Identification of a representative that knows and understands the mission and is capable of educating and mentoring a liaison to assist in advocating for the military with local, state, and federal officials.</li> <li>■ Integration of civilian / jurisdiction liaison into military activities and events.</li> <li>■ Civilian / jurisdiction liaison in military-community related projects, as appropriate.</li> </ul> <p>The intent of this recommendation is to have informative local liaisons that can advocate and align the community with military interests. It should be noted that the Navy has a Community Plans Liaison Officer that is charged with involving the community, especially regarding land use compatibility and encroachment concerns. The CPLO should be used in this recommendation.</p>	□	■	□

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
<b>Goal 2 Establish and Maintain an Interactive Mapping and Public Domain Data Repository between the Commonwealth and Military</b>					
2A	S	<p><b>Consider Implementing an Interactive, Public Domain Data Repository for Virginia Military Installations and Governmental Units</b></p> <p>Consider researching, budgeting, and assigning responsibility to a state department who will implement, develop, and maintain a single data repository of the latest public-domain military influence data for land use planning purposes including but not limited to the following GIS data:</p> <ul style="list-style-type: none"> <li>■ Military influence areas (MIA);</li> <li>■ Helicopter operating areas (HOA);</li> <li>■ Local and regional airports utilized by the military;</li> <li>■ Military training routes (MTRs), and Special Use Airspace which reflect the military operations as well as awareness of potential military impacts;</li> <li>■ Compatibility studies; and</li> <li>■ Military studies including environmental assessments and environmental impact statements.</li> </ul> <p>Consider including operational information in the database such as MTR and airspace attributes for minimum flight altitudes, hours of operation, airspace controlling agency, and capability relative to facility assets. The repository should be accessible by jurisdictions, development community, and the general public.</p>	■	□	□



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
2B	S	<p><b>Consider Developing Information Exchange Procedures and Privileges</b></p> <p>The State should consider collaborating with the military to develop information exchange procedures and appropriate user privileges between the state and local government units, special interest groups, and the development community, and the general public.</p>	■	□	□
<b>Goal 3 Adopt Statewide Military Compatible Land Use Planning Guidelines for Local Governments to Integrate into Regional and Local Planning and Zoning Documents</b>					
3A	S	<p><b>Consider Military Compatibility Guidelines in Land Use Planning Tools</b></p> <p>The VMAC Subcommittee (Recommendation 1B) should consider reviewing how jurisdictions within a military influence area update comprehensive land use plans, zoning ordinances, building codes and other similar planning tools to incorporate military compatibility land use planning policies and regulations.</p> <p>Note: The VMAC Subcommittee should involve local jurisdictions in this process to understand local needs and constraints.</p>	■		□
3B	N, C, H, W, P	<p><b>Consider Updating Comprehensive Plans to Incorporate Military Compatibility Policies</b></p> <p>Upon completion of Recommendation 3A, the local jurisdictions should consider updating their comprehensive plans to incorporate appropriate guidance and policies that consider military compatibility in long-range planning.</p>		■	□

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
3C	N, C, H, W, P	<p><b>Consider Amending Zoning Ordinances to Incorporate Military Compatibility Regulations in Land Use Planning Documents</b></p> <p>Upon completion of Recommendation 3A, the local jurisdictions should consider amending their zoning ordinances or municipal codes to incorporate appropriate regulations that consider military compatibility in long-range planning.</p>		■	□
<p><b>Goal 4 Establish Procedures for Permitting Alternative Energy Development in Consideration of Military Compatibility</b></p>					
4A	S	<p><b>Consider Amending the Commonwealth’s Energy Plan (Title 67, Chapter 1 § 67-101 &amp; § 67-102)</b></p> <p>The Virginia Legislature should consider amending the State’s Energy Plan (Title 67, Chapter 1 § 67-101 and § 67-102) to establish policies and objectives that provide for military compatibility in the planning and development of small (one or personal use) and utility size renewable energy developments, and consider the cumulative footprint of all renewable energy developments. Small energy developments usually generate less than 50 megawatts (MW) per hour. Utility-size development means the generation is in excess of 50 MW per hour. Cumulative means the overall impact of both small and utility-scale renewable energy projects in a given geography, i.e. statewide and regional. This will allow for the diversification of energy sources in the Commonwealth while enabling the sustainability of the military training activities and the overall DOD footprint and investment in the state.</p>	■	□	□





Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
4B	S	<p><b>Consider Adopting Renewable Energy Statewide Permitting Law</b></p> <p>The Virginia Assembly should consider developing and adopting a law that requires statewide permitting of utility-scale renewable energy developments. In addition, the Commonwealth should develop guidance and / or standards for local jurisdictions to assist them when they are developing local ordinances for the permitting of renewable energy developments. Consider, at a minimum, including the following to benefit both the jurisdictions and military:</p> <ul style="list-style-type: none"> <li>■ Analysis of impacts on nearby land uses including halo / Doppler effect analysis, in military operations,</li> <li>■ Detailed notification measures including timeframes for response, from appropriate property owners or managers, including the military if proposed location is in an identified military influence area based on this report,</li> <li>■ Decommissioning procedures and appropriate remediation of land uses, and</li> <li>■ Impact mitigation measures.</li> </ul>	■	□	□

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
4C	S	<p><b>Consider Developing a Red-Yellow-Green (RYG) Map for Renewable Energy Development in Virginia</b></p> <p>The VMAC Subcommittee should consider working with the individual installations, as necessary, to identify areas where establishing large-scale renewable energy developments would be beneficial for all stakeholders and would not create adverse impacts on the military. The RYG concept could be variable for each community but in general, the “Red” area on the map could identify the areas where alternative energy development projects would not be allowed under any circumstances. The “Yellow” area on the map could identify areas that require coordination with the military due to some impact that could be mitigated. This would assist developers and the local jurisdictions in planning and this will still allow for the significant economic potential resulting from energy development. The “Green” area on the map could identify areas where alternative energy developments would have no impact on military missions and would benefit all stakeholders. No coordination with the military would be required; however, coordination with the military would be recommended as a best practice on all projects.</p>	■		□



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
4D	N, C, H, W, P	<p><b>Consider Adopting Policies and Regulations for Renewable Energy Permitting</b></p> <p>Upon implementation of Recommendation 4B and 4C, the local jurisdictions located in areas where renewable energy development is compatible should consider developing and adopting comprehensive plan policies and land use ordinance regulations that provide the necessary protection of land uses near renewable energy developments. If jurisdictions are impacted by the military within a military influence area, then the jurisdictions should consider adopting renewable energy permitting regulations compatible with military operations. Local jurisdiction regulations should be consistent with the state permitting law and consider incorporating the following:</p> <ul style="list-style-type: none"> <li>■ Analysis of impacts on nearby land uses including halo / Doppler effect analysis, in military operations,</li> <li>■ Detailed notification measures including timeframes for response, of appropriate property owners or managers, including the military if proposed location is in an identified military influence area based on this report,</li> <li>■ Decommissioning procedures and appropriate remediation of land uses,</li> <li>■ Impact mitigation measures.</li> </ul>		■	□

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
<b>Goal 5 Establish Permanent Funding Sources for Military Compatibility Planning and Assistance for Local Governmental Units and Other Agencies</b>					
5A	S	<p><b>Consider Establishing Grant Funds to Assist Local Military-Impacted Jurisdictions with Planning</b></p> <p>The Virginia Legislature should consider establishing a grant program that would be appropriated annually and awarded to military-impacted jurisdictions to assist with land use planning projects and supporting studies. A maximum amount of award should be stipulated so several jurisdictions can be benefit each year.</p>	■		
5B	S	<p><b>Consider Establishing a Permanent Loan Fund to Assist Local Military-Impacted Jurisdictions with Planning</b></p> <p>The Virginia Legislature should consider establishing a revolving loan fund that jurisdictions would pay back. The loan would provide additional assistance to military-impacted jurisdictions that were not eligible for the grant funds (<i>See Recommendation 5A</i>) or needed additional assistance beyond the grant.</p>	■		
<b>Goal 6 Leverage Federal Investment through Education and Awareness of Available Programs and Grant Federal Funding Opportunities</b>					
6A	S, N, C, H, W, P	<p><b>Consider Promoting Business with the Military through the Utilization of the PTAP and PTAC Centers to Continue to Benefit From and Leverage Federal Investment</b></p> <p>The Commonwealth and its military-impacted jurisdictions should consider promoting the existing business resources by establishing website linkages with the PTAP and PTAC centers and relationship building with procurement units.</p>	■	■	□



Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
6B	S, N, C, H, W, P	<p><b>PTAP and PTAC Centers Should Consider Hosting Informational Meetings and Webinars for Rural Jurisdictions</b></p> <p>The Commonwealth and jurisdictions should consider encouraging and requesting more business informational meetings in rural areas from the PTAP and the PTAC centers. This will increase awareness and utilization of the existing resources to increase local leveraging of federal contracts.</p>	■	■	□
6C	S, N, C, H, W, P	<p><b>Consider Researching and Applying for Other Federal Funding Opportunities</b></p> <p>The Commonwealth and Cities and Counties within the state should consider reaching out to the Department of Defense Office of Economic Adjustment and other federal agencies and departments to help them understand federal funding opportunities that are available to the Commonwealth and its Cities and Counties. This will assist in leveraging federal funding for local land use planning assistance and other compatible economic development opportunities.</p>	■	■	□

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
<b>Goal 7 Enhance Real Estate Disclosure Laws in the Commonwealth of Virginia</b>					
7A	S	<p><b>Consider Amending Virginia Code § 55-519.1 to Require Real Estate Disclosure of Noise Generated by Range Activities in the Standard Contract for Purchase of a Property</b></p> <p>The Virginia Legislature should consider amending Virginia Code § 55-519.1 to require real estate disclosure of noise generated by range activities in the standard contract for purchase of a property if property is located within a military influence area delineated in Figure 1 of this report or as delineated in other military-community compatibility studies such as a Joint Land Use Study, an Air Installation Compatible Use Zone (AICUZ) Study, or a Range / Installation Compatible Use Zone Study (RICUZ / RAICUZ / ICUZ). The VCA should also require the disclosure of property if impacted by noise related to range activities.</p>	■	□	
7B	N, C, H, W, P	<p><b>Consider Amending Real Estate Disclosure Regulations</b></p> <p>Upon implementation of Recommendation 7A, the Commonwealth of Virginia, through the Virginia Real Estate Board, should consider providing real estate information in the standard contract for property sales for properties within a military influence area and for noise from range activities.</p>	■		
7C	N, C, H, W, P	<p><b>Consider Updating the Standard Contract for Property Sales</b></p> <p>Upon implementation of Recommendation 7A, the Virginia Real Estate Board should consider updating the standard contract for property sales to include language that informs the buyer of property within a military influence area and noise impacts generated by range activities.</p>	■		



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
<b>Goal 8 Protect the Commonwealth of Virginia’s Public Resources Utilized by both Virginia’s Military Installations and Local Communities</b>					
8A	C	<p><b>Consider Assessing the Appomattox River for Increased Capabilities</b></p> <p>The military should consider working with the Commonwealth and Department of Defense to assess the Appomattox River, specifically the portion of the river near Fort Lee, for increased capabilities.</p>	□		■
8B	P	<p><b>Consider Assessing the Potomac River for Increased Capabilities</b></p> <p>The military should consider working with the Commonwealth and Department of Defense to assess the Potomac River, specifically the portion of the river near MCB Quantico and the Northern Region, for increased capabilities such as relocating aircraft training routes and other opportunities for this area.</p>	□		■
8C	H	<p><b>Consider Assessing the James and York Rivers for Increased Military and Nonmilitary Capabilities</b></p> <p>The military should consider working with the Commonwealth and Department of Defense to assess the James River, specifically the portion of the river near Ft Eustis and the York River adjacent to Naval Weapons Station Yorktown for increased capabilities. Additionally, the military should work with Commonwealth and the jurisdictions to coordinate the commercial and recreational capabilities associated with the rivers.</p>	□	□	■

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
8D	H, P	<p><b>Consider Continuing to Collaborate with Commercial and Recreational Boating Community</b></p> <p>The military should consider continuing to work with commercial and recreational boating community to identify increased efficiencies for the commercial boating industry regarding fishing and recreation, while maintaining secure and effective research and training capabilities for the Navy on the Potomac River Test Range (PRTR).</p>			■
8E	S	<p><b>Commonwealth of Virginia Agency Coordination</b></p> <p>The Commonwealth of Virginia through the Secretary of Veterans and Defense Affairs (VDA) should consider fostering agency coordination of state-owned properties and state agency operations with the Department of Defense to enhance military mission compatibility throughout the Commonwealth.</p>	■		
8F	S	<p><b>Consider Developing a Statewide Map for State Lands and Parks Utilized by the Military</b></p> <p>The VMAC Subcommittee should consider working with individual installations to identify public areas utilized by the military for training and major convoy transit routes. Consider providing important information to stakeholders to assist with decision-making about proposed development and land use changes relative to impacts on military influence areas. The map would also provide the following important information including, but not limited to:</p> <ul style="list-style-type: none"> <li>■ Amount of land,</li> <li>■ Ownership,</li> <li>■ Capabilities and constraints, and</li> <li>■ Existing utilization and by whom.</li> </ul>	■		□





## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Goal # / Action ID #	Region ID	Goal / Recommendation	Virginia State / Agencies	Local Govt Units / Agencies	Military
<b>8G</b>	<b>N, P</b>	<p><b>Consider Establishing a Virginia-Maryland Military Compatibility Working Group</b>            Virginia Leadership should consider working with the military and Maryland Leadership to formally establish a Virginia-Maryland Military Compatibility Working Group. If established, this group should consider being responsible for communication, coordination, and monitoring the implementation of actions needed to address compatibility issues that occur within the identified public resources used for military training. The primary focus for this group is broad military capabilities that can affect state installations that have operational or influence areas that span both states (such as Military Training Routes and the Potomac River).            Other Partner: State of Maryland</p>	■		□
<b>8H</b>	<b>S</b>	<p><b>Consider Establishing a Virginia-North Carolina Military Compatibility Working Group</b>            Virginia Leadership should consider working with the military and North Carolina Leadership to formally establish a Virginia-North Carolina Military Compatibility Working Group. It would helpful if this group would consider being responsible for communication, coordination, and monitoring the implementation of actions needed to address compatibility issues that occur within the identified public resources used for military training. The primary focus for this group is broad military capabilities that can affect state installations that have operational or influence areas that span both states (such as Military Training Routes).            Other Partner: State of North Carolina</p>	■		□

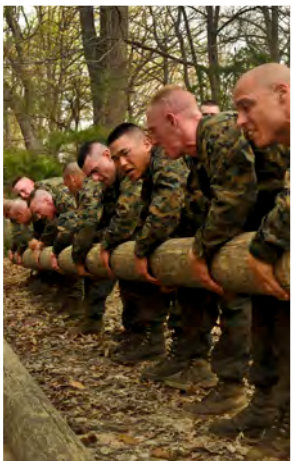
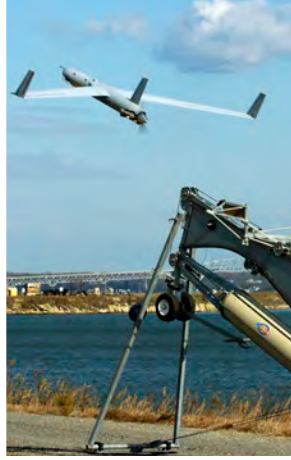


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## Appendix A



## Installations/ Data Collected



# APPENDIX A

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Matrix evaluated several Joint Land Use Studies (JLUSs) from the six installations in the Commonwealth of Virginia. The studies Matrix utilized to extract the statewide issues and strategies are from the following planning documents:

- Fort A.P. Hill JLUS
- Fort Lee JLUS
- Langley AFB-Hampton Roads JLUS
- MCB Quantico JLUS
- NAS Oceana-Hampton Roads JLUS
- NSF Dahlgren JLUS

Additional data to conduct the brief evaluation of jurisdiction-specific issues and concerns that is the foundation of this report were retrieved from open Internet sources. Matrix retrieved the following data from jurisdiction-specific websites:

- Forward Chesapeake 2026 Comprehensive Plan, Adopted March 9, 2005
- City of Chesapeake 2035 Comprehensive Plan, Adopted February 25, 2014
- Zoning Ordinance of the City of Chesapeake, Adopted September 21, 1993
- City of Chesapeake Naval Auxiliary Landing Field Fentress Encroachment Protection Acquisition Program, June 24, 2014
- Colonial Heights Community Development Plan
- City of Colonial Heights, Virginia Zoning Ordinance, Revised August 2012
- Hampton, Virginia Zoning Ordinance, June 2015
- Comprehensive Land Use Plan, City of Hopewell, Adopted December 2001
- City of Hopewell Zoning Ordinance, Chapter 23 Noise
- City of Hopewell Zoning Ordinance, Chapter 27.5 Planning
- City of Newport News Framework for the Future 2030, Comprehensive Plan
- City of Newport News Code of Ordinances, Adopted 1978
- The General Plan of the City of Norfolk, Plan Norfolk 2030, Adopted March 2013
- City of Norfolk, Virginia Code of Ordinances, Adopted 1981
- City of Petersburg 2014 Comprehensive Plan, Draft
- City of Petersburg, Appendix A Zoning Ordinance, Adopted April 1971
- City of Poquoson Comprehensive Plan, 2008-2028, Revised June 2011
- City of Poquoson Code of Ordinances, Appendix A Zoning
- City of Virginia Beach, It's Our Future: A Choice City, Policy Document, Adopted May 2016
- City of Virginia Beach Code of Ordinances, Appendix A Zoning Ordinance
- County of Caroline Comprehensive Plan
- County of Caroline Zoning Ordinance, Adopted March 1980, Amended through May 2012



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- Moving Forward, The Comprehensive Plan for Chesterfield County, Adopted October 2012; Amended through November 2015
- Chesterfield County Subdivision Ordinance, July 2013
- Zoning Ordinance for Chesterfield County, Adopted June 2015
- Comprehensive Plan Dinwiddie County, Virginia, Updated 2014
- Dinwiddie County, Virginia Code of Ordinances, Chapter 22 – Zoning
- Comprehensive Plan 2015 for Essex County
- Essex County, Virginia Code of Ordinances, Appendix B – Zoning
- County of Fauquier Comprehensive Plan, Adopted August 2015
- County of Fauquier Zoning Ordinance
- County of King George Comprehensive Plan, Adopted April 2013
- County of King George Code of Ordinances, Appendix A Zoning Ordinance
- Prince George County 2014 Comprehensive Plan
- Prince George County Zoning Ordinance, Adopted May 2005; Amended November 2011
- Prince William County Comprehensive Plan, 2008
- Prince William County Code of Ordinances, Chapter 32 – Zoning
- County of Spotsylvania, Comprehensive Plan, Adopted November 2013; Updated June 2016
- County of Spotsylvania Code of Ordinances, Chapter 23 – Zoning
- Stafford County Comprehensive Plan 2010-2030, Last amended September 2015
- Stafford County Comprehensive Plan 2016-2036, Adopted August 16, 2016
- Stafford County Code of Ordinances, Chapter 28 – Zoning
- Stafford County Zoning Map, as of July 21, 2014
- Westmoreland County Comprehensive Plan 2030, Adopted October 2010; Updated December 2010
- Zoning Ordinance Westmoreland County, with Amendments through March 2006, Adopted April 2006
- County of York Comprehensive Plan, Charting the Course to 2035, Adopted September 2013; Amended June 2014; Amended October 2014
- Code of the County of York, Chapter 24 Zoning
- Town of Bowling Green Comprehensive Plan, Adopted August 2008
- Code of the Town of Bowling Green, Recodified and Adopted June 2010
- Town of Colonial Beach 2009 Comprehensive Plan
- Town of Colonial Beach Zoning Ordinance, Amendments in 2012, 2015





## Appendix B

## JLUS Issues/ Strategies Analysis



## APPENDIX B

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Appendix B provides a comprehensive listing of all the military compatibility issues and strategies identified from each of the installation's studies / plans provided to Matrix to assess the overall Commonwealth compatibility perspective. These issues and strategies on the following pages are organized by first, determining if the issue and / or strategy had a statewide or regional impact. The primary focus in the first assessment was to determine which issues and strategies should be addressed either regionally or by the Commonwealth. Issues and strategies that could be addressed at the local government level were not further assessed.

After identifying the issues and strategies that could be addressed by the Commonwealth or region, the issues and strategies were further assessed to assign the impact of the issue or strategy. An (S) was assigned to the issue or strategy, if it should be addressed by the state. Likewise, an (R) was assigned to the issue or strategy if it should be addressed by the region. Finally, the list was sorted alphabetically by the name of the installation; thus, the numbers are out of order based on these three filters placed in the spreadsheet.

### How to Read the Appendix B Table

Appendix B was a compilation and an initial raw assessment of all the issues and strategies identified in the six JLUS Reports for which this report is written and the recommendations are based. The spreadsheet was developed and partially populated with data directly from the JLUS Report, specifically the column of information that identifies the "Issues / Actions / Strategies"



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

No.	JLUS Study	Topic (Factor)	Issues / Actions / Strategies	Statewide / Regional Impact Y/N	State (S) / Regional (R) ?
#	<i>Use dropdown to select JLUS</i>	<i>This the Compatibility Topic from the JLUSs</i>	<i>This is the Issues/Action/Strategy verbatim from the JLUS</i>		
36	Fort AP Hill	Noise Impacts-Sound Attenuation	Pursue an amendment to the Virginia Construction Code, Section 12, to allow the discretionary application of appropriate noise attenuation standards for impulsive sounds from small arms, large caliber weapons and demolition activity.		S
42	Fort AP Hill	Noise Impacts-Sound Attenuation	Encourage sound attenuation for new construction of residences, schools, hospitals, nursing homes, churches and other buildings with public gathering spaces.		S
39	Fort AP Hill	Planning and Public Policy	Coordinate extension of broadband / telecommunication services to better serve the communities around the installation.		S
34	Fort AP Hill	Real Estate Disclosure	Pursue an amendment to State Code 15.2-2295 to expand the discretionary application of noise overlay zones, sound attenuation and real estate disclosure to incorporate severity of impacts associated with range noises (not just aircraft noise). The modification should apply to any military installation in Virginia with noise generating operations (not just air facilities or master jet bases).		S
103	Hampton Roads-NAS Oceana	Coordination/ Organizational	Seek Federal funding to purchase conservation lands		S
86	Hampton Roads-NAS Oceana	Noise Impacts-Sound Attenuation	Implement recently-enacted State legislation requiring noise attenuation for certain non-residential structures in the AICUZ.		S
66	Hampton-Langley	Land Use Regulations	Develop a legislative strategic plan to promote land use compatibility and long term sustainability of the missions at Langley AFB.		S
59	Hampton-Langley	Planning and Public Policy	Identify potential funding sources and/or partnerships among public agencies and/or private entities to leverage funds for property acquisition within the Clear Zone that provide benefits to conservation efforts as well as land use compatibility. Priorities for acquisition and easement are developed and recommended by the JLUS Implementation Committee.		S
67	Hampton-Langley	Planning and Public Policy	Support legislation to amend existing codes applied to properties and development in the State of Virginia. § Code of Virginia, Chapter 22, Section 15.2-2295 Aircraft noise attenuation features in buildings and structures within airport noise zones § Virginia Uniform Statewide Building Code, Sections 1207.1 (Scope) and 1207.4 (Airport noise attenuation standards). § Code of Virginia, Chapter 22, Section 15.2-2204 D Advertisement of plans, ordinances, etc.; joint public hearings; written notice of certain amendments		S
134	MCB Quantico	Planning and Public Policy	Following completion of a noise study identifying noise contours, the QRESC should consider recommendations to amend the Virginia Construction Code 15.2-2286, Chapter 12, to allow the application of appropriate noise attenuation standards for impulsive sounds from small arms, large caliber weapons and demolition activity.		S
133	MCB Quantico	Real Estate Disclosure	Following completion of a noise study identifying noise contours, the QRESC should consider recommending amendments to State Code 15.2-2295 to expand the application of noise overlay zones, sound attenuation and real estate disclosure to impacts associated with range noise (not just aircraft noise). The modification should apply to any military installation in Virginia with noise-generating operations (not just air facilities or master jet bases).		S
167	NSF Dahlgren	Coordination/ Organizational	Identify and Map Locations Suitable for Wind Energy Development. Work with the Navy to identify and publish locations for alternative energy development that are ideal for wind developers as well as compatibility with military operations. Develop a "Red, Yellow, Green" map that communicates and illustrates specific locations where structures that exceed a mutually agreed upon height should be prohibited to avoid incompatibility with military operations.		S
186	NSF Dahlgren	Funding Mechanisms	Evaluate Funding Options for Potential Purchase of Land. Identify potential funding sources and/or partnerships among public agencies, non-governmental organizations (NGO) and/or private entities to leverage funds that may be able to purchase the land if property owners are willing to sell.		S
168	NSF Dahlgren	Planning and Public Policy	Coordinate With Wind Developers to Reach an Agreement that Supports Wind Energy and Military Missions. Seek local support to develop agreements between the military, county, and wind farm developers that can be used to support wind projects by identifying conditions that will allow for mission sustainment and economic feasibility of proposed projects.		S

No.	JLUS Study	Topic (Factor)	Issues / Actions / Strategies	Statewide / Regional Impact Y / N	State (S) / Regional (R) ?
#	Use dropdown to select JLUS	This the Compatibility Topic from the JLUSs	This is the Issues/Action/Strategy verbatim from the JLUS.		
202	NSF Dahlgren	Real Estate Disclosure	Revise Virginia Administrative Code. Request the Commonwealth of Virginia update the Virginia Administrative Code Section § 55-519.1 regarding real estate disclosure near military installations to include firing range areas and associated noise as a trigger for requiring real estate disclosure.		S
97	Hampton Roads-NAS Oceana	Planning and Public Policy	Implement Comprehensive Plan that supports an integrated set of rural preservation planning policies.		R
166	NSF Dahlgren	Coordination/Organizational	Coordination With the National Oceanic and Atmospheric Administration. Coordinate the review of wind energy development projects within the recommended "No-Build Zone" with the National Oceanic and Atmospheric Administration (NOAA). Incorporate NOAA's recommendations concerning wind turbine placement into local zoning regulations.		R
21	Fort AP Hill	Air Operations / Training	Develop an outreach program to educate local citizens and electric utility providers about the impacts of lighting on Fort A.P. Hill operations and include suggestions for voluntary inexpensive approaches to help minimize lighting impacts.		R
20	Fort AP Hill	Coordination/Organizational	Expand upon the Communications- Electronics Research, Development and Engineering Center, Night Vision and Electronic Sensors Directorate (CERDEC/NVEDS) lighting study and publish minimum 'dark sky' requirements for Fort A.P. Hill training operations and work with the communities to incorporate into community lighting ordinances. (Coordinate with recommendation 2.7 as appropriate.)		R
2	Fort AP Hill	Coordination/Organizational	Continue to solicit input from Fort A.P. Hill as part of a technical review process on development related submittals and text amendments.		R
3	Fort AP Hill	Coordination/Organizational	Continue to provide opportunities for Fort A.P. Hill's input on comprehensive plan and other planning document updates.		R
7	Fort AP Hill	Coordination/Organizational	Study the potential impacts of Fort A.P. Hill hazardous and toxic waste releases on ground water supply and recharge areas and public drinking water systems.		R
8	Fort AP Hill	Coordination/Organizational	Support Fort A.P. Hill's efforts to develop an outreach program to educate local citizens and electric utility providers about the impacts of lighting on Fort A.P. Hill operations.		R
43	Fort AP Hill	Planning and Public Policy	Consider developing a model 'Dark Skies' Ordinance that sets forth specific requirements for lighting. Consider applying the ordinance county and town-wide for all 6 JLUS communities. Incorporate input from Fort A.P. Hill.		R
41	Fort AP Hill	Real Estate Disclosure	Support real estate disclosure for prospective buyers or renters as part of real estate transactions for properties within the influence area and as part of subdivision plats.		R
54	Fort Lee	Coordination/Organizational	Fort Lee should continue to develop regular updates to military operational impact assessments to enhance the sustainability of the military missions.		R
49	Fort Lee	Coordination/Organizational	Develop a formalized regional approach to enhance communication and land use coordination between Fort Lee and the surrounding communities.		R
50	Fort Lee	Coordination/Organizational	Pursue the development of a regional Geographic Information System (GIS) database for monitoring land use changes in the region around Fort Lee.		R
92	Hampton Roads-NAS Oceana	Land Use Regulations	Pursue conservation opportunities in the DoD Easement Partnership Program.		R
84	Hampton Roads-NAS Oceana	Noise Impacts-Sound Attenuation	Enforce enhanced sound attenuation practices.		R
85	Hampton Roads-NAS Oceana	Noise Impacts-Sound Attenuation	Require sound attenuation for schools in the AICUZ.		R
87	Hampton Roads-NAS Oceana	Noise Impacts-Sound Attenuation	Promote improved sound attenuation construction practices.		R
83	Hampton Roads-NAS Oceana	Real Estate Disclosure	Require early real estate disclosure in areas exposed to safety issues or average noise levels of 65 dB or higher.		R
61	Hampton-Langley	Coordination/Organizational	Establish a JLUS Implementation Committee to maintain efficient and effective coordination among local jurisdictions, Langley AFB, and other interested parties.		R
65	Hampton-Langley	Coordination/Organizational	Develop a regional approach among jurisdictions that supports the Bird and Wildlife Aircraft Strike Hazard (BASH) program at Langley AFB.		R



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

No.	JLUS Study	Topic (Factor)	Issues / Actions / Strategies	Statewide / Regional Impact Y / N	State (S) / Regional (R) ?
#	<i>Use dropdown to select JLUS</i>	<i>This the Compatibility Topic from the JLUSs</i>	<i>This is the Issues/Action/Strategy verbatim from the JLUS.</i>		
72	Hampton-Langley	Real Estate Disclosure	Evaluate opportunities to expand the use of real estate disclosures to be included in the titles to real property located within the MIOD.	Y	R
107	MCB Quantico	Coordination/ Organizational	Establish mutual notification procedures for new development proposals in Military Influence Area Zones 1-4.	Y	R
108	MCB Quantico	Coordination/ Organizational	Incorporate mutual planning process where MCB Quantico and localities can participate in respective planning processes.	Y	R
118	MCB Quantico	Planning and Public Policy	Pursue funding or other options as available to provide an on-base ordnance and personnel route to reduce the safety impacts of transporting military ordnance off-base on civilian roads.	Y	R
151	NSF Dahlgren	Coordination/ Organizational	<p>Incorporate NSF Dahlgren as One of the Agencies that Review Development Applications / Proposals.</p> <p>Establish an MOU between local jurisdictions and NSF Dahlgren to formalize a process that provides copies of certain types of development proposals including dredging, rezoning, and other land use or regulation changes for lands located within the MCAs to NSF Dahlgren for review and comment. Such review periods should conform to existing community review periods for providing comment. This supports a proactive approach for identifying potential conflicts in the proposed development application. The process of formalizing NSF Dahlgren review and comment should include:</p> <ul style="list-style-type: none"> <li>definition of project types that require review,</li> <li>definition of project types that require military attendance at pre-application meetings, where applicable,</li> <li>identification of the points of contact for all coordination,</li> <li>establishing a formal procedure for requesting and receiving comments,</li> <li>establishing a standard timeline for responses, keeping in mind mandated review time periods as specified by state law and local/county procedures, and</li> <li>providing notice to the military on all public hearings regarding projects identified for coordination.</li> </ul> <p>Procedures should be reviewed annually and updated as appropriate by the JLUS Coordination Committee.</p>	Y	R
201	NSF Dahlgren	Real Estate Disclosure	<p>Develop an Enhanced Real Estate Disclosure Statement.</p> <p>Develop an enhanced real estate disclosure statement that includes appropriate information about NSF Dahlgren operations, the NSF Dahlgren Operating Area, use of civilian airports, and potential noise and vibration effects that may result from certain types of events and activities performed. The disclosure should state that the building / structure for sale or lease is located within the NSF Dahlgren Operating Area and that weapons firing and explosives operations are conducted within the region that may have an impact on the community such as noise or vibration.</p> <p>Work with state real estate boards, local real estate representatives, and the development community to develop and implement adequate language for inclusion in disclosure notices. Technical information should be provided by and approved by NSF Dahlgren prior to release.</p>	Y	R
203	NSF Dahlgren	Real Estate Disclosure	<p>Develop an Enhanced Real Estate Disclosure Statement.</p> <p>Develop an enhanced real estate disclosure statement that includes appropriate information about NSF Dahlgren operations, the NSF Dahlgren Operating Area, use of civilian airports, and potential noise and vibration effects that may result from certain types of events and activities performed. The disclosure should state that the building / structure for sale or lease is located within the NSF Dahlgren Operating Area and that weapons firing and explosives operations are conducted within the region that may have an impact on the community such as noise or vibration.</p> <p>Work with state real estate boards, local real estate representatives, and the development community to develop and implement adequate language for inclusion in disclosure notices. Technical information should be provided by and approved by NSF Dahlgren prior to release.</p> <p>Consider combining this effort with the implementation of other regional JLUS efforts.</p>	Y	R

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169	NSF Dahlgren	Coordination/ Organizational	Coordinate with DOD Siting Clearinghouse. The DOD Siting Clearinghouse requirements and standards published in Title 32, Code of Federal Regulations, Part 211, advise and guide the process to facilitate the early submission of renewable energy project proposals to the Clearinghouse for military mission compatibility review. Amend applicable local planning documents (comprehensive plans, regional plans, and energy system ordinances) to incorporate procedures requiring coordination of alternative energy development applications with the DOD Siting Clearinghouse.		
10	Fort AP Hill	Coordination/ Organizational	Issue Fire Warning Orders (through Caroline Alert and other media and social network venues) of training activities that are non-routine and have the potential to be louder than normal, as well as controlled burn activities, including the proposed time and duration of aviation and ordnance operations.		R
52	Fort Lee	Planning and Public Policy	The participating local governments should consider the adoption of Comprehensive Plan amendments in support of the Joint Land Use study findings and recommendations.		
53	Fort Lee	Planning and Public Policy	The participating local governments should consider adoption of Zoning Ordinance amendments in support of the Joint Land Use Study findings and recommendations.		
170	NSF Dahlgren	Coordination/ Organizational	Formalize Communication Procedures. Identify and convene a coalition of spectrum stakeholders to discuss use of frequencies and notification procedures for possible interruption of service.		
165	NSF Dahlgren	Land Use Regulations	Develop Alternative Energy Ordinance. Consider development of alternative energy development ordinances to coordinate siting within military influence areas and limit heights within restricted and special use airspace.		
22	Fort AP Hill	Air Operations / Training	Create an official regulation for Fort A.P. Hill aircraft of flight "Avoidance Areas" over populated areas near the Installation.		
23	Fort AP Hill	Air Operations / Training	Demarcate flight routes through on-the ground markers (to help guide pilots away from avoidance areas).		
24	Fort AP Hill	Air Operations / Training	Relocate helicopter routes to the interior of the base boundary where it does not conflict with on base training areas.		
25	Fort AP Hill	Air Operations / Training	Pursue technical modeling to document training air operations in an effort to create notional or official noise contours associated with Fort A.P. Hill current and future aviation operations. This may require reliance upon assumptions until more accurate data can be collected.		
26	Fort AP Hill	Air Operations / Training	Establish and implement reporting procedures and requirements to enable the tracking of fixed wing and rotary aircraft operations on an annual basis.		
27	Fort AP Hill	Air Operations / Training	Provide controlled airspace information and associated altitude restrictions.		
28	Fort AP Hill	Air Operations / Training	Schedule range activities involving large caliber/high noise-generating weapons to minimize or avoid training prior to noon on Sundays, as feasible.		
45	Fort AP Hill	Air Operations / Training	Support the establishment of a "No Fly" Zone covering the Towns of Bowling Green and Port Royal and their designated growth areas and extending outward one mile from the boundary.		
46	Fort AP Hill	Air Operations / Training	Revise the Noise Pamphlet to more accurately describe Fort A.P. Hill air operations and activity and update when necessary due to mission changes.		
38	Fort AP Hill	Alternative Energy	Pursue natural gas service to serve Fort A.P. Hill and the Town of Bowling Green/Milford Primary Growth Area.		



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

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14	Fort AP Hill	Coordination/ Organizational	<p>Through an executed MOU, work with the other JLUS partners to establish an Executive Steering Committee (ESC) including local elected officials and the Fort A.P. Hill Garrison Commander to discuss community, installation and other compatibility issues on a regular scheduled basis and to coordinate and collaborate on the following:</p> <ul style="list-style-type: none"> <li>• Capital improvement and infrastructure planning.</li> <li>• Comprehensive plan and other planning document updates.</li> <li>• Long-range planning for newly proposed missions and on-base facilities, recognizing mission-related operational security requirements exist.</li> <li>• Environmental studies related to air and water quality impacts.</li> <li>• Pursuit of funding for studies.</li> </ul> <p>The ESC should include a Working Committee at the planning director level that will form subcommittees as necessary to explore specific issues and opportunities.</p>		
16	Fort AP Hill	Coordination/ Organizational	<p>Improve the process for noise complaint documentation to include an internal reporting feature that provides the installation with the ability to roll up data to be shared with the ICC or similar venue.</p>		
1	Fort AP Hill	Coordination/ Organizational	<p>Through an executed MOU, as prepared by the Executive Steering Committee (ESC) consisting of an elected official from each jurisdiction and the Fort A.P. Hill Garrison Commander, develop a process to address community and installation issues on a regularly scheduled basis.</p>		
4	Fort AP Hill	Coordination/ Organizational	<p>Participate in opportunities to provide input on long range planning for newly proposed missions and on-base facilities, recognizing mission-related operational security requirements exist.</p>		
5	Fort AP Hill	Coordination/ Organizational	<p>Participate in review of Fort A.P. Hill long-range plans for newly proposed missions and on-base facilities, recognizing mission-related operational security requirements exist.</p>		
6	Fort AP Hill	Coordination/ Organizational	<p>Study the localized air quality impacts (area immediately surrounding the installation) associated with controlled burns at Fort A.P. Hill.</p>		
9	Fort AP Hill	Coordination/ Organizational	<p>Update locality website to recognize Fort A.P. Hill, its missions, its location, links to the Fort A.P. Hill web page, contact information for key personnel, and fire warning orders.</p>		
11	Fort AP Hill	Coordination/ Organizational	<p>Support the installation's pursuit of establishing Washington-Baltimore-Northern Virginia General Schedule (GS) pay grades for all personnel stationed at Fort A.P. Hill.</p>		
12	Fort AP Hill	Coordination/ Organizational	<p>Support the installation's pursuit of increasing the per diem rate for temporary duty personnel so that it aligns with Stafford County per diem rate.</p>		
13	Fort AP Hill	Coordination/ Organizational	<p>Using manning/training personnel data from Fort A.P. Hill (updated on a bi-annual basis), pursue commercial and retail uses off base that support on base employees and local visitors, tourists and residents.</p>		
15	Fort AP Hill	Coordination/ Organizational	<p>Re-structure and expand the Installation- Community Council (ICC) to include local businesses, residents, installation employees, non-profits, etc., to serve as a citizen group designed to promote positive community and installation relations and to help organize and sponsor events and activities and support economic development.</p>		
17	Fort AP Hill	Coordination/ Organizational	<p>Update Fort A.P. Hill's communication plan to include creative opportunities for residents to observe and understand mission activities.</p>		
18	Fort AP Hill	Coordination/ Organizational	<p>Establish and document a more accountable and timely property claims process, within the Army's legal reporting limits. Consider establishing an installation contact/liaison person (or expand the PAO's role) to work with citizens registering complaints to provide information on status and follow-up of any claims registered.</p>		
19	Fort AP Hill	Coordination/ Organizational	<p>Update Fort A.P. Hill website to include more information about operations, training, noise impacts and complaint procedures, avoidance areas and key points of contact.</p>		
29	Fort AP Hill	Coordination/ Organizational	<p>Future additional ranges or airfields and new training missions should be sited to minimize and mitigate noise impacts to local jurisdictions and residents.</p>		



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35	Fort AP Hill	Land Use Regulations	Establish the town as a possible economic growth district to attract new business and services supporting Fort A.P. Hill trainees, as well as town residents, visitors and tourists.		
44	Fort AP Hill	Noise Impacts-Sound Attenuation	Develop a voluntary sound attenuation and lighting retrofit program for existing noise sensitive uses and high-demand lighting uses (such as sports complexes). Investigate federal or state funds to offset potential retrofit costs.		
47	Fort AP Hill	Noise Impacts-Sound Attenuation	Work with Fort A.P. Hill to limit noise generated from future or expanded operations or missions at the installation to inside Fort A.P. Hill boundaries.		
48	Fort AP Hill	Noise Impacts-Sound Attenuation	Limit noise generated from future operations or missions at Fort A.P. Hill to inside installation boundaries.		
30	Fort AP Hill	Planning and Public Policy	Ensure proper County and Town business licenses are in place for all construction activity at Fort A.P. Hill through improved oversight and accountability.		
31	Fort AP Hill	Regional Growth	Working with Caroline County, jointly study the economic impacts of conservation easements and non-taxable lands on municipal revenue streams.		
32	Fort AP Hill	Regional Growth	Working with Caroline County and the Towns of Bowling Green and Port Royal and Fort A.P. Hill, jointly study the economic impacts of conservation easements and non-taxable lands on municipal revenue streams.		
33	Fort AP Hill	Regional Growth	Jointly evaluate the benefits and impacts of a new CSX rail spur to support troop and equipment movement and potential mission growth, as well as freight or passenger service benefiting the local communities.		
37	Fort AP Hill	Waterway Management / Access	Jointly study the feasibility and potential mechanisms for shared water supply and sewer utility services among Fort A.P. Hill, the Town of Port Royal, the Town of Bowling Green, and Caroline County.		
40	Fort AP Hill	Waterway Management / Access	Work with Fort A.P. Hill, Town of Port Royal, and Caroline County to obtain utility rights of way along U.S. 301 that would allow for a major water distribution line from the Rappahannock River to the entire county.		
51	Fort Lee	Coordination/ Organizational	Participating local governments should make information available to the public regarding the location of noise, safety and other impacts related to Fort Lee's training and operational mission.		
91	Hampton Roads-NAS Oceana	Air Operations / Training	When feasible, modify flight operations to minimize impacts on Hampton Roads developed areas.		
77	Hampton Roads-NAS Oceana	Coordination/ Organizational	Request additional information from the Federal Aviation Administration on development requirements and noise mitigation assistance.		
76	Hampton Roads-NAS Oceana	Coordination/ Organizational	Improve communications through updated web sites.		
78	Hampton Roads-NAS Oceana	Coordination/ Organizational	Educate public on existing airfield noise and safety ordinances and restrictions in place to reduce air operations impacts.		
79	Hampton Roads-NAS Oceana	Coordination/ Organizational	Create JLUS Regional Coordinating Committee to include the Peninsula's military facilities and local governments		
80	Hampton Roads-NAS Oceana	Coordination/ Organizational	Provide on-going and updated information on JLUS implementation through local governments.		
88	Hampton Roads-NAS Oceana	Coordination/ Organizational	Continue to expand educational outreach efforts.		
93	Hampton Roads-NAS Oceana	Coordination/ Organizational	Update educational materials explaining noise, AICUZ, and real estate disclosure.		
95	Hampton Roads-NAS Oceana	Coordination/ Organizational	Establish a Voluntary Property Acquisition Program.		
99	Hampton Roads-NAS Oceana	Land Use Regulations	Establish an aviation easement program.		
89	Hampton Roads-NAS Oceana	Land Use Regulations	Strictly enforce existing easement restrictions around NAS Oceana and NALF Fentress.		
104	Hampton Roads-NAS Oceana	Land Use Regulations	Revise City Zoning ordinance to include AICUZ Overlay District		
81	Hampton Roads-NAS Oceana	Noise Impacts-Sound Attenuation	Adopt expanded sound attenuation requirements for new residential construction in noise affected areas.		
101	Hampton Roads-NAS Oceana	Noise Impacts-Sound Attenuation	Pursue purchase of impacted properties in the > 70 dB DNL area of the Transition Area for Open Space.		
102	Hampton Roads-NAS Oceana	Noise Impacts-Sound Attenuation	Expand or modify land acquisition and protection programs in the Transition Area.		
74	Hampton Roads-NAS Oceana	Planning and Public Policy	Evaluate building setbacks along the Langley AFB perimeter and identify options to increase consistency with Unified Facilities Criteria (UFC) 4-101-01.		



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

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75	Hampton Roads-NAS Oceana	Planning and Public Policy	Review and monitor areas of concern and new projects that contain high intensity lighting.		
82	Hampton Roads-NAS Oceana	Planning and Public Policy	Consult with the Navy on the siting of future schools around existing airfields.		
90	Hampton Roads-NAS Oceana	Planning and Public Policy	Pursue development of an additional Outlying Landing Field in North Carolina.		
94	Hampton Roads-NAS Oceana	Planning and Public Policy	Expand the existing Airport Safety Ordinance.		
96	Hampton Roads-NAS Oceana	Planning and Public Policy	Revise existing Cluster Zoning Ordinance to recognize those portions of a parcel within noise and safety zones as prime candidates for clustering development.		
98	Hampton Roads-NAS Oceana	Planning and Public Policy	Expand the Fentress Overlay District to recognize the potential land use conflicts resulting from noise exposure of 65 dB or higher.		
100	Hampton Roads-NAS Oceana	Planning and Public Policy	Establish a Virginia Beach Re-development Strategy as part of the Comprehensive Plan and other land use policies.		
68	Hampton-Langley	Air Operations / Training	Ensure that flight operations associated with future missions or airframes are designed to meet all operational requirements and, to the greatest extent possible, minimize impacts on existing developed areas.		
55	Hampton-Langley	Coordination/ Organizational	Develop a land acquisition program to enhance compatibility in designated Clear Zones (CZs) associated with Langley AFB.		
56	Hampton-Langley	Coordination/ Organizational	Develop a program to acquire parcels within the Clear Zone at-risk for compatibility issues through Fee Simple Purchase. Priorities for acquisitions are developed and recommended by the JLUS Implementation Committee.		
60	Hampton-Langley	Coordination/ Organizational	Jurisdictions and agencies shall coordinate Capital Improvement Programs (CIP) among Langley AFB and nearby jurisdictions.		
62	Hampton-Langley	Coordination/ Organizational	Develop communications policies /procedures to guide interface between military and local jurisdictions.		
63	Hampton-Langley	Coordination/ Organizational	Continue existing, and develop new, communications and outreach programs to promote and maintain existing missions and to show community-wide support for the pursuit of new missions at Langley AFB.		
64	Hampton-Langley	Noise Impacts-Sound Attenuation	Aggressively regulate noise-related nuisances within the proximity of Langley AFB.		
57	Hampton-Langley	Planning and Public Policy	Evaluate the feasibility of a volunteer program to acquire development rights for parcels at risk for incompatible uses using transfer of development rights (TDR).		
73	Hampton-Langley	Planning and Public Policy	To reduce non-compatible uses as defined by the compatible land use table within the current Langley AFB AICUZ. The JLUS Implementation Committee will provide policy and technical guidance to local jurisdictions regarding zoning code changes to increase land use compatibility with Langley AFB. The overall intent is to identify encroachment issues confronting both the civilian community and the military installation and to recommend strategies to address the issues in the context of local comprehensive/general planning programs.		
58	Hampton-Langley	Planning and Public Policy	Langley AFB should work with local jurisdictions to obtain, through a volunteer program, the dedication of aviation easements when development is proposed on property within the Clear Zone, APZ I, APZ II, and the Noise MIA.		
69	Hampton-Langley	Planning and Public Policy	Establish and protect areas surrounding Langley AFB from vertical structures that may intrude into airspace that is used for typical and emergency flight operations.		

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70	Hampton-Langley	Planning and Public Policy	Prepare and adopt comprehensive land use policies to amend the City of Hampton, City of Poquoson, City of Newport News, and York County Comprehensive Plans. Policies should be modified or added to include: § The establishment of the MIOD; § Notification of Langley AFB for new developments within the MIOD; and § The development of regulations to protect the missions at Langley AFB.		
71	Hampton-Langley	Planning and Public Policy	Develop or update light and glare controls to protect the operational environment near Langley AFB and the surrounding communities. These controls should be designed to reduce the amount of light that spills into surrounding areas and impacts regional ambient illumination.		
112	MCB Quantico	Air Operations / Training	Establish a process to correlate noise complaints and comments with range operations. This should include U.S. Marine Corps (USMC), Federal Bureau of Investigation (FBI), Drug Enforcement Agency (DEA) and all other parties using the ordnance and demo ranges.		
116	MCB Quantico	Air Operations / Training	Pursue technical modeling to create official noise contours associated with MCB Quantico range operations. Update the Range Compatible Use Zone (RCUZ) study with new data and adjust JLUS Military Influence Zone boundaries as applicable.		
117	MCB Quantico	Air Operations / Training	Review the training requirements to support the size, location and extent of the MCB Quantico Military Operations Area (MOA). Make modifications as necessary to support safety requirements associated with current and projected platforms and training requirements.		



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110	MCB Quantico	Coordination/ Organizational	Develop a regional dialogue towards mitigation of environmental impacts and resource conservation (on and off base). This could be accomplished as an agenda item(s) through the QRESC/QRPT structure (see 1.1 above), involving regional and local agencies and organizations as appropriate.		
119	MCB Quantico	Coordination/ Organizational	Include jurisdictions in review of the Draft Transportation Management Plan (TMP) being prepared by MCB Quantico.		
126	MCB Quantico	Coordination/ Organizational	Coordinate with Federal Aviation Administration (FAA) and Stafford Regional Airport to reduce potential military/civilian airspace conflicts while supporting continued expansion of regional airport.		
105	MCB Quantico	Coordination/ Organizational	Continue to use the Quantico Regional Executive Steering Committee (QRESC) and Quantico Regional Planning Team (QRPT) as the standing mechanism to continue dialogue between MCB Quantico and the three surrounding jurisdictions on issues of mutual concern.		
106	MCB Quantico	Coordination/ Organizational	Update the QRESC and QRPT Charters to formalize joint consultation procedures among the JLUS partners for the long-term.		
109	MCB Quantico	Coordination/ Organizational	Through the QRESC/QRPT or other mechanism (e.g., Joint Roundtable, etc.), share information on MCB Quantico space requirements and collaborate on ways to meet these requirements through on and off-base development, such as Enhanced Use Leases (EULs).		
111	MCB Quantico	Coordination/ Organizational	Continue and expand range operations notification to as many outlets as possible to inform residents of expected noise and aviation impacts.		
113	MCB Quantico	Coordination/ Organizational	Ensure the base's communication plan emphasizes community awareness and provides creative opportunities for local community leaders (and the public) to understand mission activities.		
114	MCB Quantico	Coordination/ Organizational	Support advocacy groups (e.g., local chambers of commerce and regional affairs groups) within legal, ethical, and fiscal constraints in efforts to promote positive community/base relations. Develop programs of mutual interest specific to MCB Quantico and the surrounding jurisdictions.		
115	MCB Quantico	Coordination/ Organizational	Update locality web sites to recognize the base, its mission, its location, links to the MCB Quantico web page, contact information for key organizations, and relevant base activities potentially involving the communities (as provided by MCB Quantico). Expand the MCB Quantico website to better communicate off-base community activities available to on-base personnel.		
120	MCB Quantico	Coordination/ Organizational	Jointly work together to improve traffic conditions at the Route 1 / Fuller Gate intersection through mutually agreed-upon road, gate and intersection improvements.		
124	MCB Quantico	Coordination/ Organizational	Coordinate with George Washington Regional Commission (GWRC) and other regional bodies to promote car pooling and other ridesharing programs for MCB Quantico employees.		
127	MCB Quantico	Coordination/ Organizational	Coordinate to planning and development of the Potomac Heritage National Scenic Trail segments within the Route 1 corridor in Prince William and Stafford Counties, as well as other feasible bicycle/ pedestrian connections to and from the base.		
131	MCB Quantico	Land Use Regulations	Consider amending the respective zoning regulations in Prince William and Stafford Counties as applicable to establish height restrictions for tall structures (cell towers, transmission lines, etc.) in Military Influence Area Zones 6.1 and 6.2 to avoid impacts to MCAF Quantico.		
138	MCB Quantico	Land Use Regulations	In collaboration with MCB Quantico, determine the appropriate residential densities in the Boswell's Corner Redevelopment Area that meet County economic development goals and are compatible with MCB Quantico operations. Explore the potential for Boswell's Corner (JLUS Military Influence Area Zone 2.2) to be a TDR receiver site from TDR sending sites in other portions of Stafford County adjacent to the base (JLUS Military Influence Area Zones 2.1 and 2.4). If needed, amend the Comprehensive Plan and Zoning Ordinance accordingly.		
142	MCB Quantico	Land Use Regulations	Pursue Transfer of Development Rights (TDR) and Purchase of Development Rights (PDR) programs for future land conservation purposes in the three JLUS counties and utilize the programs to transfer development potential out of JLUS Military Influence Area Zones 1.2, 1.3, 2.1, 2.4 and 3.1 once established.		
139	MCB Quantico	Noise Impacts-Sound Attenuation	Based on input from MCB Quantico, develop sound attenuation standards/guidelines for new construction of schools, hospitals, nursing homes, churches and other public buildings or buildings with public gathering spaces in JLUS Military Influence Area Zones 1.2, 1.3, 2.1-2.4, and 3.1, as applicable.		

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123	MCB Quantico	Planning and Public Policy	Coordinate with Virginia Railway Express (VRE) and AMTRAK on expansion plans to add a third rail line along the CSX rail corridor through MCB Quantico as well as expanded parking options for commuters.		
125	MCB Quantico	Planning and Public Policy	Pursue expansion of Fredericksburg Regional Transit (FRED) and Potomac & Rappahannock Transportation Commission (PRTC) bus service to employment centers on and off-base in southern Prince William County and northern Stafford County.		
130	MCB Quantico	Planning and Public Policy	Using the QRESC/QRPT structure, develop proposals for public-public partnership service agreements between MCB Quantico and the surrounding counties. In the short-term, MCB Quantico and Stafford County should continue their coordination to share Regional Fire Training services and pursue the possibility of a cooperative effort to establish a Regional Fire Training facility.		
132	MCB Quantico	Planning and Public Policy	MCAF Command Airspace Liaison Officer (CALO) will work closely with the jurisdictions to develop procedures serving the needs of MCB Quantico, MCAF Quantico and the adjacent localities.		
135	MCB Quantico	Planning and Public Policy	Revise the Comprehensive Plans in Prince William, Stafford and Fauquier Counties to incorporate the JLUS recommendations applicable to the JLUS Military Influence Area Zones 1 through 6.		
136	MCB Quantico	Planning and Public Policy	Based on additional noise data and input from MCB Quantico, consider revisions to the Prince William, Stafford and Fauquier County Comprehensive Plans to define areas that may be suitable for future real estate disclosure, sound attenuation or other measures to mitigate impacts from base operations.		
137	MCB Quantico	Planning and Public Policy	Consider amendments to the Stafford County Comprehensive Plan to modify the Military Overlay Zone with allowable residential land uses and densities that are compatible with range operations in Military Influence Area Zones 2.3 and 2.4. Update the Stafford County Zoning Ordinance as necessary to implement any Comprehensive Plan Amendments.		
140	MCB Quantico	Planning and Public Policy	Based on input from MCB Quantico, develop lighting standards/guidelines that set forth specific requirements for outdoor lighting to reduce impacts on night-time training requirements at MCB Quantico. Apply the ordinance to JLUS Military Influence Area Zones 1.2, 1.3, 2.1-2.4 and 3.1, as applicable.		
141	MCB Quantico	Planning and Public Policy	Pursue conservation partnering opportunities through the Readiness and Environmental Protection Integration (REPI) under DoD and through state, local and private conservation efforts (in collaboration with conservation partners) to pursue suitable properties for conservation in JLUS Military Influence Area Zones 1.2, 1.3, 2.1, 2.4, 3.1 and 5.1.		
121	MCB Quantico	Regional Growth	Jointly work together to provide additional rights-of-way for Route 1 widening and Russell Road ramps.		
122	MCB Quantico	Regional Growth	Using the QRESC/QRPT structure, cooperatively work together to analyze and review other road and transportation improvements affecting traffic around MCB Quantico.		
128	MCB Quantico	Regional Growth	Update the utility service agreement between MCB Quantico and Stafford County for shared water & sewer service, including projected MCB Quantico and Stafford growth as part of this update.		
129	MCB Quantico	Regional Growth	Develop a utility services agreement between MCB Quantico and Prince William County Service Authority to support water supply to the National Museum of Marine Corps (NMMC) campus.		
143	MCB Quantico	Regional Growth	Using the QRESC/QRPT structure, cooperatively work together on stormwater management and other water quality initiatives for shared watersheds (see Recommendation CO.6).		
144	MCB Quantico	Water Management / Environmental	Through coordination between Prince William County and MCB Quantico, pursue restoration projects along Little Creek to address erosion and flooding issues in this water body and the adjacent properties from Route 1 to the Potomac River.		
145	MCB Quantico	Water Management / Environmental	Establish semi-annual or annual planning forums with MCB Quantico and Prince William Forest Park (PWFP) to address issues of mutual concern.		
172	NSF Dahlgren	Air Operations / Training	Acquire and Improve RF Spectrum Analysis Technology Devices. Pursue acquisition and development of "RF spectrum analyzer" technologies used to detect interference between frequency bands. This tool can be used to identify interference from on- and off-installation sources including military and public/commercial users.		



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173	NSF Dahlgren	Air Operations / Training	Adjust Frequency Usage Evaluate the feasibility of adjusting frequency usage to utilize different frequencies that would not interfere with, or be impacted by, Part 15 devices.		
184	NSF Dahlgren	Air Operations / Training	Obtain FAA Certificate of Authorization. Prepare & finalize the FAA Certificate of Authorization to connect the airspace between NSF Dahlgren and NAS PAX.		
189	NSF Dahlgren	Air Operations / Training	Develop Clear Zones and Accident Potential Zones for the Runway. The Navy should develop and identify runway safety zone dimensions (Clear Zones and Accident Potential Zones) relevant to the size and type of runway located at NSF Dahlgren. The DOD has standard recommendations for the types of land uses that are compatible and incompatible in each of the three zones. These recommendations could be used by the Navy and King George County to evaluate future development trends.		

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190	NSF Dahlgren	Air Operations / Training	Develop Imaginary Surfaces for the Runway. The Navy should develop and identify the dimensions of imaginary surfaces relevant to the size and type of runway located at NSF Dahlgren. Each type of imaginary surface has different heights at which any development, structure, or natural object exceeding that height may pose a risk to flight operations. The imaginary surface height criteria could be used by the Navy and surrounding jurisdictions to evaluate future development trends.		
214	NSF Dahlgren	Air Operations / Training	Consider Recertifying Munitions Storage Facilities to Realign Gate and Queuing. Consider recertifying or decertifying selected munitions storage facilities to reduce quantity distance explosive safety arcs. This would allow the base to be able to move its entry gate further into the installation to allow for a longer queuing area that would help reduce traffic impacts on public roads of personnel waiting to enter the base.		
159	NSF Dahlgren	Coordination/ Organizational	Share Military Operational Brochures with Community. NSF Dahlgren should make regular contact and offer to share informational brochures, (e.g., noise contours brochure, PRTR usage brochure) with community planning and development departments within counties and the Town of Colonial Beach to display in their offices. This will provide another level of transparency and offer the community another platform to learn about the military mission.		
147	NSF Dahlgren	Coordination/ Organizational	Coordination Among Management Agencies. Work with all management agencies to develop approaches to protect the Bald Eagle and its associated ecosystem and avoid disruption of nesting sites and habitat by providing management strategies that provide adequate habitat protection.		
148	NSF Dahlgren	Coordination/ Organizational	Website Outreach. Incorporate prevention and protection information concerning protected species on publicly accessible websites to ensure maximum outreach and public engagement.		
150	NSF Dahlgren	Coordination/ Organizational	Strengthen Partners in Flight (PIF) Program to Address Migratory Bird Species Potentially Impacted by Military Activities. The PIF program provides a forum for natural resources managers from a diverse group of public, private, and international agencies to cooperate to achieve enhanced protection of wildlife and standardized policies and procedures for reporting and studying wildlife. One such program is the Monitoring Avian Productivity and Survivorship (MAPS) initiative, which focuses on the protection of the neotropical migratory bird resource. MAPS research should occur at NSF Dahlgren, with all data contributed to the national database at the Institute for Bird Populations.		
152	NSF Dahlgren	Coordination/ Organizational	Seek Regular Input From Navy Representatives for Technical Assistance as Needed. Request a Navy representative presence in processes associated with plan updates, code updates, and development review processes on an as-needed / as requested basis, especially in the MCAOD.		
153	NSF Dahlgren	Coordination/ Organizational	Develop Memorandum of Agreement for Multiple Land Management Agencies. The counties, Colonial Beach, and other land management agencies should develop a Memorandum of Agreement that delineates roles and responsibilities points-of-contact, and an action plan for managing the multiple land uses within proximity of NSF Dahlgren.		
154	NSF Dahlgren	Coordination/ Organizational	NSF Dahlgren Staff Representative on Local Planning and Zoning Commissions. Invite a representative from NSF Dahlgren to serve as a technical advisor to jurisdiction planning and zoning commissions to allow for NSF Dahlgren to provide input on proposed developments in the MCAOD that may impact the NSF Dahlgren mission. Formalize the invitation through an MOU.		



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

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155	NSF Dahlgren	Coordination/ Organizational	<p>Establish an NSF Dahlgren Outreach Program.</p> <p>Create an outreach program to share information with the community. The public outreach program should describe outreach activities to include tours of the installation, development of informational brochures to be mailed to neighbors and posted on websites (NSF Dahlgren and local jurisdictions), identification of a single public relations point of contact for NSF Dahlgren, and making contact information widely available. It should also include a military and community communication protocol directory that identifies the different level of communication channels between the appointed and elected officials, to staff, the general public, and NSF Dahlgren.</p> <p>Consider hosting regularly scheduled open houses on a semi-annual or annual basis for the public to provide an overview of training activities, construction, or other items of public interest. This forum should also allow residents the opportunity to comment on concerns. Open house activities that invite civilians onto NSF Dahlgren should be deconflicted with installation activities such as changes in command or senior leadership.</p>		
156	NSF Dahlgren	Coordination/ Organizational	<p>Media Announcement of Unusual Activities.</p> <p>When possible, prepare a weekly general schedule of any special or unusual activities or night activities that may be occurring that week to be published in local media.</p>		
157	NSF Dahlgren	Coordination/ Organizational	<p>Conduct a Good Neighbor Program.</p> <p>Conduct, on a bi-annual basis, a Good Neighbor Program where letters are sent to property owners within the region inviting them to an NSF Dahlgren Open Forum. The purpose of the meeting will be to allow for an open exchange of information to maintain transparent communication and provide a platform for NSF Dahlgren to inform neighbors and interested citizens of any upcoming mission changes or operations and maintenance events that may have an impact on the neighbors and whereby the adjacent property owners can provide input and pose questions to Navy representatives. The Open houses would be held in rotating locations on or near NSF Dahlgren and within the region on a semi-annual basis and require participation by each local jurisdiction.</p>		
158	NSF Dahlgren	Coordination/ Organizational	<p>Review of Military Planning Documents.</p> <p>NSF Dahlgren should provide public versions of key planning documents for review and comment by jurisdictions prior to finalization, where feasible.</p>		
160	NSF Dahlgren	Coordination/ Organizational	<p>Improved Informational Signage of Military Activities.</p> <p>NSF Dahlgren should assist and cooperate with local jurisdictions to establish better signage identifying the installation operations from the Potomac River including along the PRTR.</p>		
161	NSF Dahlgren	Coordination/ Organizational	<p>Partner with private organizations to improve awareness.</p> <p>NSF Dahlgren should continue to partner with the Dahlgren Heritage Museum to generate public awareness of the base and its impact to the community and the Navy.</p>		
162	NSF Dahlgren	Coordination/ Organizational	<p>Establish a JLUS Implementation Coordination Committee.</p> <p>Establish a JLUS Implementation Coordination Committee to provide oversight and monitoring of the JLUS implementation and facilitate efficient and effective coordination among the JLUS partners. Consider establishing a Sub Committee comprising JLUS Technical Advisory Group members to provide technical assistance during the JLUS implementation.</p>		
163	NSF Dahlgren	Coordination/ Organizational	<p>Formalize Communication Through MOAs and MOUs.</p> <p>Formalize communication between Navy, communities and agencies through MOAs and MOUs. Formalize communication to be reproducible into the future.</p>		
171	NSF Dahlgren	Coordination/ Organizational	<p>Ensure Compatible Frequencies.</p> <p>The Federal Communications Commission is the government entity responsible for managing frequency usage. The military is assigned certain frequencies to use that generally do not interfere with civilian uses. The continued usage of only assigned frequencies should ensure no interference between military and civilian uses.</p>		
175	NSF Dahlgren	Coordination/ Organizational	<p>Develop Outreach Materials.</p> <p>Work with affected jurisdictions to develop public outreach materials including website updates and public service announcements to inform the public about the potential for interruption of cellular service and GPS devices within areas associated with NSF Dahlgren testing.</p>		



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176	NSF Dahlgren	Coordination/ Organizational	Establish Procedures to Avoid Frequency Conflicts / Issues. Identify telecommunications projects that should be referred to the military for review and communicate this information to jurisdictions. The criteria that triggers coordination includes tower height, proximity to NSF Dahlgren, power emission from tower sources, and high output transmission devices. Coordinate with jurisdictions on RF projects that could impact off-installation communications.		
182	NSF Dahlgren	Coordination/ Organizational	Inform NSF Dahlgren of Infrastructure Extensions. If any of the jurisdictions develop plans to extend infrastructure towards NSF Dahlgren or the PRTR, they should inform NSF Dahlgren and discuss alternatives that would help reduce potential future development along the infrastructure line (growth-inducement). The coordination should be done early in the planning process to optimize compatibility and reduce costs associated with plan changes.		
183	NSF Dahlgren	Coordination/ Organizational	Create a Civilian / Military Aviation Coordination Committee. The Navy, FAA, St. Mary's County Regional Airport, and NSF Dahlgren should create a coordination committee to discuss, understand, and coordinate civil and military aviation matters.		
187	NSF Dahlgren	Coordination/ Organizational	Expand Outreach to Boating Community. Engage boating community through formal education session to increase awareness of the range area. This could include methods such as: increased and enhanced signage, engagement of boating community through marinas and boating associations, and boating clubs, expanded radio communications, and requirement of all boaters in area to have an onboard radio (potential for equipment rental option).		
188	NSF Dahlgren	Coordination/ Organizational	Partner With Other Entities to Clear the Area of Non-Military Users. NSF Dahlgren should develop MOUs with other entities, such as the Potomac River Fisheries Commission, Maryland Department of Natural Resources, Virginia Marine Resources Commission, Department of Game and Inland Fisheries, and the Atlantic States Marine Fisheries Commission, to help secure the range areas from public access during training times.		
194	NSF Dahlgren	Coordination/ Organizational	Military Compatibility Area Overlay District (MCAOD). Create a Military Compatibility Area Overlay District (MCAOD) containing Military Compatibility Areas (MCAs) that reflects the types and intensity of land uses compatible with military activities at NSF Dahlgren and the PRTR. The MCAOD is the collective geographic area of all of the MCAs combined. The MCAs should be used by local jurisdictions to identify areas where specific compatibility issues related to safety, noise, vertical obstructions and energy development are more likely to occur. Implementation of the MCAOD and associated strategies for these zones will: create a broader framework for making sound planning decisions around military operating areas; more accurately identify areas that can affect or be affected by military missions; protect the public health, safety, and welfare; protect the military missions; create a compatible mix of land uses; and promote an orderly transition and rational organization of land use around military operating areas.		



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195	NSF Dahlgren	Coordination/ Organizational	<p>The MCAs are defined as follows:</p> <p>Safety MCA. Includes the land within the BASH Relevancy Area. The safety zone may need to be adjusted by the Navy to include Clear Zone and Accident Potential Zones outside the installation dependent on future runway needs.</p> <p>Noise MCA. Includes areas within the 120 dBP peak noise contours, as well as an additional half mile beyond the noise contour boundary.</p> <p>Vertical Obstructions MCA. Includes the estimated Inner Horizontal Surfaces and Approach-Departure Clearance Surfaces for the runway at NSF Dahlgren up to 150 feet. These surfaces may need to be adjusted by the Navy dependent on future runway needs.</p> <p>Energy Development MCA. Includes a half-mile buffer on each side of the radar line-of-sight through Westmoreland County to the tracking station in Northumberland County.</p> <p>To assist in this effort, geographic information system (GIS) files of these boundaries can be obtained from King George County following finalization of this JLUS and approval of these MCAs. Updates to the noise contours, safety zones, and imaginary surfaces data should be provided by NSF Dahlgren dependent on mission or operational changes, or development of an Air Installation Compatible Use Zone (AICUZ) study.</p> <p>Where appropriate, the jurisdictions should incorporate the MCAOD and MCA boundaries on their zoning map and future land use maps and include the zones on their websites for easy access by the public</p>		
199	NSF Dahlgren	Coordination/ Organizational	<p>Economic Development Marketing.</p> <p>Establish economic development marketing guidelines that identify the type of industries that are compatible with the NSF Dahlgren mission and the type of industries that are incompatible with the military mission.</p>		
200	NSF Dahlgren	Coordination/ Organizational	<p>Property Owner JLUS Packet.</p> <p>Develop an information packet for property owners that identify JLUS issues regarding land development concerns that could impact or be impacted by NSF Dahlgren operations. The packet should include current regulations that restrict certain types of development incompatible with NSF Dahlgren operations or types of development that would not be compatible. Include contact information for a community representative who can direct property owners where to find additional information.</p>		
207	NSF Dahlgren	Coordination/ Organizational	<p>Incorporate Noise Contour Maps into Local Planning Documents</p> <p>Develop noise overlays and / or contour maps for inclusion in planning documents. Incorporate policies and guidelines that address noise impacts from aircraft operations and DOD compatibility guidelines as an appendix easily accessible to the public.</p>		
209	NSF Dahlgren	Coordination/ Organizational	<p>Seek Assistance From NSF Dahlgren to Incorporate Maps and Updates to Planning Documents and Guidelines that Minimize Noise Concerns Among Residents.</p> <p>Based on noise data, provide information to local jurisdictions to add as revisions to comprehensive plans to define areas that may be suitable for future real estate disclosure, sound attenuation or other measures to mitigate impacts from military operations.</p>		
210	NSF Dahlgren	Coordination/ Organizational	<p>Develop Noise Informational Brochure for Base Operations.</p> <p>Develop an informational / educational brochure about the noise generated from the operations that occur over the installation to include the large weapons noise contour and any low-level altitude operating areas. Points-of-contact should also be included in this brochure.</p>		
212	NSF Dahlgren	Coordination/ Organizational	<p>Educate Local Builders on Sound Attenuation.</p> <p>Work with local construction and development organizations to ensure that builders and relevant skilled trades are familiar with the noise attenuation measures, how to incorporate them in a cost-effective manner and how to market them as a benefit to clients and prospective clients.</p>		
220	NSF Dahlgren	Coordination/ Organizational	<p>Consider the development of an EMS response study to accurately quantify and classify the specific issues and impacts.</p>		
221	NSF Dahlgren	Coordination/ Organizational	<p>Increase the awareness of the designated Hazardous Cargo routes through the community.</p>		

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222	NSF Dahlgren	Coordination/ Organizational	Maintain Damage Claims Package. As part of its ongoing damage claims process, NSF Dahlgren should consider a package for homeowners to complete if damage from vibration caused by military activities is believed to occur. The package should include instructions for completion of the claims forms, an overview of the inspection process, procedures for Navy review of potential damage, and potential courses of action.		
185	NSF Dahlgren	Land Use Regulations	Pursue Purchase of Land or Easements. Evaluate the purchase of land or easements from willing property owners to secure future use of existing sites of range stations.		
191	NSF Dahlgren	Land Use Regulations	Update King George County Zoning Code to Include Runway Safety Zones. If the Navy moves forward with the development of runway safety zones, King George County should consider incorporating these zones into the zoning code to protect future runway operational areas.		
192	NSF Dahlgren	Land Use Regulations	Update Local Zoning Codes With Imaginary Surfaces (Vertical Obstruction Zones). If the Navy moves forward with the development of imaginary surfaces, the jurisdictions within them should incorporate the imaginary surfaces into their zoning code to protect future runway operational areas.		
197	NSF Dahlgren	Land Use Regulations	Update Local Jurisdiction Zoning Codes. Update zoning map and zoning code to be consistent with any changes or updates resulting from the comprehensive plan updates as part of Strategy LU-3B.		
205	NSF Dahlgren	Land Use Regulations	Develop and Establish Dark Sky Lighting Ordinance. Adopt a "Dark Sky" ordinance to minimize urban sky glow and the potential for light trespass onto adjacent properties within the NSF Dahlgren Operating Area. Items to be addressed should include controls for downward directional lighting, placement of lighting fixtures, and types of lighting fixtures. Specific development standards should be incorporated into the zoning ordinances and building codes of each jurisdiction and address areas adjacent to the installation boundary. The lighting ordinance should also include regulation of lighting such as LED billboards in important flight paths and the imaginary surfaces approach and departure corridors.		
206	NSF Dahlgren	Land Use Regulations	Identify Noise Compatibility Policies for Inclusion in Local Planning Documents. Incorporate policies and guidelines that address noise impacts from aircraft operations and DOD compatibility guidelines as an appendix to current planning documents that are easily accessible by the public.		
211	NSF Dahlgren	Land Use Regulations	Amend Building Codes. Amend the building codes to require sound attenuation that achieves an interior noise level of 45 dB for any new buildings or significant changes or additions to current buildings located within areas identified as experiencing noise levels greater than 60 dBA.		
149	NSF Dahlgren	Planning and Public Policy	Seek REPI Funding to Protect Areas of Environmental Concern. Leverage Department of Defense Readiness and Environmental Protection Integration (REPI) program funds by submitting applications for REPI funding to acquire those environmentally important lands that, if developed, would not only remove important habitat, but also impact the military mission. NSF Dahlgren and the surrounding counties should consider additional REPI funding for preservation of sites that would provide the benefit of protecting operations near the installation including range areas.		
164	NSF Dahlgren	Planning and Public Policy	Develop Intergovernmental Coordination Element. King George County and other local jurisdictions should consider developing an Intergovernmental Coordination Element to include in comprehensive plans that set provisions for the multiple land management agencies and their roles and responsibilities.		
174	NSF Dahlgren	Planning and Public Policy	Develop Highway Signage Describing Potential Frequency Interference. Work with the Maryland and Virginia transportation departments and appropriate county transportation departments on the placement of signs noting that GPS and cellular technologies could be impacted by military training operations in the area and appropriate care should be taken when entering these areas. NSF Dahlgren shall provide information to the transportation departments on areas subject to this interference.		



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177	NSF Dahlgren	Planning and Public Policy	Incorporate Military Compatibility Areas for Military Operations in Comprehensive Plans and Zoning Ordinances. Amend the Comprehensive Plan and Zoning Ordinance to restrict heights of structures to 75 feet within a half mile on both sides of the Line-of-Sight.		
178	NSF Dahlgren	Planning and Public Policy	Incorporate Transient Housing Needs in Comprehensive Plans. Update comprehensive plan housing element in consultation with NSF Dahlgren to account for and consider the transient housing needs of NSF Dahlgren personnel.		
179	NSF Dahlgren	Planning and Public Policy	Navy Rental Housing Investigate the feasibility of a local government / Navy / Private Development project to build Navy Rental Housing.		
180	NSF Dahlgren	Planning and Public Policy	Military Housing in Local Communities If additional or replacement housing is needed to serve NSF Dahlgren, work with local jurisdictions to determine if this housing need can be met locally with existing housing stock or new privatized housing in the community. Emphasis on providing housing, especially rentals, in the community is desired.		
181	NSF Dahlgren	Planning and Public Policy	Incorporate Compatibility Planning Concepts into CIPs / Infrastructure Master Plans. Incorporate compatibility planning concepts into CIPs / Infrastructure Master Plans for infrastructure extensions and improvements. Avoid extension of infrastructure service adjacent or proximate to NSF Dahlgren for rezoning applications, except to serve approved community / area plans or commercial and industrial development which provides a compatible land use pattern.		
193	NSF Dahlgren	Planning and Public Policy	Update the King George County Comprehensive Plan to include Military Compatibility Policies. Policies that support and encourage uses that are compatible with NSF Dahlgren operations should be incorporated into King George County's comprehensive plan. Update and adopt future land use maps and supporting goals, objectives, and policies that encourage compatible growth around NSF Dahlgren. Navy representatives should be included as a stakeholder in the development and regular updates of the plans.		
196	NSF Dahlgren	Planning and Public Policy	Update Local Jurisdiction Comprehensive Plans To include Military Compatibility Policies That Support And Promote Compatible Land Uses. Update and adopt the jurisdiction's future land use map, and supportive goals, objectives, and policies that encourage a compatible land use pattern for new development and appropriate capital improvement investments. They should incorporate the MCAs and recommended land uses relative to safety, noise, vertical obstructions, and energy development into comprehensive plans to assist in compatible long-range planning. Include NSF Dahlgren as one of the stakeholders in the Plan updates.		
198	NSF Dahlgren	Planning and Public Policy	Update Comprehensive Plans with the Compatibility Policy Set. The goals and policies (to be developed) are proposed for inclusion into each comprehensive plan, as appropriate, to supplement the jurisdiction's existing policies. These changes provide a complete policy package for compatibility planning and provide a policy basis for many of the other strategies contained in this JLUS.		
208	NSF Dahlgren	Planning and Public Policy	Identify Noise Contours on County Documents and in the Decision-Making Process. Develop noise overlays and / or contour maps for inclusion in planning documents to address both existing and future operations that may result in noise and vibrations impacts to the community.		
213	NSF Dahlgren	Planning and Public Policy	Develop Sound Attenuation Retrofit Program. Develop a voluntary sound attenuation retrofit program for residential uses. Develop a program that provides guidance on sound attenuation standards for retrofitting existing residential and commercial facilities. The program could include grant opportunities and tax rebates available to assist property owners in retrofitting structures in noise sensitive areas. Other funding sources for retrofitting homes should be identified and provided within the program materials.		

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215	NSF Dahlgren	Planning and Public Policy	Monitor Capital Improvements for Roadway Capacity. Monitor capital improvement projects to ensure roadway capacity is sufficient and increases traffic flow and mobility without causing unintentional pressures on the military or communities to provide for more services.		
216	NSF Dahlgren	Planning and Public Policy	Conduct a Traffic Study to Assess Community Impacts on NSF Dahlgren and Vice Versa. Conduct a traffic study to quantify demand cycles and address alternatives such as repositioning or improvements to gate access to allow for alternative routes to NSF Dahlgren.		
217	NSF Dahlgren	Planning and Public Policy	Conduct a Feasibility Study to Assess Viability of Public Transit to NSF Dahlgren. Conduct a transportation feasibility study to quantify the possibility of public transit to reduce overall trip generation to NSF Dahlgren. The study should evaluate trip generation including origin and destination pairs; driver behavior and preference; peak trip periods; and cost, management, and funding of a suitable public transit system.		
218	NSF Dahlgren	Planning and Public Policy	Seek Alternative Funding Sources for Transportation Improvements. Seek additional and alternative sources of funding for improvements.		
219	NSF Dahlgren	Planning and Public Policy	Coordinate and Budget for Gate Improvements that Affect Off-Base Roadway Capacity and Level of Service. Identify, and budget for, necessary improvements to achieve AT / FP and more efficient functionality of egress / ingress points.		
204	NSF Dahlgren	Real Estate Disclosure	Revise Maryland Annotated Code. Request the State of Maryland revise the Maryland Annotated Code Real Property Section § 14-117 regarding real estate disclosure near military installations to include firing range areas and associated noise as a trigger for requiring real estate disclosure.		
146	NSF Dahlgren	Water Management / Environmental	Continue Monitoring Bald Eagle Nests. Continue to coordinate with US Fish and Wildlife Service to maintain records of Bald Eagle nesting sites and monitor any change in nesting sites to maintain coordinated management strategies that allow continuation of operational activities while providing necessary habitat and species protections.		



## VIRGINIA REGIONAL JLUS IMPLEMENTATION STRATEGY

Please see next page.