



M A R Y L A N D
M I L I T A R Y +
C O M M U N I T Y

COMPATIBLE USE

Supporting Maryland's Defense Communities

Website Companion Handbook



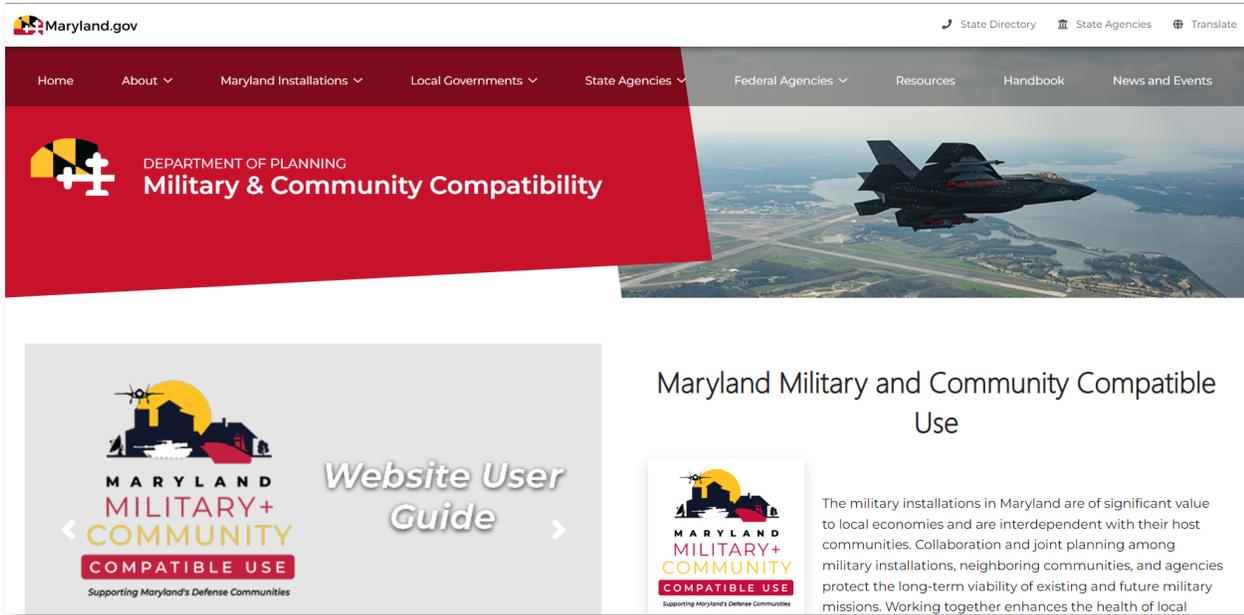
**Maryland Department of Planning
Maryland Department of Commerce**

Updated: September 2023



MARYLAND DEPARTMENT OF PLANNING: MILITARY AND COMMUNITY COMPATIBILITY

The Maryland Department of Planning would like to thank the development team that played an active role in the update and publication of this handbook. Special thanks to our contacts from the Branches of the Armed Service in Maryland and the array of service, government, and community representatives for their support and technical expertise.



Website available at:
militarycompatibility.maryland.gov

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Disclaimer:

The Community Compatibility Handbook was prepared by the Maryland Department of Planning under contract with the Maryland Department of Commerce with financial support from the U.S. Department of Defense, Office of Local Defense Community Cooperation. The content reflects the views of the Maryland Department of Planning and does not necessarily reflect the views of the U.S. Department of Defense, Office of Local Defense Community Cooperation.



A Message from Governor Wes Moore

The north star for our administration is simple. We are going to build a state that leaves no one behind. That isn't just a tagline - but a mission I first learned when I put on the uniform of this country 25 years ago. And it's a mission I have taken very seriously ever since. As a proud veteran, I can speak personally about the importance of training readiness. As a proud Marylander, I can also speak to the importance of military installations to the economic and community vitality of the state.

As your Governor, I will strengthen the bond and support the development of mutual objectives between our bases, forts, and the communities around them. We can only be stronger and more resilient if we work together.

Our support for military families extends to the many installations and defense communities in Maryland as we advance mission readiness and equitable development. The Maryland military community protects and preserves our nation's security through sacrifice, bravery, and dedication. Therefore, I wish to share the Military and Community Compatibility website, which advances my administration's values of responsiveness, innovation, and data-driven decision making. The planning, stakeholder engagement, and resource development completed as part of these efforts ensures that military communities and families thrive and create a more competitive Maryland.



A Message from Planning Secretary Rebecca Flora, AICP

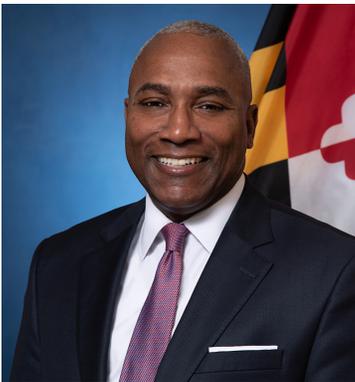
Ensuring the success of Maryland's military installations and the communities that support them is a collaborative effort facilitated by compatible land use planning and development. The Maryland Department of Planning (Planning) is proud of the innovative Military & Community Compatibility Website and Handbook. These tools will aid state and local leaders, members of the military community, and other interested Marylanders to better understand the unique needs, challenges, and opportunities facing the state's military installations and defense communities in support of the national defense strategy.

The diversity of the state's defense communities and military installation missions helps to create a more competitive Maryland. Planning researched and compiled best practices and success stories from across the nation, in partnership with stakeholder committees, to develop a series of guides, legislative options, and land planning practices that will help military communities continue to grow and thrive in tandem with military installations. We strive to be innovative in our approach to compatible use and anticipate the resources provided will facilitate cross-agency collaboration to identify and implement bold solutions to compatible land use planning challenges.

The vast economic impact of the state's military installation and federal facility presence is made possible by the strong communities that surround and support the military operations, service members, and their families. Planning is committed to being outcomes-focused and will continue to provide and enhance land use tools, guidance, and resources to support continued communication and collaboration among the state's military installations and local leaders for years to come.

TABLE OF CONTENTS

	SECTION 1: ABOUT THE WEBSITE.....	5
	SECTION 2: MILITARY PLANNING FRAMEWORK.....	8
	SECTION 3: LOCAL GOVERNMENTS.....	13
	SECTION 4: STATE AGENCIES.....	23
	SECTION 5: FEDERAL AGENCIES.....	26
	SECTION 6: RESOURCES.....	31
	APPENDIX A: Terms & Acronyms.....	33



A Message from Commerce Secretary Kevin Anderson

Maryland's military installations are some of our state's strongest and most valuable assets and are a critical component of our economic success and growth. Installations like Joint Base Andrews, Fort Meade, Aberdeen Proving Ground, Naval Air Station Patuxent River, Fort Detrick and others support 370,000 jobs and have an annual economic output of more than \$55 billion.

Not only do these facilities provide for the national defense and help keep Americans safe, but they drive innovation and the development of new technology in fields such as cybersecurity, aerospace, biomedicine, and renewable energy such as off-shore wind. They train the talented thinkers, engineers, and researchers who make up Maryland's highly educated workforce. Military installations keep Maryland competitive, helping us to stand apart from other states as we work to attract new businesses and investment.

But these facilities are also inexorably linked to their surrounding communities, and building on the strength and success of the military presence in Maryland requires coordination, cooperation, and smart planning. Strategies for growth and expansion must respect the needs of the military as well as the needs of the community so that both sides can grow and prosper together.

The Compatible Use Website and the Community Compatibility Handbook is a resource for state and local government, members of the military community, the private sector and the general public to help make sure new projects are developed in ways that benefit communities without restricting military operations. These are tools that will allow Maryland to make informed, strategic choices that support our military without leaving our communities behind.



Introduction

The compatible use website provides resources and informative tools that state and local leaders, planners, military communities, and the general public can access for compatible use planning and coordination.

The handbook and companion website:

- Provides the military and communities in Maryland with an overview of and ready to use resources for compatible use, including communication and coordination guidance, best practices, and support for promoting compatible development in their communities and regions.
- Supports strategies by which military installations can better understand and consider the impact that their operations have on neighboring jurisdictions, and
- Recognizes the economic impact from Maryland's military installations and encourages a coordinated approach to support military operations and compatible land use between military installations and their surrounding communities.

Mission Statement

The military installations in Maryland are of significant value to local economies and are interdependent with their host communities. Collaboration and joint planning among military installations, neighboring communities, and agencies protect the long-term viability of existing and future military missions. Working together enhances the health of local economies, industries, and communities.

Importance of Compatibility

The relationship between military installations and surrounding communities has become increasingly interrelated. Installations that were once located in rural or isolated areas are seeing the effects of growth and development of surrounding communities while communities need to adapt to shared infrastructure needs. To protect the current and future needs of both parties, a collaborative working relationship must exist. State, regional, and local government officials, non-governmental and community-based organizations, private citizens, and installation leaders and managers need to have a greater understanding of each other's concerns, future needs, and current planning processes to assess how planning decisions on the part of the military or local government may impact one another.

COMPATIBLE USE PLANNING:

Encourages a community-driven, cooperative, and strategic planning process to protect and preserve military readiness and defense capabilities while supporting continued community growth and economic development.





Incompatible development may compromise the ability to accomplish the respective goals and objectives of a community, military installation, or both. Limiting the local jurisdictions' ability to develop in certain areas may hinder that locality's ability to set the stage for needed economic development and plan a vision for the future, while incompatible development near the installation may hinder the ability to conduct critical military training or other missions. In the worst-case scenario, these challenges can result in conflicts between military installations and their surrounding communities over what constitutes a "compatible" land use, polarized positions on shared issues, and ultimately a lack of trust.

The State of Maryland realizes the importance of fostering and promoting compatibility between our local communities and the state and military installations. Military installations play a vital role in national defense and are centers of innovation. They serve as major economic engines for communities, accounting for thousands of jobs and billions of dollars in economic activity and tax revenue. Local communities and leaders are responsible for continued economic development and planning a vision for the future that continues to provide vibrant, livable communities that meet the needs of current residents and attract new residents and businesses.

Maryland's military installations and local communities are inextricably linked via the economic development, shared infrastructure, and quality of life impacts they have across the state.

Military installations must reach beyond their borders to actively engage the surrounding communities and educate the public about their mission and operations. Likewise, local community leaders need to inform

According to an FY21 Economic Impact Study conducted by the Maryland Department of Commerce, the Maryland military installation impact totals \$61.4B per year.

installations of their responsibilities and authority regarding land use, zoning, and other land use regulations, including the legal and governmental processes by which they accomplish their goals of ensuring economic growth and livable communities.

Together, the installation and surrounding community can better understand one another's concerns and develop long term relationships built on mutual respect and shared objectives. Through education, communication, and coordination, as well as the implementation of best practices – many examples of which can be found on this website – the missions, goals, and objectives of the military installation and the local community can be met and enhanced.

Compatible Use Studies and Compatibility Factors

When conducting a Compatible Use Study, the community, in partnership with the installation, will identify and analyze various compatibility issues that may adversely impact continued military operations, as well as community growth and economic development. The scope of the analysis will include the installation and associated range(s), special use airspace, military operation area, and training routes. The impact of military operations upon the adjacent community is also evaluated. The community may evaluate several compatibility factors to foster an understanding of military operations, further communications with the installation, and help make informed decisions to respond

ABOUT THE WEBSITE



to, address, and mitigate activities that may impair the use of the installation, protect public safety, and promote quality of life. When done successfully, the compatibility analysis can increase military value of the installation by preserving the military mission and protecting an important economic asset for the community, region, and state.

To begin this compatibility analysis, a community may consider the following **24 Compatibility Factors** to determine existing and potential effects on people, natural resources, and community development beyond the installation fence line. These compatibility factors, such as water availability, stormwater management, wastewater, energy, communication,

transportation logistics, installation access, adequate transportation network, availability of housing, resilience, etc., are evaluated against existing conditions and potential future activities that may impair continued military operations, mission assurance and readiness, as well as community growth and development. Specific actions are then recommended to address identified compatibility issues, together with a detailed implementation strategy and potential funding sources, to ensure long-term military readiness, military value, and continued community growth and economic development.

TOC

1

2

3

4

5

6

A

COMPATIBILITY ANALYSIS 24 FACTORS

PEOPLE. NATURAL RESOURCES. DEVELOPMENT.

<p>Coordination + Communication</p> <p>Interaction among military installations, jurisdictions, and land resource management agencies and conservation authorities requires communication regarding compatibility issues.</p>	<p>Public + Military Base Safety</p> <p>Population growth in surrounding areas, coupled with adjacent parks and recreation areas can impact on the safety of military installations, either intentional or unintentional.</p>	<p>Legislative Initiatives</p> <p>Federal, state, or local laws and regulations may have a direct or indirect effect on a military installation's ability to conduct current and/or future missions or limit the development potential into adjacent areas.</p>	<p>Cultural Resources</p> <p>The presence of cultural resources may prevent or restrict development, or require special access by governmental regulatory authorities. Native American tribes or other entities.</p>
<p>Land/Air/Sea Spaces</p> <p>Adequate supply are necessary for the military to accomplish effective training, testing and operational missions. Military and civilian air operations can compete for limited air space. Shared resources impact future growth for all users.</p>	<p>Air Quality</p> <p>Air quality is regulated at the federal and state level. For compatibility, primary concerns are pollutants that limit visibility and potential non-attainment of air quality standards that may limit future changes in operations.</p>	<p>Scarce Natural Resources</p> <p>Valuable natural resources (oil, natural gas, minerals, water) which may be located on military installations, training areas or on public lands used for military operations can impact land utilization and military operations.</p>	<p>Resilience</p> <p>Fluctuations in climate may include sea level rise, increased storm and tidal surges, persistent flooding, heavy rainfall, drought, wildfires, and can present operational and planning challenges.</p>
<p>Threatened + Endangered Species</p> <p>Federal and state listed species and their habitats may include areas such as wetlands and migratory corridors. The presence of sensitive biological resources may require special development considerations.</p>	<p>Marine Environment</p> <p>Regulatory or permit requirements protecting marine and ocean resources can cumulatively affect the military's ability to conduct operations, training exercises, or testing in a water-based environment.</p>	<p>Water Quality + Quantity</p> <p>Concern for adequate water supplies of good quality are available for use by the installation and surrounding communities as the area develops. Water supply for agricultural and industrial use is also considered.</p>	<p>Natural Features</p> <p>The presence of seismic activity, floods and climactic events from other natural events may require special development considerations and should be included early in the planning process.</p>

COMPATIBILITY ANALYSIS 24 FACTORS

PEOPLE. NATURAL RESOURCES. DEVELOPMENT.

<p>Road Capacity/ Congestion</p> <p>Roadway capacity relates to the ability of the existing network of freeways, highways, arterials, and other local roads to provide adequate mobility and access between military installations and their surrounding communities.</p>	<p>Light and Glare</p> <p>Man-made lighting may disrupt vision. Light sources and excessive glare from adjacent residential/non-residential uses at night can impact the use of military night vision devices and air operations.</p>	<p>Local Housing Availability</p> <p>An adequate supply of housing is needed to meet the existing and future demand of the military installation and of the region.</p>	<p>Energy Development</p> <p>Energy development from oil, gas, solar, wind, geothermal and/or biofuels, could pose compatibility issues related to glare/glare, vertical obstructions, or water quality/quantity.</p>
<p>Infrastructure Extensions + Capacity</p> <p>Extension or provision of infrastructure can enhance operations of the installation by providing needed services (e.g. sanitary sewer treatment capacity and transportation systems). However, expansion may encourage growth in areas incompatible with missions.</p>	<p>Spectrum Impediment/ Interference</p> <p>Frequency capacity is critical for maintaining existing/future missions. Electronic signals can be impeded by structures or objects, and the inability to distribute or receive a particular frequency can be caused by the interference of a similar competing frequency.</p>	<p>Dust/Smoke/Steam</p> <p>Dust, smoke and steam are compatibility issues if sufficient in quantity to impact flight operations (e.g. reduced visibility or equipment damage). Examples include: fire (military exercises), ground disturbance (military operations), or industrial activities.</p>	<p>Noise and Vibration</p> <p>The central issue is the impact and perceived impact on people, animals (wild and domestic) of unwanted levels of sound. Exposure to high noise levels can have a significant impact on the adjacent areas.</p>
<p>Safety Zones</p> <p>Safety zones are created in areas where development should be more restricted due to higher risks to public safety. Examples of such are potential accident zones, weapons firing range safety zones, and explosive safety zones.</p>	<p>Anti-terrorism/ Force Protection</p> <p>The safety of personnel, facilities and information on installation from outside threats is paramount. The protection of the installation and its support facilities can impact off installation uses.</p>	<p>Vertical Obstructions</p> <p>Vertical obstructions by buildings, structures, such as cell towers and drilling rigs, or other features may encroach upon military operations, presenting a safety hazard to both the public and military personnel.</p>	<p>Land Use</p> <p>Local jurisdictions' comprehensive growth policy plans and zoning ordinances can be the most effective tools for avoiding or resolving compatibility issues where the use of one property may impact the use of another (e.g. noise).</p>



TOC

1

2

3

4

5

6

A

Military Background in Maryland

Maryland is at the forefront of the nation’s military preparedness. Each military installation has a Public Affairs Office and a CPLO (Community Planning & Liasion Officer). They are the point of contact to provide background information to help community planners, residents, businesses, and elected officials better understand military operations, the military planning process, and compatibility issues that may impact continued military operations.

Featured Maryland Military Installations

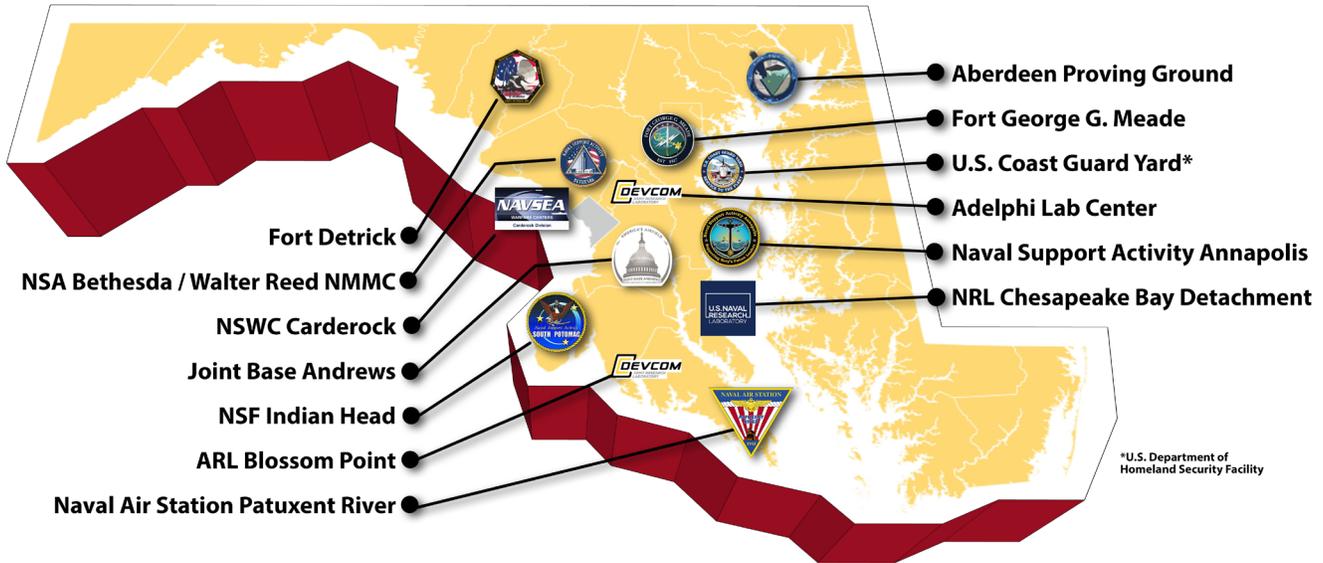
The 2019 Maryland Statewide Joint Land Use Study Response Implementation Strategy (SJLUS) identified and focused on 13 major military installations that were determined based on:

- Geographic size of the facility (large installation versus site or office park/building setting).
- Standalone facility or annex to another installation
- Complexity of mission/installation and to what extent the planning compatibility factors could be applied with useful analysis.

Military Installation Public Affairs Office	Weblink	Phone Number
Aberdeen Proving Ground	https://home.army.mil/apg/index.php/about/Garrison/public-affairs	(410) 278-7636
Adelphi Lab	https://www.arl.army.mil/contact-us/	(301) 394-3590
ARL Blossom Point	https://www.arl.army.mil/contact-us/	(301) 394-3590
Fort Detrick	https://home.army.mil/detrick/index.php/contact/media-relations	(301) 619-2018
Fort Meade	https://home.army.mil/meade/index.php/about/Garrison/public-affairs	(301) 677-1361
Joint Base Andrews	https://www.jba.af.mil/Contact/Public-Affairs-Community-Engagement/	(240) 612-4428
NAS Patuxent River	https://ndw.cnicy.navy.mil/Installations/NAS-Patuxent-River/Operations-and-Management/Administrative-Services/NAS-Public-Affairs-Office/	(301) 757-6748
NRL Chesapeake Bay Detachment	https://www.nrl.navy.mil/Contact-Us/Media-Queries-Public-Affairs/	(202) 480-3746
NSA Annapolis	https://ndw.cnicy.navy.mil/Installations/NSA-Annapolis/Contact-Us/	(410) 293-1000
NSA Bethesda	https://ndw.cnicy.navy.mil/Installations/NSA-Bethesda/Contact-Us/	(301) 295-6246
NSF Indian Head	https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Indian-Head/Contact-Us/	(301) 744-6505
NSWC Carderock	https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Carderock/Contact-Info/	CRDIVCPAO. fct@navy.mil
US Coast Guard	https://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-Engineering-Logistics-CG-4-/Logistic-Centers/Surface-Forces-Logistics-Center/Coast-Guard-Yard/Yard-Communications/	(410) 636-7238



Featured Maryland Military Installations Map



TOC

1

2

3

4

5

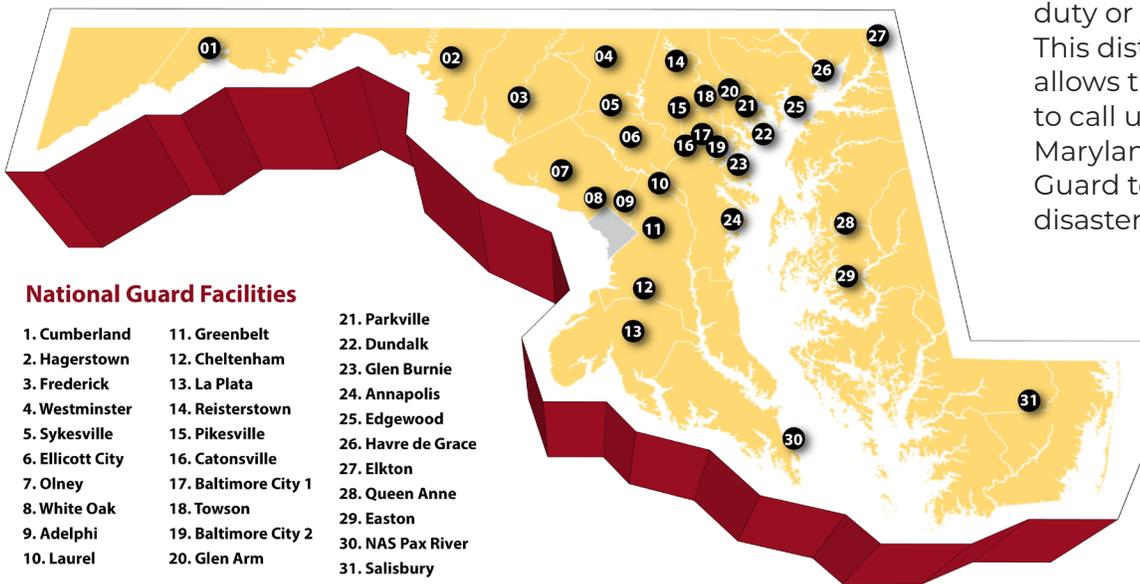
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National Guard Facilities

The Maryland National Guard consists of the Maryland Army National Guard (MDARNG) and the Maryland Air National Guard (MDANG), whose purposes are to respond to state disasters and needs, and to support assigned missions when federally activated. Although federally funded, the Maryland National Guard is subordinated to the state except when called into federal

service as specified by law, unlike active duty or reserve units. This distinction allows the Governor to call up the Maryland National Guard to respond to disasters and crises.



National Guard Facilities

- | | | |
|------------------|----------------------|--------------------|
| 1. Cumberland | 11. Greenbelt | 21. Parkville |
| 2. Hagerstown | 12. Cheltenham | 22. Dundalk |
| 3. Frederick | 13. La Plata | 23. Glen Burnie |
| 4. Westminster | 14. Reisterstown | 24. Annapolis |
| 5. Sykesville | 15. Pikesville | 25. Edgewood |
| 6. Ellicott City | 16. Catonsville | 26. Havre de Grace |
| 7. Olney | 17. Baltimore City 1 | 27. Elkton |
| 8. White Oak | 18. Towson | 28. Queen Anne |
| 9. Adelphi | 19. Baltimore City 2 | 29. Easton |
| 10. Laurel | 20. Glen Arm | 30. NAS Pax River |
| | | 31. Salisbury |



TOC

1

2

3

4

5

6

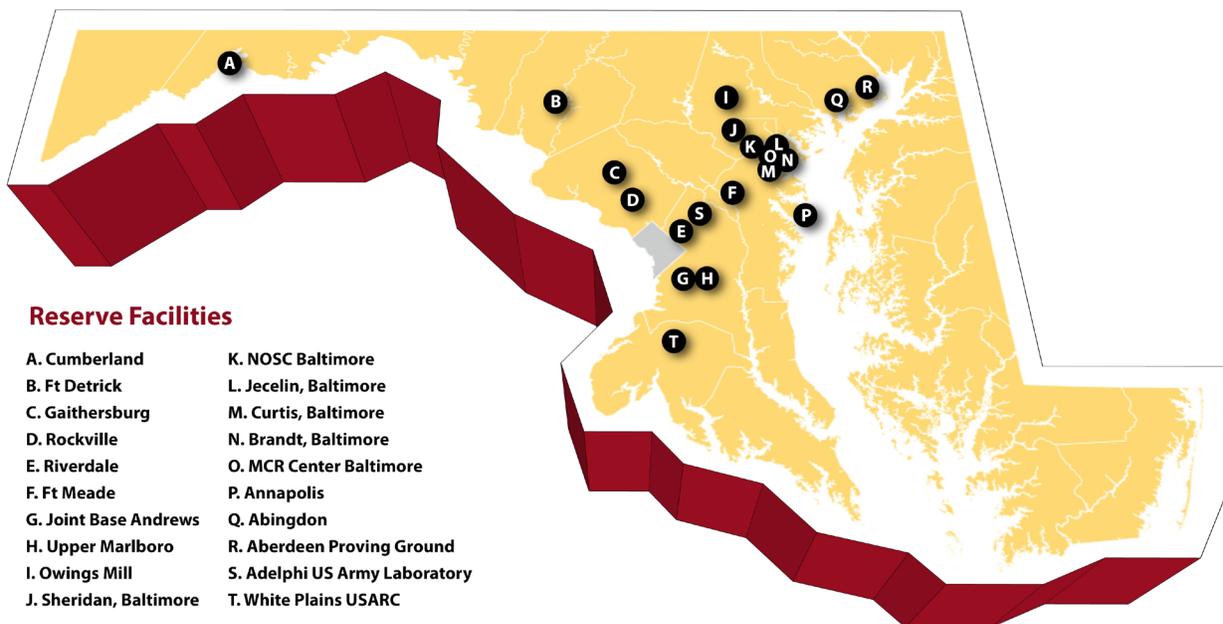
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Reserve Facilities

Each active-duty branch of the military has a federally funded Reserve component that supplements and complements the needs of active-duty forces in times of conflict, war, national emergency, or as the need occurs based on threats to national security. Many of the reserve forces are structured to complement the active-duty force structure, e.g., with many of the units specializing in construction engineering, medical, psychological operations, public affairs, etc. As of September 2021, there are 12,505 Reservists throughout Maryland, including 5,863 Army Reservists, 3,965 Navy Reservists, 633 Marine Corps Reservists, 1,875 Air Force Reservists, and 169 Coast Guard Reservists.



A new Army Reserves Center opened in Charles County in 2019. The new center replaced three existing centers.





About Military Planning

Below is a list of common military plans **through which compatibility may be addressed** in coordination with mission readiness. Examples of the plans described below are included in the specific installation information pages.

- **Installation Master Planning:** All major military installations are required to have a Master Plan also referred to as an Installation Development Plan (IDP), which provides a road map for achieving an installation’s vision for the next 20 years. In addition, an Area Development Plan (ADP), which represents a specific area on a base that is unified by its function or architectural character and provides a detailed plan for future development in specific area, e.g., airfield or town center.
- **DoD Operational Noise Program:** provides information on aspects necessary for developing comprehensive Noise Management Programs at military installations, outlines noise modeling guidelines, and provides direction on education and outreach activities regarding efforts to manage noise impacts.
- **Air installation Compatible Use Zone (AICUZ):** a composite footprint for an air installation that defines the minimum acceptable area in which land use control measures are recommended to protect the public’s health, safety, and welfare and sustain the flying mission.
- **Range Air Installations Compatible Use Zones Program (RAICUZ):** modeled after the AICUZ Program for air-to-ground ranges set aside for test and training. They are unique in that they must be remote but must be accessible and have the land and airspace necessary to conduct the mission.



Testing being conducted at the Aberdeen Test Center.
Photo by U.S. Army.

- **Installation Encroachment Management Plans:** an internal tool and process to identify, quantify, mitigate, and prevent potential encroachment challenges to an installation or a range that may result in adverse impacts to military operations. The Marines, Navy, and Air Force have the internal encroachment management documents that are available as “Controlled Unclassified” PDFs.
- **Conservation and Stewardship Plans:** The Department of Defense is the second largest federal land owner after the Department of Interior. Much of this land represents some of the largest areas of undeveloped ecosystems and these plans address natural and cultural resources.

Defense Alliances and Small Business Support

Across Maryland, the private sector has established and promoted Defense Alliances, which are non-profit organizations comprised of economic development, military, and defense business representatives that work together to facilitate communication among the federal agencies, installations, and community at large to ensure long-term viability and mission support for local installations. Their purpose is to protect and

TOC

1

2

3

4

5

6

A



support installation missions, programs, jobs, and military families. The Defense Alliances also serve to position Maryland installations for favorable outcomes in future Base Realignment and Closure (BRAC) actions.

Maryland's Defense Alliances:

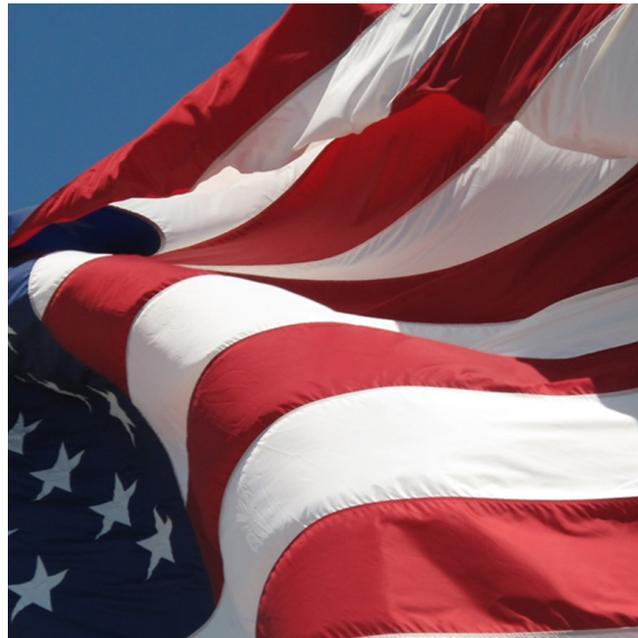
- **The Army Alliance**
- **Fort Meade Alliance**
- **Andrews Business & Community Alliance**
- **Fort Detrick Alliance**
- **Maritime Technology Alliance**
- **Charles County Military Alliance Council**
- **Southern Maryland Navy Alliance**

Each installation has an Office of Small Business Programs to promote acquisition opportunities for Maryland small businesses and provide resources and business support for small business defense contractors.

About National Defense Planning

The National Security Strategy (NSS) is a report the President sends annually to Congress since 1987. The President sends the NSS to Congress to communicate the executive branch's national security vision to the legislative branch. The NSS addresses all facets of U.S. power needed to achieve the nation's security goals including international interests, commitments, objectives, and policies, along with defense capabilities necessary to deter threats and implement U.S. security plans.

The National Defense Strategy was officially mandated by Congress in Section 941 of the National Defense Authorization Act. The Office of the Secretary of Defense is to prepare and publish the National Defense Strategy every four years. The National Defense Strategy informs another related document, the National Military Strategy, written by the Joint Chiefs of Staff and signed by its Chairman.



Priorities of the **2022 National Defense Strategy** include:

- Defending the homeland, paced to the growing multi-domain threat posed by the PRC
- Deterring strategic attacks against the United States, Allies, and partners
- Deterring aggression, while being prepared to prevail in conflict when necessary, prioritizing the PRC challenge in the Indo-Pacific, then the Russia challenge in Europe
- Building a resilient Joint Force and defense ecosystem

The National Defense Authorization Act and Defense Appropriations Bill provide for: Procurement, including aircraft, weapons and tracked combat vehicles, ship building and conversion, and missiles; Research, Development, Test, and Evaluation; Operation and Maintenance; Working Capital Funds; Chemical Agents and Munitions Destruction; Drug Interdiction and Counter-Drug Activities; Defense Inspector General; National Defense Sealift Fund; and Defense Health Program.

TOC

1

2

3

4

5

6

A



Local Governments Overview

Local governments - particularly those defense communities that border or are in close proximity to an installation - play a significant role in supporting military installation sustainability through specific strategies, tools, best practices, and dialogue that promote compatible community development. Localities can further provide infrastructure, programs, and services necessary to support military installation operations, mission assurance, and resilience. Military installation sustainability is achieved when communities and military installations balance complementary and competing needs and interests. Local governments, in partnership with an installation, can promote this balance by analyzing and identifying actions necessary to foster, protect, and enhance military operations, mission assurance, and resilience through compatible community development and by providing shared infrastructure and services beyond an installation's fence line.

An overview of planning tools, local ordinance development guidance, best practices, and strategies for outreach and communication is presented throughout this section to provide an understanding of the role local governments can play in identifying and addressing shared issues that affect community and economic development, as well as military installation operations and mission assurance.

Local Government Planning and Tools to Support Compatibility

To minimize or avoid conflicts between military operations and community development, local governments in Maryland use a variety of tools and approaches available, such as comprehensive planning, zoning and development regulations, capital improvement programs, and building

codes. These are significant guidance and regulatory tools local governments can use in support of compatible military-community development and continued military operations.

Other tools, such as military air installation compatible use zones, noise management plans, special use airspace, and military operations areas, etc. are used by the DoD to represent areas for consideration for compatible development and localities should develop guidance and regulation based on the location and nature of these areas.

Open and ongoing discussions between an installation and the surrounding community allows local planners and community leaders to better understand the consequences of their development decisions, while providing installation leaders a better understanding of the planning, community growth, and economic development needs of neighbors.



Planning maps.



Understanding Planning in Maryland

States have enabling statutes that provide local governments planning and zoning authority and the tools to guide and regulate community development compatible with military operations. Generally, states have two roles relative to planning including enabling or requiring local governments to act by statute and by setting statewide policy. Some states such as Arizona, California, Florida, Georgia, Oklahoma, South Carolina, Virginia, and Washington, also have laws that further promote compatible military-community development to prevent adverse impacts to military operations.

Local Governments and Military Installation Resilience

In recent years, the DoD has placed a growing emphasis on resilience to natural hazards that threaten military installations and mission-essential functions. The DoD recognizes the threat climate hazards pose to our national security and the need for enhanced resilience considerations for military installations. This has led to significant studies and efforts across the military services to better understand the risks they face and what can be done to address them. While many efforts have focused on enhancing climate, water and energy resilience, installations also must ensure protection from cybersecurity threats, threats from population/growth, or aging/inadequate infrastructure challenges, etc.

Recognizing that Maryland is the **fourth most vulnerable state to the effects of sea-level rise associated with climate change**, military installations face unique vulnerabilities and risks. These include increased storm intensity that can have far-reaching impacts on military operations, mission assurance, the Mid-Atlantic coast, and Chesapeake Bay

ecosystem. The Maryland Department of Environment's Climate Change Program recognizes a wide array of issues these impacts may present:

- More frequent disruptions to urban and coastal infrastructure.
- Human health issues, including those affected by impacts on food and water supply, air quality, and extreme weather.
- A higher probability of negative outcomes for disadvantaged communities and individuals.

Many efforts to identify and address the threat climate hazards pose to installation resilience are internal Military Service initiatives. These may have limited public involvement and disclosure due to security concerns. However, with a general understanding of installation concerns, local governments can play a significant role in promoting military installation resilience and sustainability. This is best accomplished by guiding compatible development around military installations and operation areas, and addressing shared vulnerabilities and risks related to climate factors that may affect shared infrastructure and services that are critical to both the community and continued military operations and mission assurance.

Local Governments and Military Installation Resilience Resources:

- Resilience Planning "Inside the Fence"
 - Resources for Resiliency Planning
-

Compatibility Planning Framework and Tools for Maryland Communities

Compatibility Planning Framework

Compatible use planning plays a critical role in protecting both a community and the military. This community-led planning effort also presents an opportunity to strengthen



a jurisdiction's or a region's partnership with a military installation. It further helps identify and address issues impacting both the military and adjacent communities, establishes a blueprint for mutually beneficial actions that protect public health, safety, and general welfare, while also serving to protect and sustain the military installation's mission, increase the value of an installation to the DoD and community, and support continued community growth and economic development.

Robust public outreach and military stakeholder involvement during the community planning process serves to increase public awareness of military operations, including the significant economic contribution to the local and regional economy, and ensures a smooth transition for local, regional, and state stakeholders to implement planning recommendations. Strong military/community partnerships during the planning process plays a critical role in preserving military operations, protecting the public health, safety and general welfare of residents and businesses, and maintaining economic stability and continued community growth.

Plans and Studies to Support Compatible Use

A Compatible Use Study includes strategies and actions to:

- Promote community development that supports and is compatible with military training, testing, and operational missions;
- Seek ways to reduce negative impacts of the installation activities on an adjacent community;
- Increase public awareness of the military mission and contribution to the regional economy; and

- Protect and preserve military readiness and defense capabilities, while supporting symbiotic community economic stability and success.

Compatible Use Study: A strategic planning process, previously referred to as Joint Land Use Study, that state or local government may undertake in partnership with the military installation to preserve and protect military readiness and defense capabilities, seek ways to reduce the operational impacts on adjacent lands, and support community growth and economic development.

A Military Installation Resilience Review (MIRR), for which grant funding is available from OLDCC to develop, is a program designed to help communities partner with local installations to make informed decisions that respond to, address, and mitigate activities that are, or could be impairing the use of a military installation. A MIRR focuses on infrastructure and vulnerabilities related to the most likely hazards to occur in and around a military installation, and ultimately leads to a set of recommendations that broaden the resilience and adaptation capacity of an installation and community. Hazards include sea level rise, extreme weather events, and other changes in environmental conditions. These hazards may potentially impact both installations and neighboring communities. Therefore, the MIRR program, like a Compatible Use Study, is completed jointly by the installation and adjacent jurisdictions. A MIRR follows the same development process as a Compatible Use Study. For more information on the MIRR, see Local Governments and Military Installation Resilience.



The Planning Process

In order to be eligible to receive OLDCC funding, a Compatible Use Study or Military Installation Resilience Review is initiated by the neighboring jurisdiction(s) or the installation commander(s) and all parties must support the effort. Extensive communication, coordination, and collaboration between a jurisdiction, installation, and community stakeholders is necessary throughout the entire effort. The following is an overview of the steps a jurisdiction might take when developing a Compatible Use Study, or Military Installation Resilience Review.

Comprehensive Plans

A comprehensive plan helps guide public and private actions and decisions to ensure that all growth and development is done considering appropriate land use relationships. The Land Use Article states that once a local planning commission is created, its function and duty is to prepare a comprehensive plan and present it to its legislative, or governing body, for consideration and adoption. Local governments in Maryland with planning and zoning authority must review their comprehensive plans on a 10-year cycle. However, an earlier review, or a comprehensive plan amendment, should be considered when military operations change, or community development patterns continue to pose conflicts that may adversely impact continued military operations.

The Planning Process Diagram





Comprehensive plans are comprised of Elements including:

- Community Facilities
- Housing
- Land Use
- Development Regulations
- Sensitive Areas
- Transportation
- Water Resources
- Municipal Growth

Comprehensive Planning as a Tool for Compatibility

Compatibility is not a new comprehensive planning concept, nor one limited to supporting mission readiness for military installations. For generations, comprehensive plans have addressed the compatibility of different land uses to promote public health and safety, conserve resources, develop infrastructure efficiently, and promote economic growth. These considerations are often reflected in implementing ordinances and plan policies that guide decision making. Heavy industrial and residential uses are traditionally separated due to incompatibility, prime agricultural land and sensitive natural areas/habitats are protected from encroaching development that may threaten them, and capital investments are directed toward those areas in which a jurisdiction desires physical growth and economic development.

Comprehensive plans can and should consider the compatibility needs of military jurisdictions, just as they consider the natural and human made resources and land uses one typically associates with comprehensive plans. Maryland state law dictates that certain elements be included in all comprehensive plans, based on the type (e.g., Charter Counties, Municipalities) and location (e.g.

tidal waters) of each jurisdiction. “Elements” are synonymous with planning areas, and include topics such as transportation, housing, land use, and water resources, among others. For each required element, Maryland law prescribes the necessary components, but does not preclude a jurisdiction from including additional planning aspects that it deems necessary for the element to rise to the challenges of the community. For example, § 3-105 of the Land Use Article requires that a transportation element “provide for bicycle and pedestrian access and travelways”, never mentioning newer forms of shared mobility (scooters) nor sustainable carbon emission reduction strategies (electric vehicle charging stations). Jurisdictions, however, are free to analyze transportation modes and strategies not explicitly mentioned in the Land Use Article and address them in their transportation elements. In the same vein, while the Land Use Article does not require a military element in comprehensive plans, it does not prevent the inclusion of one either.



Planners at work: Community Planning exercise.



Military Elements

Maryland jurisdictions may want to consider developing a separate military element as part of an updated comprehensive plan. Such an element should be developed in close collaboration with a military installation, as well as other partners such as environmental organizations, economic development groups, and veteran’s associations.

- History of community and installation.
- Installation Description
- Challenges and Threats of mission outside of the gates
- Supportive Plan, Partnerships, and Organizations that may be incorporated into the Comprehensive Plan

Comparison of Military Installation and Community Planning

The military installation equivalent of the comprehensive plan is called an Installation Development Plan (IDP), also referred to as a Master Plan. The IDP is the road map for achieving the installation’s mission and vision over the next 20 years. It is updated as needed to address factors that may impact or change the installations mission and vision. As illustrated below, major themes between an IDP and comprehensive plan are consistent, with a few limited exceptions.

Comparison of Installation Development Plan (IDP) to a Comprehensive Plan

Topic	IDP	Comprehensive Plan
Stakeholder Engagement	✓	✓
Land Use	✓	✓
Infrastructure	✓	✓
Support Facilities	✓	✓
Transportation	✓	✓
Streetscape	✓	✓
Cost Estimates	✓	✓
Resilience/Climate Change	✓	✓
Historic Preservation	✓	✓
Mission Readiness Impact	✓	
Defense Planning (Anti-terrorism/Force Protection)	✓	

Comprehensive Plans: A long range planning document used by municipalities that guides public and private growth and development, usually updated every five years.

Installation Development Plans: A long range planning document used by military installations that provides a road map for achieving the installation’s mission over the next 20 years, usually updated every five years.



Local Ordinance Development Guidance

Land development regulations are an important tool for ensuring the compatibility of local communities with the operation of nearby military installations.

Ordinances can establish use, design, and construction standards for development near military installations. These ordinances promote the health, safety, and welfare of existing and future base-area residents, workers, and surrounding land uses, while still allowing to fulfill the installation's mission. Military compatibility ordinances are designed to address mission-related impacts that extend beyond the installation, including noise, height, and the potential for accidents:

- Aircraft noise and weapons-firing may be incompatible with certain types of land uses, such as residential, medical care, and education;
- Structures near military facilities, such as antennae, wind turbines, and tall buildings can interfere with military airspace; and
- Military airfields designate accident potential zones (APZs) that extend beyond runways. APZs can affect the types of land uses and population densities in surrounding areas.

Outreach and Communication for Planning Coordination

Communication between military and stakeholder groups is crucial to successful compatible land use planning since it increases a mutual understanding of concerns, priorities, and planning processes. State and local government officials have the authority to pass and implement land use regulations and plans to ensure planning for growth is efficient, coordinated, and

consistent with community and economic development objectives and state planning requirements.

Since these plans and regulations can affect Maryland's military installations, it is imperative that military leaders and planners have a seat at the table when planning is done at the local and state level. Military representatives are vital community stakeholders as are residents, employers and employees, developers, and interested organizations. Without adequate input from the military, state and local government officials will not have sufficient information to adequately assess the impacts of their growth management and land use decisions on military operations and mission readiness.

Similarly, by sharing information about assigned missions and changing operations with state and local government officials, installation commanders and their staffs can obtain information that helps them minimize impacts to the surrounding communities, while still meeting their mission objectives. Without adequate and timely input from each party, it is difficult to assess the impacts of development, growth management, and land/air/resource use decisions on either side of the fence.

Formalized outreach and communication practices are the best way to ensure coordination between all parties, strikes an appropriate balance between growth, environmental protection, and military operations.



Best Practices

Best practices have been provided based on the list of compatibility categories identified below. Several examples are also provided for each practice type on the website. They include:

- **Communication and Coordination:** Across the country, state and local governments use regulatory tools to guide land use planning that can allow, restrict, limit, or guide development to be compatible with military operations. The authority to manage growth around military installations is vested in state and local governments, and collaboration between them and the military is essential to enact effective land use laws.



Marsh Restoration

- **Environmental:** It is vital that the military continue to collaborate with state and local governments to adopt resiliency strategies that adapt, mitigate, and address environmental compatibility factors, such as water/air quality, and public health and safety. Collaboration should also responsibly manage natural resources, including endangered species both on and off federal lands in a way that preserves an installation's mission, protects national security, and promotes the health and well-being of surrounding communities.
- **Nuisance:** Many Maryland military installations conduct training and testing in support of their missions and the national defense strategy. Byproducts can sometimes generate nuisances such as increased noise and vibration as well as dust, smoke, or steam. Communities surrounding military installations may also generate nuisances for the military, including increased night lighting and glare, which can disrupt military night vision devices and air operations.
- **Safety:** Safety considerations should be applied when making land use decisions, protecting mission security from outside threats, and when monitoring general safety factors pertaining to everyday community activities, on and off base.
- **Infrastructure:** Without adequate transportation systems, telecommunications networks, power and energy infrastructure, and water systems, a community risks losing the ability to sustain a strong economy, attract military-related support businesses, and provide the amenities that contribute to a good quality of life for its citizens.

TOC

1

2

3

4

5

6

A

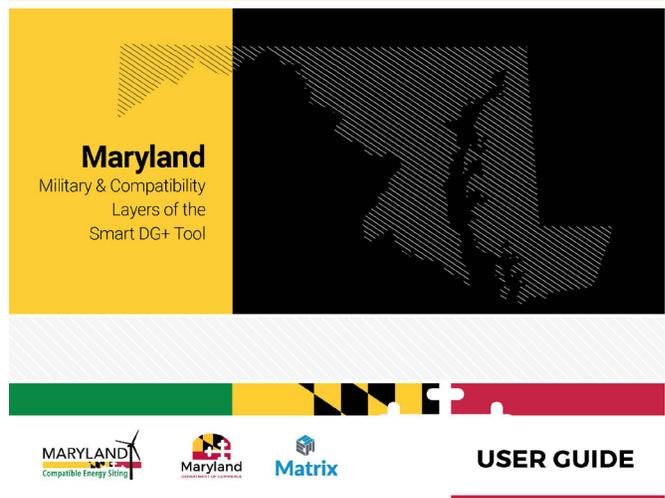


- **Compatible Use:** Installations and neighboring communities are strongly interrelated and must work together to address problems that can affect either community goals or military operations. State and local governments, private citizens, and installation representatives must understand each other's issues, needs, and planning processes to assess how respective decisions can affect others. Collaborating on land use planning and understanding unique challenges are essential compatible use planning practices.
- **Resource Conservation:** It is important for states, defense communities, and the military to work together to protect air, water, land, and other resources that are shared by and sustain installations and their surrounding communities. This includes protecting and managing threatened and endangered species.
- **Economic Development:** Military installations bring many benefits to their host communities including invaluable support to a region's economy via jobs, salaries and wages, contract or procurement opportunities for local businesses, tax base, and indirect or induced benefits related to consumer spending by base personnel. Local governments and installations can further support economic development by promoting job opportunities, strategizing how to attract new businesses, development, and residents to an area to support the local workforce, and providing housing and amenities for residents.

Spotlight: Compatible Energy Siting Study

The Maryland Department of Commerce, Office of Military and Federal Affairs, led the Maryland Statewide Compatible Energy Siting project to coordinate and balance two significant assets and priorities in the state — renewable energy development and the sustainability of military missions. The siting project provides the state with strategic tools and recommendations to address compatibility through a collaborative process with various stakeholders from state departments and agencies, the renewable energy industry, county, and local governments, the military, and regional military partnership organizations.

The project focused on two initiatives – publishing the Maryland Military Operations and Renewable Energy Considerations report; and secondly the creation and integration of military and compatibility layers within the existing state SmartDG+ renewable energy screening tool, adding geographic data for all military operational areas.



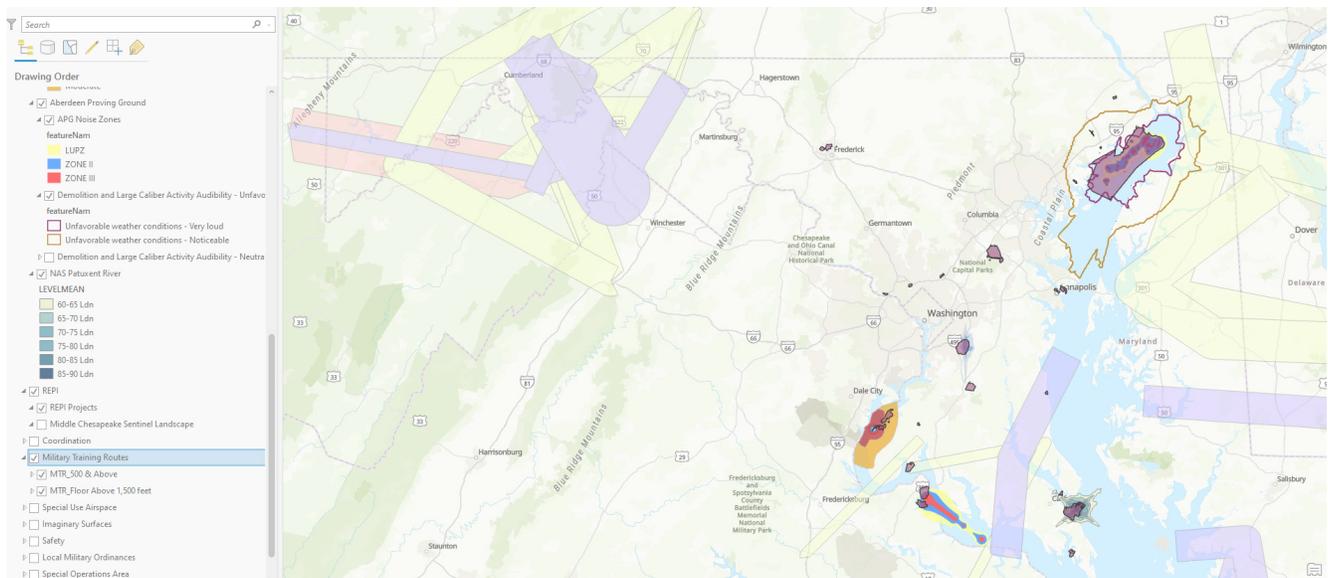
The enhanced SmartDG+ tool includes a user guide for utilizing the military and compatibility layers.



Compatibility Review Mapping Tool

The online mapping tool allows users to explore whether a community, property, or proposed project lies within features such as military training routes or other special use airspace, is near accident potential zones, or may be subject to noise generated by military operations.

Statewide data layers have also been included to illustrate how military installations intersect with growth and incentive areas, infrastructure and land use elements, and other resilience and conservation features.



Online Compatibility Review Mapping Tool

TOC

1

2

3

4

5

6

A

STATE AGENCIES



State Agencies Overview

State governments play an invaluable role in supporting strong and lasting relationships between military installations, surrounding defense communities, and other jurisdictions. In support of mutual benefit, state agencies work among themselves and with local and federal partners on legislative initiatives, partnerships, and programs that also support military-community cooperation and address encroachment and compatible land use issues.

The State of Maryland, with the sixth highest level of defense spending among all 50 states, recognizes the importance of ensuring the long-term viability of the missions of these installations by addressing encroachment and incompatible land uses around installations, establishing processes and methodologies to improve compatibility with their surrounding communities, and most recently, addressing resiliency issues facing installations and their surrounding communities.

The primary driver of these efforts by the state was economic concern due to the multiple rounds of Base Realignment and Closure (BRAC) that occurred in the 1990's, with the most recent BRAC in 2005. The State of Maryland wanted to preserve and possibly expand the military presence in the state for economic and quality of life reasons, which was largely coordinated by the Department of Commerce's Office of Military and Federal Affairs (OMFA). As the primary driver of the

state's relationship and coordination with its military installations, OMFA has, and continues to, support business diversification, spur economic growth, and help minimize or prevent adverse impacts from the closure or relocation of military bases, commands, major DoD programs, and federal facilities.

Maryland Department of Planning

The Maryland Department of Planning promotes growth that fosters vibrant, livable communities, preserves and protects the environment, and makes efficient use of state resources. Planning works closely with counties and municipalities to envision and guide where and how future development, revitalization, and preservation will occur.

Planning is one of the five state agencies that are statutory members of the Maryland Military Installation Council (MMIC) and was identified with responsibilities for implementing and supporting many of the 2019 Statewide Joint Land Use Response Implementation Strategy recommendations that support civilian-military compatibility.

In addition, Planning is one of seven state agencies that take part in the review of Certificate of Public Convenience and Necessity (CPCN) applications for permitting approval of utility-scale renewable energy projects (along with the Department of Natural Resources, Maryland Energy Administration, Department of the Environment, Maryland Department of Transportation, and the Department of

TOC

1

2

3

4

5

6

A

#5	#7	4.6%	\$4,491	#6	#2	#5	#8
\$27.8 B SPENT IN STATE	5.4% OF STATE GDP	OF TOTAL U.S. DEFENSE SPENDING	PER RESIDENT	\$18.3 B CONTRACT SPENDING	\$781.9 M GRANT SPENDING	\$8.7 B PERSONNEL SPENDING	93,351 NUMBER OF PERSONNEL

MARYLAND DEFENSE SPENDING DATA SOURCE: OLDCC.GOV FY23 REPORT

Note: the ranking above each statistic indicates Maryland's placement among the 50 states and the District of Columbia.



Commerce). Planning is also a part of the Federal Offshore Siting Process for Renewable Energy projects. Compatible permitting and siting of renewable energy projects are key to maintaining and protecting the military mission and operational areas in the state.

Relevant Programs and Plans include:

- **Maryland Historic Trust**
- **Comprehensive Planning**
- **Priority Funding Areas**
- **State Data Center**

Maryland Department of Commerce

Maryland Department of Commerce is the state's primary economic development agency, working to promote Maryland's many economic assets, including military installations, and spurs economic development through the marketing of local products and services, both at home and internationally. The agency also works to enhance international investment, trade, and tourism to support the state's economy. Commerce recognizes the importance of balancing the missions and related economic impact of the state's military installations with the economic well-being of the communities that surround the installations. Commerce provides staff to lead and administer the activities of The Maryland Military Installation Council (MMIC) and the Secretary of Commerce chairs the council.

In addition, like the Maryland Department of Planning, the Maryland Department of Commerce takes part in the review of Certificate of Public Convenience and Necessity (CPCN) applications for permitting approval of utility-scale renewable energy projects.

The **Office of Military and Federal Affairs (OMFA)**, a business development unit within the Department of Commerce, is legislatively designated to serve as the state's liaison to Maryland's military installations and federal agency community. OMFA was established in 1999 with the mission to enhance the economic vitality of the 20 military facilities, including 12 major military installations, and 60 civilian federal agencies in Maryland by protecting, sustaining, and growing their associated missions and employment base. OMFA leverages relationships with military base and federal agency representatives to support civilian-military compatible use, to implement strategies for creating and retaining jobs by capitalizing on DoD and federal assets and preventing or mitigating the impact from the closure or realignment of Maryland military bases, including the redevelopment of closed military sites.



Maryland Department of Commerce is part of the Federal Offshore Siting Process for Renewable Energy projects.



The **Maryland Military Installation Council (MMIC)** is staffed by the Office of Military and Federal Affairs was statutorily established in 2006 to continue the state's work on preparing for Base Realignment and Closure, or BRAC, activities and consists of members appointed by the Senate President, the Speaker of the House of Delegates, and the Governor. Various state agencies serve as statutory cabinet members including Commerce, Transportation, the Environment, Planning, Veterans Affairs, and the Adjutant General of the Guard. Ex-officio MMIC members include the installation commanders. The MMIC meets bi-annually and is a forum for communities, military installations, the defense industry, businesses, state agencies and elected officials to discuss issues related to Maryland's military installations. These meetings are open to the public to attend. The MMIC acts as a critical link between the Governor's Executive Council and the state's military installations and provides a forum for state, local, and installation leaders to discuss civilian-military compatible use issues and other related needs.

Other State Agencies

Many state agencies have programs that offer funding opportunities or other solutions in support of compatible military and community development. These state agencies include:

- Maryland Department of Housing and Community Development
- Maryland Department of Natural Resources
- Maryland Department of Agriculture
- Maryland Department of the Environment
- Maryland Department of Transportation
- Maryland Military Department
- Maryland Department of Emergency Management
- Maryland Energy Administration
- Maryland Department of Veteran Affairs
- Maryland Department of Information Technology

TOC

1

2

3

4

5

6

A



TOC

1

2

3

4

5

6

A

Federal Agencies Overview

The DoD leads efforts to ensure that military installations are compatible with surrounding communities through policies, procedures, and approaches which identify, inform, and mitigate incompatible land uses. The DoD's attempts to identify and quantify development encroachment in communities adjacent to testing and training ranges date from the late 1990s. The first initiatives focused on preventing, or at least slowing, incompatible development near installations and ranges which could inhibit realistic military training conditions and weapon system testing.

By the mid-2000s, the view that compatibility issues were exclusively the result of development encroachments outside the military installations began to evolve, leading to broadened initiatives and new approaches that included the local community and other stakeholders in the process. This new perspective and approach acknowledged that both installations and their surrounding communities needed to work together in support of individual and mutual goals.

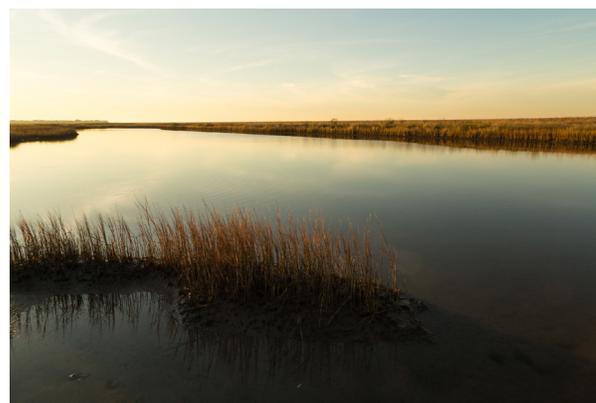
Infrastructure Investment and Jobs Act

The Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act (IIJA), is a long-term investment of more than \$550 billion from FY22 to FY26. The act targets infrastructure, including roads, bridges, mass transit, water infrastructure, resilience, and broadband service. It also expands many existing, competitive grant programs and creates additional opportunities for communities and military installations to collaborate on infrastructure projects that address both military and community needs.

Department of Defense: Programs that Support Military Community Compatible Use

The Readiness and Environmental Protection Integration (REPI)

Program allows communities and military installations to address land use encroachments and preserve military base operations by avoiding or eliminating conflicts. It is further focused on making installations more resilient to climate change and land use conversion, both of which can restrict critical military testing and training operations. Encroachment management partnerships, called REPI Projects, are central to conservation and natural resource restoration efforts that happen to also facilitate REPI's goals. These partnerships, facilitated differently by each service branch, help sustain military capabilities by preserving land adjacent to military installations and sharing easement acquisition costs.



Example REPI Grant:

Naval Air Station Patuxent River and Atlantic Test Ranges Receive \$3 Million Grant for Eastern Shore Land Protection to protect 4,000 acres of marsh migration zones that support coastal resilience.

More details at <https://www.nature.org/en-us/newsroom/maryland-dod-repi-challenge-3-million-grant/>



The **Office of Local Defense Community Cooperation (OLDCC)** was founded in 1961 to assist military host communities in all 50 states and U.S. territories. In 1992, at the beginning of the first round of Base Realignment and Closure (BRAC), it was charged by Executive Order (EO) 12788 with running the Defense Economic Adjustment Program. The program was to “...assist in the alleviation of serious community socioeconomic effects that result from major defense base closures, realignments, and defense contract-related adjustments, and the encroachment of the civilian community on the mission of military installations.”

OLDCC Relevant Programs and Plans include:

- **Installation Resilience**
- **Defense Community Infrastructure Pilot (DCIP) Program**
- **Diversification & Modernization**
- **Defense Manufacturing Community Support Program**
- **Mission Realignment Program**
- **Construction Program**

National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA) studies and predicts changes in climate, weather, oceans, and coasts. It also supplies environmental information, stewardship services, and applied scientific research around the world. Its FY22-26 strategic plan, Building a Climate Ready Nation, focuses on climate resiliency and economic development, incorporating environmental stewardship and equity throughout the planning and implementation stages. As communities and military installations prepare for long-term sustainability in response to climate change, NOAA’s scientific capabilities and observational and forecast data are valuable assets for modeling and strategic planning purposes. NOAA grants and programs support continued community and military partnerships in these efforts and enhance the ability to assess shared vulnerabilities and strengthen critical infrastructure, programs, and services, while considering an installation’s unique resilience requirements.

TOC

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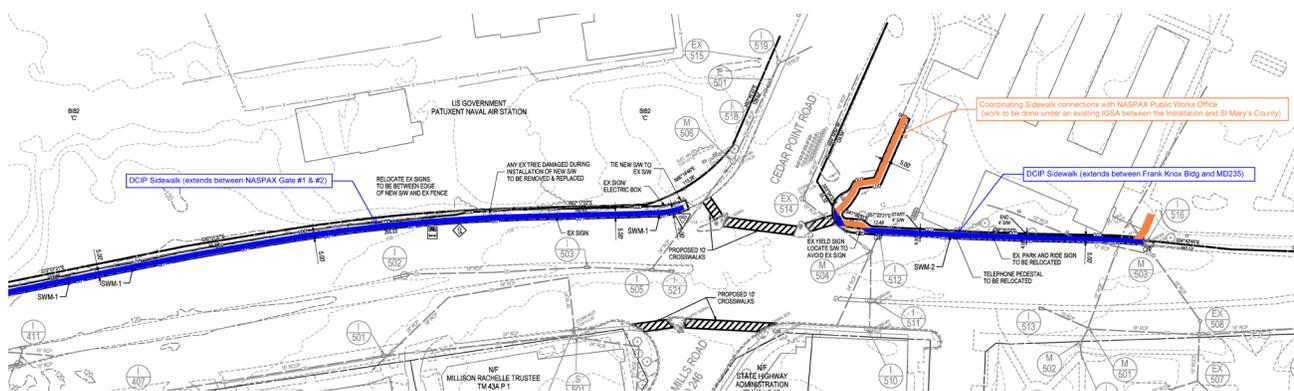
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6

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Example of DCIP Grant Award Winner: In September 2021, OLDCC awarded St. Mary’s County a \$395,118 federal grant to undertake the \$564,454 project, with St. Mary’s County providing the remaining \$169,336 as the required 30% local match. As part of a joint effort between St. Mary’s and Calvert counties, the Calvert-St. Mary’s Metropolitan Planning Organization (C-SMMPO) worked with Naval Air Station Patuxent River (NAS Pax River) on a variety of regional transportation efforts to aid traffic flow around the base and to identify and remediate deficiencies in community infrastructure. The diagram above illustrates some of the DCIP funded improvements.



TOC

1

2

3

4

5

6

A

NOAA Programs and Plans include:

- **The Coastal and Estuarine Land Conservation Program**
- **National Coastal Zone Management Program**
- **National Estuarine Research Reserves Program**
- **Digital Coast**
- **National Coastal Resilience Fund**

Department of Agriculture

The United States Department of Agriculture (USDA) supports compatibility through its leadership on agriculture, natural resources, and rural development. USDA programs combine cutting edge science with responsible public policies to improve military-community compatibility, while concurrently accomplishing other core mission goals.

The **Natural Resources Conservation Service's (NRCS)** natural resources conservation programs help communities reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitats, and reduce damage



Northern Saw-Whet Owl - SIN. Critically Imperiled. Highly State Rare according to the Maryland List of Rare, Threatened, and Endangered Animals.

caused by floods and other natural disasters. Their programs, including the ones featured in this section can help protect and conserve ecosystems, wild lands, forests, and working agricultural lands. Program goals align well with military and community compatibility objectives and their funding can significantly support Compatible Use Study implementation recommendations, and other local and regional compatibility efforts.

The **United States Forest Service (USFS)** sponsors many programs that facilitate military and community compatibility. For example, the three programs featured in this section can help fund buffer areas around military installations, while partnerships implementing Compatible Use Study recommendations can utilize the roster of USFS donors and investors to secure additional funding. The USFS's relationship with tribal governments can also leverage innovative solutions to compatibility problems.

Environmental Protection Agency

The Environmental Protection Agency's (EPA) mission is to: enable access to clean air, land, and water; reduce environmental risks; develop laws and regulations to protect human health and the environment; integrate environmental stewardship into U.S. policies; provide access to accurate information dealing with environmental risks; clean up and revitalize contaminated lands; and review chemicals in the marketplace for safety. While many EPA programs may address compatibility as a secondary benefit,



several efforts are targeted to improve community resiliency and compatibility, such as supporting outreach and coordination with stakeholders, including military installations, and providing funding, training, and resources to accomplish these objectives.

EPA Programs and Plans include:

- [Cross-Agency Strategy 4](#)
- [Community Based Water Resiliency Guide](#)
- [Community Revitalization Assistance](#)

Department of Interior

The Department of the Interior (DOI) is responsible for managing public lands, natural resources, national parks, and wildlife refuges. It further manages conservation efforts for threatened and endangered species and ecosystems. DOI also administers programs for Indian tribes, Native Alaskans, and Native Hawaiians. Through the DOI agencies listed below, programs and funding sources have been established, which can be accessed by communities when implementing compatibility solutions in collaboration with military installations.



Fort McHenry

Bureau of Land Management (BLM) In addition to the previously mentioned DOI compatibility initiatives, the Bureau of Land Management (BLM) maintains the Collaborative Action and Dispute Resolution (CADR) Program. The CADR provides guidance documents on public engagement, negotiation, collaboration, and other topics. This guidance can help communities, tribes, and local, state, and federal agencies learn how to get involved and partner with BLM on its planning efforts, including developing or updating Resource Management Plans (RMPs) for BLM properties across the country.

The **National Park Service (NPS)** has partnerships and programs in place that communities, state governments, and military installations can leverage to help implement Compatible Use Study (CUS) recommendations. While many do not offer financial assistance or grants, they can provide professional assistance from NPS employees to help communities develop and implement conservation programs and restore parks, rivers, and wildlife habitats. Including an NPS professional as a stakeholder when developing a CUS is a great way to improve its quality and comprehensiveness and obtain free in-kind services.

The **United States Fish and Wildlife Service (USFWS)**, like its parent department, DOI, and its sister agencies, bureaus, and services, has established robust partnering programs to engage planners, communities, citizen groups, the DoD, and many other federal agencies in military and community compatibility and resilience planning projects. Key discussions between the USFWS and a military installation in such projects is typically focused on the Endangered Species Act Section 7 Consultations. The



TOC

1

2

3

4

5

6

A

assets that military installations provide for land, water, and airspace training are often nearly pristine habitats, so as to emulate natural battlefield conditions. Camp Lejeune, in North Carolina, has thousands of acres of pine forests and is home to the red-cockaded woodpecker. While its habitat outside the base has been greatly reduced, the USFWS and the Marine Corps have collaborated to ensure that military training requirements can be met, while still allowing thriving colonies of this endangered bird on the base.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) falls under the United States Department of Homeland Security and is well known for leading responses to natural and man-made disasters. FEMA also provides tools, resources, guidance, and funding to help communities plan for disasters and catastrophic events, addressing topics such as resilience, preparation, hazard mitigation, and training. Communities and military installation planners can apply for help, including free training programs, to implement resiliency and compatibility review recommendations, funded by OLDCC. There are also grants that reduce local funding requirements and provide matching or contributing funds, which allows larger projects to be undertaken that otherwise would not have been possible; further improving compatibility.

FEMA Relevant Programs and Plans:

- **Preparedness Grants**
- **Building Resilient Infrastructure and Communities Program**
- **Hazard Mitigation Assistance Grants and Hazard Mitigation Grant Program**
- **Community Emergency Response Team**
- **Organizations Preparing for Emergency Needs**

Department of Transportation

The Department of Transportation (DOT) and its agencies address resiliency, economic growth, and climate/sustainability efforts that are aligned with and add value to community and military compatibility planning. DOT agencies focus on a unique aspect of transportation and ensure that the nation's transportation networks operate safely and efficiently. Agencies such as the **Federal Aviation Administration (FAA)**, **Federal Highway Administration (FHWA)**, and the **United States Maritime Administration (MARAD)** work with the military and communities to address topics such as airspace compatibility, coordinated surface and rail transportation in support of installation operations, and moving equipment, ammunition, and materials around the U.S.

FHWA Relevant Programs and Plans:

- **Defense Access Road Program**
- **FHWA Resource Center**

FAA Relevant Programs and Plans:

- **Military Airport Program**

MARAD Relevant Programs and Plans:

- **Small Shipyard Grants**
- **Port Infrastructure Development Program Grants**

RESOURCES



Overview

The Resources library contains primers, fact sheets, briefs, and other documentation on a variety of compatible use topics. Resources are organized as listed below and can be found on the website. Click on a topic to learn more.

- Air Mission Compatibility
- Communication and Coordination
- Compatible Use Guidebooks
- Compatible Use Planning
- Comprehensive Planning
- Economic Development
- Encroachment
- Environmental Resources
- Guard and Reserve
- Infrastructure
- Intergovernmental Service Agreements
- Land Preservation
- Noise Compatibility
- Resiliency
- Safety
- Zoning and Local Legislation

TOC

1

2

3

4

5

6

A



Case Studies

Case studies are featured in the resources section of the website; click on a case study to learn more.

TOC

1

2

3

4

5

6

A



Aberdeen Proving Ground
Army Compatible Use Buffer Program

Aberdeen Proving Ground and the Army Compatible Use Buffer Program

Explore how Aberdeen Proving Ground works with land trusts and other partners to utilize the Army Compatible Use Buffer Program to improve compatibility and reduce land use conflicts through conservation easements and other land management practices.



City of Annapolis and Sea Level Rise

City of Annapolis and Sea Level Rise

Learn how the City of Annapolis coordinates with Naval Support Activity Annapolis, the U.S. Naval Academy, and other partners to identify, mitigate, and respond to sea level rise challenges.



College of Southern Maryland's
Velocity Center at Indian Head

College of Southern Maryland's Velocity Center at Indian Head

The Velocity Center is a space for innovation, creativity, and collaboration between the College of Southern Maryland, the Navy, and the Indian Head community. Learn how the Velocity Center supports workforce development and economic growth in southern Maryland.



Maryland Military Installation Council

Maryland Military Installation Council

Explore how the state has established regular and formal outreach and communication channels between its defense communities and military installations through the Maryland Military Installation Council.



Mattapany Rural Legacy Area

Mattapany Rural Legacy Area

Land preservation around military bases is an important tool used to sustain training and testing. Learn how southern Maryland's Mattapany Rural Legacy Area protects the state's natural resources and supports the Department of Defense's mission.



Prince George's County
Military Installation Overlay Zone

Prince George's County Military Installation Overlay Zone

Zoning ordinances can support compatible use by regulating permitted, conditional, restricted, and prohibited uses complementary to base operations by establishing development standards with which developers must comply. Learn how Prince George's County's Military Installation Overlay Zone guides development around Joint Base Andrews.



St. Mary's County
Defense Community Infrastructure Pilot
Program Award

St. Mary's County Defense Community Infrastructure Pilot Program Award

Explore how St. Mary's County successfully applied for and received federal funding through the Department of Defense's Defense Community Infrastructure Pilot Program to address regional transportation issues while supporting continued military operations at Naval Air Station Patuxent River.

APPENDIX A

DEFINITIONS

Note: Not all terms are used in the handbook. All terms are used in the website.

A-weighted – An expression of the relative loudness of sounds in the air as perceived by the human ear where the dB values of sound at low frequencies are reduced. By contrast, unweighted dBs make no correction for audio frequency.

Accident Potential Zones (APZ) – Areas where an aircraft mishap is most likely to occur if one occurs; commonly subdivided into different zones based on allowable use characteristics.

- **APZ I** – The area beyond the clear zone that possesses a significant potential for accidents. This area has the second highest potential for aircraft mishaps
- **APZ II** – The area beyond the APZ having a measurable potential for accidents. This area has the third highest potential for aircraft mishaps.

Adverse impact on military operations and readiness – Any adverse impact upon military operations and readiness, including flight operations research, development, testing, and evaluation and training, that is demonstrable and is likely to impair or degrade the ability of the armed forces to perform their warfighting missions.

Air installation – Installations whose mission include the operation of fixed-wing or rotary-wing military airfields.

Area of Critical Concern – An area within the airfield environment as defined by the Department of Defense where land use controls may be desirable to protect long-

term mission capability. The development of the final boundary of areas of critical concern will also take into account natural and manmade features.

Armed Forces of the United States – A term used to denote collectively all components of the Army, Marine Corps, Navy, Air Force, and Coast Guard (when mobilized under Title 10, United States Code, to augment the Navy).

Base Realignment and Closure (BRAC) – The process the Department of Defense uses to reorganize its installation infrastructure to support its forces, increase operational readiness, and facilitate new ways of doing business more efficiently and effectively.

Class A Runway – A runway primarily intended for small, light aircraft that does not have the potential for development of heavy or high-performance aircraft use, or for which no foreseeable requirements for such use exists. Ordinarily, less than 10 percent of the operations at airfields with Class A runways involve aircraft in the Class B category and the runway(s) are less than 8,000 feet.

Class B Runway – A runway primarily intended for high performance and large, heavy aircraft. For example, runways that accommodate heavy aircraft or have the potential for development for heavy aircraft use.

Clear Zone – A surface on the ground or water beginning at the runway end and symmetrical about the Clear runway centerline extended. This area has the highest potential for aircraft mishaps.

TOC

1

2

3

4

5

6

A

APPENDIX A

DEFINITIONS

TOC

1

Compatibility – The balance and/or compromise between community and military needs and interests with the goal of promoting an environment where both entities can coexist successfully.

2

Compatible Use Study – A strategic planning process, previously referred to as **Joint Land Use Study**, that state or local government may undertake in partnership with the military installation to preserve and protect military readiness and defense capabilities, seek ways to reduce the operational impacts on adjacent lands, and support community growth and economic development.

3

Congressional Defense Committees – The: (1) Committee on Armed Services and the Committee on Appropriations of the Senate; and (2) Committee on Armed Services and the Committee on Appropriations of the House of Representatives.

4

5

6

A

Cooperative Conservation – Actions that relate to use, enhancement, and enjoyment of natural resources, protection of the environment, or both, and that involve collaborative activity among Federal, State, local, and tribal governments, private for-profit and nonprofit institutions, other nongovernmental entities, and individuals.

Encroachment – External, as well as internal, DoD factors and influences that constrain or have the potential to inhibit the full access or operational use of the military installation, live training, and test domain. Examples include, but are not limited to, endangered species and critical habitat, unexploded ordnance and

munitions, radio frequency spectrum, maritime or airspace restrictions, air quality, airborne noise, urban growth, physical obstructions, and renewable energy projects.

Encroachment Action Plan – Internal Department of Navy tool and process that results in the identification, quantification, mitigation, and prevention of the potential encroachment challenges to an installation or a range.

Encroachment Control Plan – Internal Marine Corps primary planning document used to prevent, mitigate, and repair factors that degrade or have the potential to degrade an installation's mission capabilities.

Incompatible Civilian Development – Land use activity and civilian development activity that adversely affects the utility or training and readiness missions of a military installation. These effects include air, land, water, electromagnetic spectrum intrusion, and intrusive urban lighting.

Installation Complex Encroachment Management Action Plans (ICEMAP) – Internal Department of Air Force document to identify mission compatibility issues at installations. The ICEMAP assists the Air Force and local installation commanders, decision makers and stakeholders to identify, prevent, and reduce encroachment and sustainment challenges.

APPENDIX A

DEFINITIONS

Installation Environmental Noise

Management Plan – A Department of Army installation-specific study of the existing and future noise environment associated with military operations. The plan represents the Army’s main component of noise abatement planning and is an essential tool to inform neighboring communities and property owners of potential noise and guide creation of community land use plans and policies that promote compatibility with the installation’s mission requirements.

Intergovernmental Service Agreement

(IGSA) – Agreement between a military installation and a state or local government that serve the best interests of both parties and improve installation support services. An installation commander may enter into an intergovernmental support agreement, on a sole source basis, with a State or local government to provide, receive, or share installation support services if the Secretary of the Military Service determines that the agreement will serve the best interests of the department by enhancing mission effectiveness or creating efficiencies or economies of scale, including by reducing costs.

Joint Use Airport – An airport owned by the Department of Defense, at which both military and civilian aircraft make shared use of the airfield.

Landowner – A person, partnership, corporation, or other legal entity, that owns a fee interest in real property on which a proposed project is planned to be located.

Live Test Domain – The actual field environment (land, air, water) where the DoD conducts testing in anticipation of the military’s use of any weapons, equipment, munitions, systems, or their components.

Live Training Domain – The environment where the DoD executes training, with or without the use of munitions, under field conditions (land, air, or water) to achieve and sustain proficiency on training requirements.

Military Aviation and Installation Assurance Siting Clearinghouse

– The Clearinghouse is part of the Office of the Secretary of Defense for Real Property acting as the single point of contact for federal agencies, State, Indian tribal, and local governments; developers; and landowners to overcome risks to national security while promoting compatible domestic energy development. Energy production facilities and transmission projects involving tall structures, such as wind turbines, solar power towers and panels, and electrical transmission towers, may degrade military testing and training operations and present a hazard to air safety and surveillance. The Clearinghouse conducts DoD’s Mission Compatibility Evaluation process to provide science-based analysis of potential impacts of energy development to military operations and works to identify mitigation strategies to minimize the impacts.

TOC

1

2

3

4

5

6

A

APPENDIX A

DEFINITIONS

TOC

1

Military Department – One of the departments within the Department of Defense created by the National Security Act of 1947, which are the Department of Army, Department of Navy, and the Department of the Air Force. Also called MILDEP.

2

Military Influence Area – In relation to compatibility planning, a geographic planning or regulatory area where military operations impact local communities and conversely, where local activities may affect the military mission. The MIA is used to maintain operational capability, promote awareness of military activities to surrounding communities, and establish regulatory or other restrictions on certain uses or types of development requirements.

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4

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6

A

Military Installation – Defined in 10 USC § 2687 as “a base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the Department of Defense, including any leased facility” located within US territory.

Military Installation Resilience – The capability of a military installation to avoid, prepare for, minimize the effort of, adapt to, and recover from extreme weather events, or from anticipated or unanticipated changes in environmental conditions that do, or have the potential to, adversely affect the military installation or essential transportation, logistical, or other necessary resources outside of the military installation that are necessary in order to maintain, improve, or rapidly reestablish installation mission assurance and mission-essential functions.

Military Installation Resilience Review – A strategic planning process that state or local government may undertake in partnership with the military installation to analyze and implement actions necessary to foster, protect, and enhance both community and military sustainability. Current, future, or potential threats to military installation resilience are assessed that involve, or may be significantly impacted by resources or activities outside the installation fence line that may likely impair the installation’s ability to maintain, improve, or rapidly reestablish installation mission assurance and mission-essential functions

Military Readiness – Includes any training or operation that could be related to combat readiness, including testing and evaluation activities.

Military Training Route – An aerial corridor mutually developed by the FAA and DoD for use by the military for the purpose of conducting low-altitude, high-speed training. The type of route depends on the speed and altitude (i.e., typically below 10,000 feet and at speeds greater than 250 knots).

Mission Assurance – A process to protect or ensure the continued function and resilience of capabilities and assets, including personnel, equipment, facilities, networks, information and information systems, infrastructure, and supply chains, critical to the execution of the Department of Defense mission-essential functions.

APPENDIX A

DEFINITIONS

Mission Footprint – The geographic area in which an installation operates, including facilities, airspace, and training areas within and outside of military jurisdiction (AFH 32-7084). Mission footprints make up the Military Influence Area and can impact communities in a number of ways such as noise and safety zones.

Mitigation – Actions taken to ensure that a project does not create an unacceptable risk to the national security of the United States.

Noise zone – Areas around a source of a noise (airfield or firing range) that are delineated according to average levels of noise exposure.

Peak – A single event sound level without weighting.

Planning Notification Area – Tool for communication surrounding an installation and extending into the community that establishes buffer zones that require coordination in advance of development to prevent incompatible development.

Range – Defined in 10 US Code § 101 in a geographic sense as designated area of land or water that is set aside, managed, and used by DoD for research, development, testing, and personnel training.

Range Air Installations Compatible Use Zones (RAICUZ) Program – Department of Navy program designed to protect public health, safety, and welfare, and to prevent encroachment from degrading the operational capabilities of air-to-ground

ranges. The program is similar to the Air Installations Compatible Use Zones (AICUZ) Program. The RAICUZ program includes range safety and noise analyses and provides land use recommendations that will be compatible with Range Compatibility Zones (RCZs) and noise levels associated with military range operations.

Range Compatible Use Zones (RCUZ) Study – Identifies land uses compatible with noise levels and range compatibility zones associated with military aviation range and military ground range operations.

Real Estate Disclosure – Some state and local governments may require property owners and real estate agents to disclose to prospective purchasers if the subject parcel is located in a military installation noise zone or accident potential zone, or both, or designated as such on the official zoning map by the locality in which the property is located.

Safety Zones – Areas in which development should be more restrictive due to the higher risks to public safety.

TOC

1

2

3

4

5

6

A

APPENDIX A

ACRONYMS

TOC

1

2

3

4

5

6

A

ACUB – Army Compatible Use Buffer (Program)

ADC – Association of Defense Communities

AFB – Air Force Base

AICUZ – Air Installations Compatible Use Zone

ALC – Adelphi Laboratory Center

ANG – Air National Guard

APFO – Adequate Public Facilities Ordinance

APG – Aberdeen Proving Ground

APZ – Accident Potential Zone

ARL – Army Research Laboratory

ARNG – Army National Guard

BASH – Bird Aircraft Strike Hazard

BIA – Bureau of Indian Affairs

BLM – US Bureau of Land Management

BRAC – Base Realignment and Closure

CDBG – Community Development Block Grant

CEQ – Council on Environmental Quality

CFR – Code of Federal Regulations

CIP – Capital Improvement Program

CPLO – Community Planning Liaison Officer

COG – Council of Governments

COMAR – Code of Maryland Regulations

CSSC – Chesapeake Science and Security Corridor

CUS – Compatible Use Study

CZ – Clear Zone

CZMA – Coastal Zone Management Act

Db – Decibels

DCIP – Defense Critical Infrastructure Program

DHCD – Department of Housing and Community Development (state and local)

DHS – Department of Homeland Security

DNR – Department of Natural Resources

DoD – Department of Defense

DODI – DOD Instruction

DOE – Department of Energy

DOH – Department of Health

DOI – Department of the Interior

DoIT – Department of Information Technology (State of Maryland)

DON – Department of the Navy

DOT – Department of Transportation

DSS – Dust/Smoke/Steam

EA – Environmental Assessment

EIS – Environmental Impact Statement

EOD – Explosive Ordnance Disposal

EO – Executive Order

EPA – Environmental Protection Agency

EUL – Enhanced Use Lease

FAA – Federal Aviation Administration

FEMA – Federal Emergency Management Agency

FFO – Federal Funding Opportunity

FHWA – Federal Highway Administration

GIS – Geographic Information System

HRZ – Height Restriction Zones

HUD – US Department of Housing and Urban Development

ICEMAP – Installation Complex Encroachment

Management Action Plan

ICUZ – Installation Compatible Use Zone

ICRMP – Integrated Cultural Resources Management Plan

IDP – Installation Development Plan

IGSA – Intergovernmental Service Agreement

JBA – Joint Base Andrews

JLUS – Joint Land Use Study

LOS – Level of Service

LU – Land Use

LZ – Landing Zone

MARAD – Maritime Administration

MF – Mission Footprint

MHT – Maryland Historical Trust

MIA – Military Influence Area

MILCON – Military Construction

MIRR – Military Installation Resilience Review

APPENDIX A

ACRONYMS

MMF – Military Mission Footprint (USMC term)	REPI – Readiness and Environmental Integration
MMIC – Maryland Military Installation Council	ROI – Region of Influence
MNCPPC – Maryland-National Capital Park & Planning Commission	SUA – Special Use Airspace
MOA – Military Operating Area, or Memorandum of Agreement	SJRIS – Statewide Joint Land Use Study
MOU – Memorandum of Understanding	Response Implementation Strategy
MPO – Metropolitan Planning Organization	TDR – Transfer of Development Rights
MTA – Military Training Area	TNC – The Nature Conservancy
MTR – Military Training Route	TOD – Transit Oriented Development
NAS – Naval Air Station	UAV – Unmanned Aerial Vehicle
NAS PAX – Naval Air Station Patuxent River	UGA – Urban Growth Area
NAVFAC – Naval Facilities Engineering Command	USAF – US Air Force
NDAA – National Defense Authorization Act	USAR – US Army Reserve
NDS – National Defense Strategy	USCG – US Coast Guard
NEPA – National Environmental Policy Act	USDA – United States Department of Agriculture
NGB – National Guard Bureau	USFS – US Forest Service
NGO – Non-governmental Organization(s)	USFWS – US Fish and Wildlife Service
NOAA – National Oceanic and Atmospheric Administration	USMC – United States Marine Corps
NPS – National Park Service	VA – Veterans Administration
NRCS – Natural Resources Conservation Service	
NRHP – National Register of Historic Places	
NSF – Naval Support Facility	
OLDCC – Office of Local Defense Community Cooperation, formerly OEA (DOD)	
OMFA – Office of Military and Federal Affairs	
OSD – Office of the Secretary of Defense	
P4 – Public-to-Public and Public-to-Private Partnerships	
PFA - Priority Funding Areas	
PAO – Public Affairs Office	
PPA – Power Purchase Agreement (Energy)	
PUD – Planned Unit Development	
R&D – Research and Development	
RAICUZ – Range Air Installations Compatible Use Zone Program	
RCA – Resource Conservation Area	

TOC

1

2

3

4

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6

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